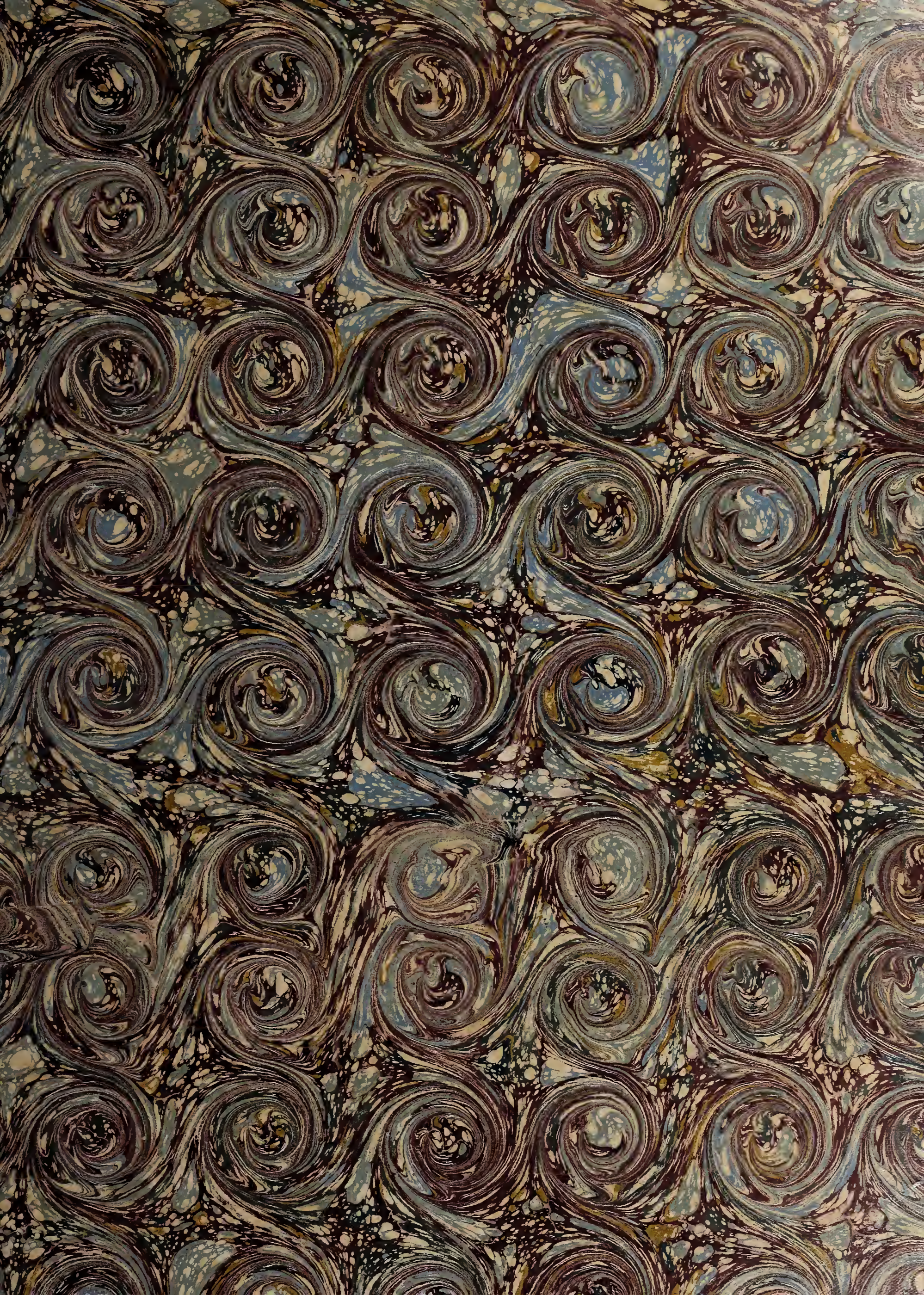






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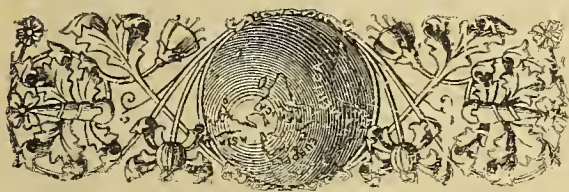
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SATURDAY, SEPTEMBER 2nd, 1899.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, September 6th.—York Florists' Exhibition of Dahlias, &c.; Derbyshire Agricultural and Horticultural Society's Show at Derby—probable—(2 days); Glasgow Show (2 days).

THURSDAY, September 7th.—Dundee Horticultural Society's Exhibition (3 days).

FRIDAY, September 8th.—Wellingborough and Midland Counties Dahlia Society's Show (2 days).

THE POPULARITY OF BULBS.—It might be said that the utility of these determine their popularity; but that only leaves the case half explained. A more comprehensive view of the case would be that utility, beauty and sentiment are all concerned in

regulating the desire for bulbs. Their utility, from an economic point of view, depends entirely upon what the growers and retailers can make out of them commercially; and generally speaking it will be admitted they earn their profits, inasmuch as they sell their goods at a price within reach of the humblest of the land. In this country at least bulbs, with the exception of Onions and their allies, are not eaten; but amongst savages of higher or lower degree, bulbs are of use or necessity in proportion as they serve as food. Here, however the beauty or decorative value, the love and sentiment attached to bulbs, are determined by cultivated taste born of the education which civilisation brings in its train. The extent of this education then is the determining factor in the popularity of bulbs. Flowers of all sorts are required to meet the varied tastes of their admirers, rich and poor. During the winter and spring months, particularly, bulbs are capable of satisfying this taste or love. Except during the colder months or weeks of autumn and winter bulbs may be flowered in the open air. By forcing Dutch and other bulbs the entire twelve months of the year may be bridged over, so that the supply is perennial. Indeed, by forcing some and retarding others by the refrigerator, particular kinds may be had in bloom throughout the year, if desired. By the arts known to gardeners, some kinds such as Eucharis and Hippeastrum may be bloomed at any or every period of the year without the aid of the refrigerator.

As mentioned above, everyone may possess bulbs, from those who have only a window to flower them, to the florist or nobleman, with their serried ranks in greenhouse, conservatory, garden or field. An outlay of £5 can procure close upon 5,000 bulbs suitable for outdoor planting; and

for 5s. about 250, more or less, can be bought. Then, if we take into consideration the ease with which the bulbs may be flowered, and the little trouble many of them entail, we find ample reasons for their popularity, as compared with many other flowers, which exact a greater or less amount of cultural skill and attention throughout the year. Dutch and several other bulbs, particularly Lilies and Tuberoses are really brought to the flowering stage by the growers, so that the cultivator has only to bloom them and his labours are completed. Until they commence to grow and require light, they may be, and are accommodated in the open air under ashes or cocoanut fibre. Previous to that the houses may be occupied with other subjects.

Roman Hyacinths herald the season, and the earliest will commence flowering in the course of two months, more or less, according to the time they are potted and placed under conditions favourable to or inducive to growth. Lily of the Valley, associated with this class of flowers, early Tulips and Narcissi and the large Hyacinths follow in succession, and keep up a supply till those in the open ground can commence their career, dependent upon the weather. In mild winters Snowdrops commence blooming by Christmas in the southern and more favoured parts of England, though February is more likely to furnish an abundance of Snowdrops, Crocuses, Winter Aconite, &c. From this time onwards the flowering period in the open air extends to the end of May or the beginning of June, in the case of the florist's Tulips and double Poet's Narcissus. In Scotland, the open air display commences in March, earlier or later according to the mildness or rigour of the season. This applies to what are usually termed Dutch bulbs, because grown or reared in Holland, though many of them

are now grown in Britain. Lilies in the open air prolong the display of bulbs from June till late in autumn, aided more or less by late planting. Observation will demonstrate that the bulb season in the Emerald Isle commences considerably earlier than in the vicinity of London. Cornwall, the Scilly Islands and the Channel Islands, as is well known, are able to furnish London and other large cities and towns with cut flowers of bulbs, especially Narcissi, long before they can be obtained from the open air in less favoured parts of the British Isles.

The bulbs that are grown in such quantities in public parks are but evidence of their wide reaching popularity, extending to all classes of the community. The hastening away of the Daffodils, of which the poet complains, is, probably, an advantage rather than otherwise; for they leave us before we are satiated, and are for a time forgotten, to come up again the following season with greater apparent freshness than ever. They reappear with the reviving year, and the increasing warmth of the sun (which lately has kept many indoors during the day) in conjunction with the awakening of the spring flowers, induces all classes of people to come forth in increasing numbers. Spring flowers are thus a sign that summer is at hand, as they always have been in civilised lands, but in few countries are these changes more marked or well defined than in ours. These lively changes and the demarkation of the year into spring, summer, autumn and winter endear the colonist and the sojourner in tropical lands to the mother country, and keep alive their patriotism. Tulipomania, or the feverish speculation in Tulips that raged many years ago, has no longer an existence, but has given place to a steadily increasing demand for bulbs of all kinds, and the love is likely to be very long-lived.

Should we stop for a moment to enquire what natural orders furnish the great variety of bulbs we possess, it will be seen that the Liliaceae and the Amaryllideae are largely made up of bulbs. The Irideae furnish Gladioli, Crocuses, the so called bulbous Irises, and a great number of Cape subjects, but their rootstock is a corm rather than a bulb. Should these three orders be removed very few bulbs worthy of the name would remain. In like manner if we were to remove the Rosaceae from our list of hardy fruits the remainder could be summed up in the words, Gooseberries and Currants.

Mr. W. J. Simpson, gardener to E. H. Watts, Esq., Devonhurst, Chiswick, has been engaged by C. Hay Walker, Esq., to succeed Mr. A. Wright, as gardener at Falkland Park, South Norwood Hill.

The Syphon Refrigerator Company have lately patented a case for the use of florists who lose much by the decomposition and withering of stock. The cases were on view at the Convention Hall, Detroit, on August 15th.

"Pines are Cheap To-day."—So said a London paper lately. And these days now passing carry with them many blessings to the poorer folks. In fact, every year the "poor" are becoming richer and richer; richer, at least, than previously. We may be poor comparatively, but still every innovation in the lessening of prices or the securing of new advantages is to poor people indirect riches, but riches all the same. The luxury which at one time only belonged to the very wealthiest—that of having the juicy Pineapple for food or delicacy, has now come to belong to anyone with a few coppers in his wallet. Imports from the Azores have begun on a vast scale, and both the Canary and West Indian Islands are competing with the sunny Azores. Many of the coster's barrows are well supplied with very fair samples. And then there are bottled Pineapples as delicious as honey to eat. Indeed, you'll get a nice Pineapple for the price of a good glass of ale.

Deutzia Lemoinei should be included among the good things for early spring forcing.

Postmen's Park.—That portion of land known as Little Britain, part of which is now laid out as the Aldersgate Public Garden (known also as the Postmen's Park), is desired to be added to this public garden. The churchwardens of St. Botolph's Church, Aldersgate Street, are seeking subscriptions for this purpose, and £3,000 is needed.

National Dahlia Society.—The grand National Dahlia show, we are notified, will be held at the Crystal Palace on Friday and Saturday, 1st and 2nd September; and for affording an additional opportunity to raisers of seedling Dahlias the committee of the above society has arranged with the Royal Aquarium authorities for the holding of an exhibition at that place Westminster). This second exhibition will take place on September 19th and 20th, and Certificates of Merit will at that time be awarded to meritorious varieties.

R.H.S. of Ireland.—The autumn fruit and flower show of the R.H.S. of Ireland was held under satisfactory conditions at Merrion Square, Dublin, on Tuesday, August 22nd. The horse show which was held on the same day had a lessening effect on the attendance at the horticultural exhibition. The display was not quite up to the average of past years, a fact which is applicable to most of this year's shows. The best filled classes and those which attracted most attention were those for Gladioli, Dahlias, Carnations, Begonias, and hardy cut flowers. The arrangements were carried out in the most efficient manner by Mr. Hillyard, the secretary to the society.

Amid the Vineyards.—A writer in a daily paper gives a short story upon scenes and incidents of the distant Gironde. "The rural roads, there-a-way, lie mostly among vineyards or meander through plantations of Oaks and Pines. Trees surround one on all sides, Oaks, Ash, Pine, and Poplar. The foliage is a living harmony of tints. The lanes are fringed with broad margins of fresh grass. In the Garonne valley there are red-roofed cottages and church spires which appear here and there among undulating woodlands. But suddenly from the quietness and beauty a great whirlwind comes up the valley. Broad ribbons of lightning stream in every direction. Torrents of rain clatter among wind-swept foliage. The thunder makes the very ground shake. But even while one cowers in awe the storm ceases with a jerk, wind and rain stopping with an abruptness almost comic—as if the whole to-do had been a jest. A few final chords of thunder falling away down the valley to the sea, and then Nature smiles again, as though at the change in her own mood. Everything, however, is left wet. Furrows of water lie between the Vines, while a mile or two overland the hills are blazing in dryness and heat." So we see that Nature is eccentric in every part of the globe.

The Jersey Horticultural Club.—This club has just been started. The prime mover and promoter of the club was Mr. F. Boohyer, Vice-President of the Society of Jersey Gardeners. He had not been satisfied with the working of that society. He sought the advice of Col. Howell, late President of the Horticultural Department of the R.J.A., and H.S. The result of the interview was that a meeting of the officers of the Horticultural Department took place. All propositions for the founding of the above club were accepted and agreed to unanimously. Of course, the J. H. Club will only at best be affiliated to the Horticultural Department, and this can only be decided at the end of the present year, at the annual meeting. But strong hopes are entertained that all will be smoothly combined. The objects of the club are for the further disseminating of horticultural knowledge and for elevating the status of all classes of gardeners. The special knowledge which the club seeks to impart is "the natural advantages of the soil, climate, aspect, &c. of Jersey for glasshouse and market gardening. Numerous papers have already been arranged for, and they treat upon subjects mostly of paramount interest and usefulness. We hope the efforts of the club will meet with appreciative recognition, and that its influence may affect a reaction in the horticultural industries of the favoured Isle of Jersey.

Clematises.—The most natural way to train and show off the beauty of these plants is to place them out in beds on lawns, having long gnarled old branches irregularly placed, over which the plants may brace themselves.

Northern Spy Apple.—Though almost useless as a cropping variety, the Northern Spy has been proved by experienced observers to be absolutely resistant to the attacks of American blight. With this knowledge surely its use as a stock for good Apples might be more confidently used. It is a peculiar fact worth the attention of all pomologists.

Messrs. Sutton & Sons at Shrewsbury.—As announced in our last issue Messrs. Sutton & Sons, Reading, had a remarkable exhibit of Gloxinias, Begonias, vegetables and Tomatos, grown in the open air, at the great exhibition of the Shropshire Horticultural Society, Shrewsbury, on the 23rd and 24th ult., for which they received a large Gold Medal. They also showed Achimenes, Carnations and other subjects illustrating their various fine strains of florists' flowers. The vegetables were admitted on all hands to be magnificent; and included Tender and True and other Beans, grand Onions and other subjects, attractively displayed. Tomatos from the open air were both numerous and fine.

Hydrangea hortensis.—I am forwarding a few heads of the above and I think you will agree with me that it is of the most beautiful sky-blue imaginable. At any rate it is by far the best that has come under my notice, and is greatly admired by all who see it. The plant is as round as possible, measures 7½ ft. across, and has borne 290 flower trusses, and not one had the least pink or red. The plant stands somewhat in the shade (which adds to the blueness, I have always heard, among other shrubs). Two years ago, as the plant was growing too far towards the walk, I pruned it in hard at every shoot. Last year it only had about a dozen heads, but I think the experiment worth repeating if one can get such a mass of bloom every other year.—J. Mayne, Bilton.

[The trusses sent by Mr. Mayne were quite equal to the description he gives of them; and as fine as ever we have seen the flowers of *H. hortensis*. All the best samples we have seen have either been round the south and west coasts of England, in the Isle of Wight or in the Channel Islands, where this *Hydrangea* succeeds admirably. We have always been under the impression that the vicinity of the sea has something to do with the blue colour the flowers assume. Mr. Mayne is quite within the influence of the sea air, but possibly the season and his treatment of the plant in question have their share in the splendid results obtained.—ED.]

Medals at Shrewsbury.—Only some of the awards had been made when our telegram of the great show at Shrewsbury was sent off. Messrs. E. Webb & Sons, Wordsley, Stourbridge, secured a Gold Medal for their grand exhibit of tuberous Begonias, Gloxinias, Gladioli, herbaceous flowers and vegetables. Gold Medals were also awarded to Messrs. Wm. Cuthush & Son, Highgate, London, for a collection of Ivies; Mr. Henry Eckford, Wem, Salop, for a collection of Sweet Peas; Messrs. Dobbie & Co., Rothesay, N.B., and Orpington, Kent, for Dahlias, Sweet Peas, Tomatos, &c.; Messrs. Dicksons, Ltd., Chester, for cut flowers of herbaceous plants, Water Lilies, and other subjects; Mr. E. Murrell, Portland Nurseries, Shrewsbury, for Roses in pots; Messrs. R. Hartland & Sons, Cork, for Dahlias; Messrs. Richard Smith & Co., Worcester, for a grand group of Bamboos and Lilies; and to Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, for a grand lot of Dahlias. Silver Gilt Medals were awarded to Messrs. W. & J. Birkenhead, Sale, Manchester, for a fine collection of Ferns; Mr. John Forbes, Hawick, N.B., for hardy herbaceous plants, Carnations, &c.; Mr. H. Deverill, Banbury, Oxford, for herbaceous plants; Mr. John Green, Norfolk Nurseries, Dereham, for Dahlias, Gloxinias, &c. Silver Medals were accorded to Messrs. W. Clibran & Son, Altrincham, Manchester, for Crotons, Celosias, &c.; Messrs. Jarman & Co., Chard, for Dahlias; Mr. Albert Myers, Shrewsbury, for greenhouse plants; Mr. R. B. Davis, Yeovil, for tuberous Begonias, Dahlias, &c.; and Mr. H. Pattison, Shrewsbury, for Pansies and Violas. Others were mentioned in our last issue, p. 827.

Record for Shrewsbury Show.—The total receipts for the two days' (23rd and 24th ult.) show at Shrewsbury were £4,674. This is a record, beating last year's one of £4,389.

Mr. Baker, Junr., of the British Museum, South Kensington, is at present botanising in the Highlands. Part of the time he stayed in a shepherd's hut, where oatmeal and mutton were about the only commodities of life.

Mr. William Hales, sub-foreman in the indoor decorative department, Royal Gardens, Kew, has been appointed Curator of the Chelsea Physic Garden. He came to Kew from the Birmingham Botanical Gardens in June, 1895, so that he has had a good training in botanical work, and also the practical side of what is expected in Kew by the general public of the present day. Mr. Hales is a keen and enthusiastic student, having fully availed himself of the advantages of the lectures given in various subjects at Kew. He also came out first-class in the horticultural examination of the R.H.S., held on April 6th, 1897. We learn with much satisfaction that the old Physic Garden at Chelsea is to be placed on a much better footing than it has been for some years past. Mr. Hales enters on his duties at Chelsea on October 2nd, and we wish him every success.

The Century Book of Gardening.—The conductors of *Country Life* announce that they are about to produce immediately the first part of the *Century Book of Gardening*, which is to come out in twenty-six parts. They may count themselves fortunate in that, while the subject of their book is at the very height of its popularity, that subject has really never been treated in any one work which meets all needs. There are practical works, but the greater number of them are incomplete; there are numerous works in which there is much proper rhapsody concerning gardens, but most of them are very inaccurate. The present work is practical, and, it is believed, complete; it is written entirely by experts and specialists and, to a large extent, by specialists who are acknowledged also to be beautiful writers. Its numerous illustrations are in that beautiful style seen in *Country Life*.

Mr. J. W. Crombie, M.P., on Gardening.—Mr. Crombie recently addressed the Stonehaven amateur horticulturists at the opening of their flower show. His first remarks applied to the love which people have for gardening. "It is born in the bone, and is inherited from our first parents along with original sin. They in Scotland inherited a double dose—not of original sin—but of the love for gardening, and when a really good man was wanted they usually came to Scotland for him! He hardly thought that those with acres of gardens really knew the pleasures of gardening. Amateur gardeners did. He asks one to come and see his garden, and when you go he can point out everything that has an interesting item about it. He knows when the buds on that tree opened, and when he expects those Auriculas over there to be in flower. It's all a work of love and thoughtful watchfulness. Mr. Crombie humorously referred to the use of flowers in diplomacy, and concluded by congratulating the society on its successful show."

Walnuts in France.—There are no official statistics of the acreage covered by Walnuts in the various departments of France. They are not planted exclusively for crops as orchard trees are, but may generally be found along the road sides, and in small clumps in fields, &c. When once above the ground the French Walnut grows very rapidly; and it is stated that the owner of a new plantation can tell the value of the fruits or nuts in three years' time. In fifteen years the trees give a remunerative crop, and at fifty or sixty years of age maturity has been reached. When this comes about the yield may be 220 lbs. of nuts for an average tree. A deep well-drained soil, situated on a hill-side, having a basis of lime and granite, appears to be the most suitable for the Walnut. The trees are trained to start with, but left alone once a good shape has resulted. The crops are gathered in September or October. The nuts are then allowed to dry for a period of three or four weeks. Before the nuts are baled for shipment they are usually exposed to sulphur fumes, for the purpose of cleansing the shells and preserving the kernels.—*Journal of the Society of Arts.*

Picking Fruits.—It is said that some careful fruit growers employ women in preference to men for picking and packing fruits. Women are said to follow their instructions more closely.

Apples on standard stocks, free and open, and some also say those on the Crab stocks are best for resisting the attacks of American Blight. A mixture for destroying this pest is made from 4 ozs. of carbolic soft soap to the gallon of water.

Death of M. Henry de Vilmorin.—We are very sorry to learn of the death of Monsieur Henry de Vilmorin, F.R.H.S., at his residence, Verrieres, near Paris, last week. He was well known and much esteemed in this country, where he was a frequent visitor. One of his most recent visits was to the

Nephrodium fragrantissimum is a faintly fragrant Fern.

GIANT LILY OF THE VALLEY.

THERE are several varieties of Lily of the Valley in cultivation; but all are agreed that for early work the large flowering sorts are the most handsome and interesting. Growers claim that several of the fine garden varieties have large flowers. Messrs. James Carter & Co., High Holborn, London, who supply the accompanying illustration, describe the plant as "the true early giant flowered variety"; and the photo certainly shows the flowers to be both numerous and fine. Several things contribute to the popularity of Lily of the Valley, namely, the purity



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EARLY GIANT LILY OF THE VALLEY.

International Conference on hybridisation and cross-breeding, at Chiswick, on the 11th and 12th July last, where he read a paper on "Hybrid Poppies." He has also on several previous occasions read papers or made speeches at the meetings and conferences of the Royal Horticultural Society, either at the Drill Hall, or Chiswick, where he had made many acquaintances and gained many friends, so that his loss will be greatly deplored even on this side of the Channel. He was head of the great seed establishment at 4, Quai de la Mégisserie, Paris. He was part Author also of the unique book, *The Vegetable Garden*, which has been translated into English.

of the white flowers, their delicious scent, the graceful character of the sprays as contrasted with the massive foliage, and the sentiment attaching to them in the minds of many. There is no difficulty in the matter of cultivation, for any rich sandy soil will suit for pot work. The crowns require to be potted up at once when received, and plunged in cocoanut fibre until wanted for starting in heat. For early work a much higher temperature is needed to induce the crowns to start than for later batches. Growth commences more readily and with less heat after the crowns have been subjected to the cold and frost of winter.

TULIPS OF THE OLD AND NEW WORLD.

SOMETHING like eighty-six species of *Tulipa* are recorded in the *Genera Plantarum* as being natives of Europe and Asia, over the greater part of which they are widely scattered, though crowded in certain regions. When we turn to the New World our statement concerning the species of *Tulipa* there must be like the celebrated chapter on snakes in Ireland—"There are none." Nevertheless the Butterfly or Mariposa Tulips, Globe Tulips and Star Tulips, all belonging to the genus *Calochortus*, number some thirty-eight, or more species and many

and some others have been grown in country gardens for forty years or more. The flowers are bluish, beautifully margined with rose. *Tulipa retroflexa* (No. 4) is a graceful and charming, full yellow Tulip, flowering in the beds in April, and May. The flower as shown is too far opened, as only the tips of the segments are reflexed. The Parrot Tulips are bizarre, grotesque and singularly beautiful. No. 5 represents Crimson Beauty. Others of the Parrot section have mixtures of scarlet, green and yellow. Golden Beauty (No. 6) is well-named, for it is the darkest golden-yellow Tulip then in bloom, and has had a Certificate of Merit. No. 1, 3 and 6 are forms of *T. gesneriana*. The origin of the

Calochortus pulchellus, often met with in gardens under the name of *Cyclobothra*. The Star Tulips belong to a third section of the genus, consisting of a few dwarf species with starry open flowers. All are charming and lovely flowers, not a weed being amongst them. More of them have been introduced since the *Genera Plantarum* was published.

They are hardy but like to be planted in porous, gritty and well drained soil. This can further be insured by elevating the beds above the surface. From now till the end of November is the time to plant.

Kitchen Garden Calendar.

THE lifting and storing of the Potatoes will now be occupying the attention of the gardener. In some places the main crop of these is grown in the field, and where such is the case lifting will not be done for another month or six weeks; but where those for winter use are planted in the kitchen garden they are usually ready for lifting earlier than the field crop.

- 1 After so much dry weather we may expect a quantity of rain, which on heavy soils would seriously affect the crop, as in all probability the tubers would start into growth again. To prevent this, as soon as the haulm shows signs of ripening the tubers should be lifted and stored in a cool place. If put in earth clamps under the shade of trees care must be taken on heavy soils to provide drainage, for when the water remains about the tubers this causes them to cook badly. On very heavy soils it is preferable to put the tubers on the surface, so that the water may drain away more readily. Those intended for planting should be exposed to the air to harden them, as by so doing they will not start into growth so soon as if stored away at once. Where space can be
- 4 afforded it is a good plan to spread them out thinly in a cool shed where they can be protected from frost, as in such a position the shoots made will be sturdy. The ground from which the tubers have been lifted can be levelled and sown with Turnips or winter Spinach. Both these crops are important in the early spring. The former will give nice sweet bulbs that may be allowed to remain in the ground all winter, and before growth becomes active in spring taken up and stored in a cool place to give a supply until those sown in spring are ready for use. These late sowings often prove more serviceable than any other. Spinach, too, sown now will often withstand the severe winters better than that which is more forward, in which case it will prove a great boon, as the leaves will be ready for use long before that which is sown in January
- 6 and the following month.

The hot, dry weather is causing great trouble in this department, as in most places water is getting scarce. So serious is this in some places that carting for a considerable distance has to be resorted to, and where this is the case great care has to be exercised to prevent any waste. Cabbage seed that was sown early in the last month remained a long time dormant. Every effort should, however, be made to get the plants forward that planting may be done as soon as the weather is favourable. Where fly is troublesome, as it is in many places, water with liquid manure in the evening. Dusting the plants with superphosphate of lime, or newly slaked lime will have a deterrent effect.

So troublesome are these insects in some places that they still attack Turnips that are nearly fully grown, riddling the leaves as though thousands of shots had been put through them.

Attend to the sowing of Cauliflower and Lettuce to produce plants for protection in cold frames during winter. It is always well where a supply of salad has to be kept up to make small sowings at intervals rather than one big lot in September. If a couple be made in this month and one in October the plants will be of various sizes, and on that account will give a prolonged supply in spring. Late sowings usually withstand the winter best.—*Kitchen Gardener*.

The High, Rocky Island of Hveen, about fifteen miles from Copenhagen, lies about midway between the Danish and Swedish coasts. The whole island is only about five miles in circumference, but its elevated plateau is very fertile, and covered everywhere with wild Roses, Jasmine, and other sweet-scented flowers. The simple islanders are as notable for their pleasing courtesy as the island for its flowers.



GROUP OF BARR'S LATE TULIPS.

varieties, and are scattered over various parts of America, their metropolis being in California. They are structurally very similar to the Tulips, though differing in detail, and may not inaptly be considered the representatives in the New World of the true Tulips of the Old.

The accompanying illustration, lent us by Messrs. Barr & Sons, King Street, Covent Garden, represents six types of cultivated and popular garden Tulips, for April and May, that is, for late spring hedding.

No. 1 is a type of the strong-growing and late-flowering Darwin Tulips that are extremely varied in colour and keep on till June. No. 2 is a graceful pale yellow Tulip, flowering in April. Picotee (No. 3) is a lovely old cottage Tulip, so named because it

others is unknown, but their decorative value in the spring garden is indisputable.

The Butterfly or Mariposa Tulips (p. 9) are here represented by a group of *Calochortus venustus*, also placed at our disposal by Messrs. Barr & Sons. All belonging to this section have large open flowers in various colours such as white, yellow, orange, rose, cerise, lilac and other shades, together with remarkably handsome dark blotches in the interior. A great addition of lovely colours has recently been made to this species under the name of the Colorado strain of Butterfly Tulips. This section of the genus is the most numerous in species. Another type, the Globe Tulips or Fairy Bells, with globular flowers, heavily bearded in the interior is represented by

There is a rumour that a German syndicate intends to buy it and turn the place into a sort of northern Monte Carlo, but it is highly desirable that the story should prove to be a hoax.

"SOLD UNDER THE HAMMER."

"GROUSE are cheap to-day," is what you see wherever there's a poulterer's shop. So many birds laid so many eggs and sat upon them. So many hairy little chirpers popped out of these eggs and grew up. Humane man, wishing, we presume, to retain the balance of Nature, went out to the moors and shot these fat grouse and packed them off to someone who would sell them to tempt dainty appetites. That's one side of life, or rather, that's one of the seams of life. But here, again, so many fine, sound bulbs in the congenial soils of Holland, South France, or Japan, and the Cape yielded a progeny of young bulbils. Men, many men there are of them, too, lifted these parent bulbs, took away the baby bulbs, treated them kindly, and, by-and-bye, the little bulbs grow big. They were large enough, indeed, to yield bloom; so the master, who had cared for and tended to these, weighed them in his hand and said, "Let these be sold." So out came the tools and all the stock was gathered and cleaned. Brown paper bags and the shells of hemp seed for packing were brought out, and many different lots made up.

Everybody's pocket is not loaded with that the love of which is "the root of all evil," and, accordingly quantities and mixtures have to vary. But now all has been prepared and the steamers into which they have been stored steer westward. Towards London? Yes, that's where they are to land. Then there's loading and unloading, checking and reckonings, but at last the delivery vans have taken the great cases, each with so many packages, to the public auction rooms in this case. And, of course, whose rooms would they be, seeing the stock is horticultural produce? whose, but the Messrs. Protheroe and Morris', at 67 and 68, Cheapside, E.C. It is *they*, then, who are to sell.

The trade sales are now running, and will do so for some while yet. Each day the work commences at 11 o'clock prompt (except Saturday), and thousands and thousands are disposed of before evening. Here, in a light but rather hot sale room, in these dog-days, are stages which are marked off all along the sides and loaded with bulb packages. The whole business of buying and selling is done here. The auctioneer's desk occupies a central position next the east wall, while in front are benches and seats, with a table and tray upon which the sample bulbs are exposed. Those who buy in quantity have their lots despatched to the basement packing room, by means of a narrow, steeply sloping gullet, down which they slide. This "shoot" is simple and convenient.

Anyone who cannot themselves attend may commission the Messrs. Protheroe & Morris to do so, with the full confidence of being reliably served. This fact was amply demonstrated during the writer's visit, not a few lots being taken up by the commissary. The attendance is highly respectable, and one may see the titled gentleman sitting at peace with the dealers "in bulbs, seeds, and sundries." Gentlemen's gardeners are there, too, and businessmen also who have a rod or two of land out in the suburbs, and know how to make the same lovely at the cheapest cost.

Really, the bulbs are ridiculously low-priced, and as Mr. Protheroe said: "It wouldn't be good for us if the Dutchmen were here." Narcissus in most of the popular varieties, were sold in large, medium, and smaller lots in rotation. Such fine things as Golden Spur, Sir Watkin, Bicolor Empress, Sulphur Sancho, Barri major, Stella alba, and so on were frequently put up. Hyacinths and Tulips in named reds, blues, and white, or in mixtures, were being offered all along the line. Besides these, one could buy lots of 500 or 1,000 *Scilla sibirica*, Spanish and English Iris, Crown Imperials, Crocuses, Snowdrops, *Triteleia uniflora*, and Grape Hyacinths at prices which would simply leave you wondering about how the growers did for a profit, and after wondering and thinking for a week you might still cry: "Where, where could the profit come in?" I need not say anything about whether the bulbs are good or otherwise, for most likely the bulk of my readers would not accept my words. But this I will point out; that

some of the most prominent horticulturists I know of in London were there and buying wholesale. They do this every season; so that it would seem that things turn out all right with them. I was only there little over an hour, and how many bulbs of one kind and another do you think were bought in that time? Seventy-six thousand, nine hundred and seventy-six (76,976).—G. W.

BLUE FLOWERS OF SPRING.

WHEN everything is cold and gray or white, anything in the floral world other than these colours is looked upon with appreciation. Just as we have a

The bluest of the blue is *SCILLA SIBIRICA*. We should never say what our favourite flower is, for probably no real lover of flowers can have a special flower more cared for than any of the many thousands of others. Therefore, let us not commit ourselves here.

For ribbon lines along the border, or for a pocket in the rockery, or by the margin of the lake or out upon the meadows and lawns, this little plant is almost unique in its class. It only reaches a few inches in height at any time; but it is the intensity and depth of its small blue flowers that give it so much worth. It contrasts beautifully with Snowdrops. It was brought from Siberia in 1796. Given



GROUP OF BUTTERFLY OR MARIPOSA TULIPS (*CALOCHORTI*).

regard for people whom we cannot fathom, or never seem to be able to calculate wholly, so it is with coloured flowers in spring. There is very, very little sunshine or heat. The warm soft showers, which even arouse action on our own cheeks when they fall on us in the month of April are absent though the cold snows and pelting blasts may be gone. And yet from out of the cold dark earth these bulbous plants have somehow or other—in a manner which we cannot fathom or clearly calculate—collected and elaborated water, and a few mineral salts, which they presently display in another form, some in beautiful yellow petals, some in mixtures of orange or red, and many expose themselves in blue colours.

any moderately good soil and planted at this time, not more than 2½ in. deep, no further care or trouble is really needed. The accompanying illustration (p. 11), lent us by Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, gives a good idea of a clump of this beautiful blue Squill.

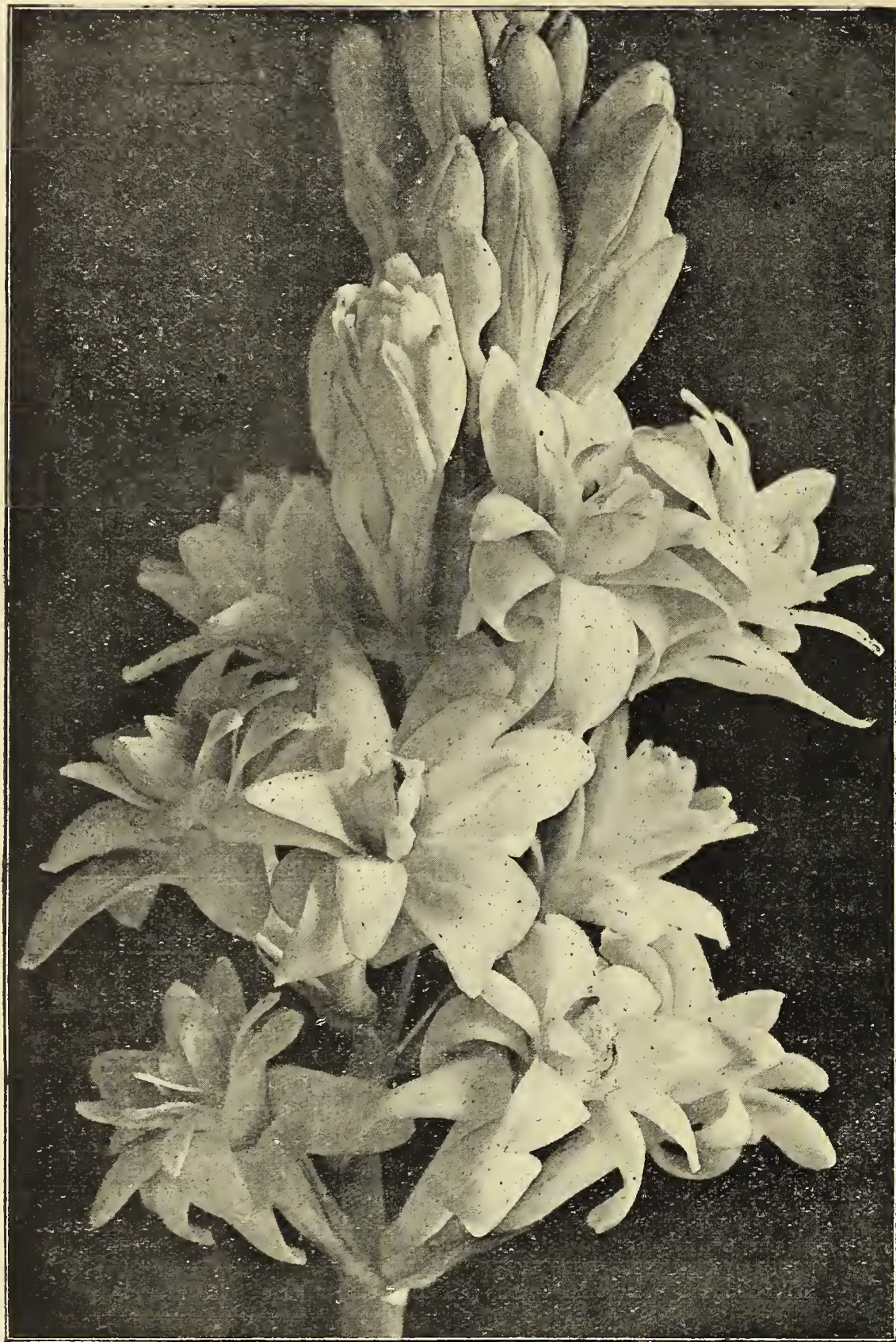
CHIONODOXA LUCILIAE is another grand blue spring-flowering bulb. Compilers of catalogues generally liken it to *Scilla sibirica* and *vice versa*. So far as we can see they are quite distinct, and if every thing else could be distinguished so readily it would be pleasing. The culture of the "Glory of the Snow" is, in common with all other fine spring bulbous plants, confined to the simple operation of plant

ing them—the quality of the soil does not much matter—and in giving them an occasional top-dressing later on. They may be grown in pots or window boxes, or even frames for earlier supplies, but in any case the chief points are, not to plant them deeply, and to give them rational treatment in the watering. Good bulbs will flower under any circumstances, but of course do not purposely neglect them. *C. sardensis* is more uniformly blue, and blooms earlier.

MUSCARI BOTRYOIDES.—This is only one of a great number of Grape Hyacinths. It is not the deepest blue among them, but it is a hue or shade well liked. Probably this is one of the best species, too, for any

character of the rootstock. One botanist, however, named it *Tuberosa amica*, thus using two adjectives instead of one preceded by a noun, which is no doubt responsible for much misconception concerning the name. Only two species are known to science; the second one (*P. maculata*), however, has not been introduced. Both are natives of Mexico. The double flowered variety and *P. t. gracilis* have long been known, but the former is by far the most popular. The accompanying illustration, lent us by Messrs. J. Carter & Co., High Holborn, London, shows the double one in its best form. The double flowers, with their fleshy petals, and the fact that the blooms are twin from the axils of the bracts,

everywhere to be seen, and of novelties introduced within half-a-dozen years the species *R. elliottiana* is certainly invaluable. Perhaps, if a census were taken upon the relative merits of the best half dozen greenhouse plants or species or varieties of such plants lately brought to notice, the subject under note would be among the first for inclusion. Save that the vigour of the plants may not be quite equal to the original *C. africana*, that the spathes or "flowers" are of a rich glowing yellow, and that the leaves are spotted, the general habit and character of *C. elliottiana* are identical with the better known species. Once a stock is secured one need not fear of its falling, but rather of its continuance and increase. The suckers may be inserted in pots proportionate to their size any time from now till the end of October or later. A compost of unctuous loam, cow-manure and an opening quantity of light leaf mould will suit them. Do not pot too firmly, and be very careful in the watering until strong growths have been thrown up. A light position in a warm greenhouse, whose atmosphere is moistened, are also points the attention to which will be found to pay. Fumigate if aphides trouble them. During summer they should be rested for a short period, and in favourable parts this species may be plunged or planted out. They are simply invaluable for all purposes of spring decoration. Those who had the pleasure of visiting the Temple show this year will recall the splendid group of Messrs. Cutbush & Son, Highgate, in the big tent, and which they now enable us to figure. (See p. 11)



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DOUBLE TUBEROSE (*POLIANTHES TUBEROSA* FL. PL.).

or all positions. It is more partial in its choice of a site, enjoying one which is warm, moist, and freely drained. All of the species make nice rockery plants in the proper places, or for massing in borders or on short grass. The little beaded spikes are exquisite. They should be put in 5 in. apart, and about 2½ in. deep, leaving them undisturbed for four years at least. They are handsome in boxes.

DOUBLE TUBEROSES.

THE popular name of *Polianthes tuberosa*, namely, Tuberose, always calls up visions of some sort of Rose, but it has nothing to do with either a "tube" or a "Rose," and only refers to the tuberous

make the spikes remarkably heavy. Loam and well decayed cow dung in about equal parts, with plenty of sharp sand make a good compost. The bulbs come away slowly under cool treatment, though a little bottom-heat brings them away more quickly and better. The pots containing them may be kept in ashes till roots are formed, when they may be put in heat, if necessary, to accelerate them.

RICHARDIA ELLIOTTIANA.

OF the early summer flowering "Lily-like" plants, the Callas, Arums, or Richardias, which names are given to one and the same class of plants, are eminently beautiful. The old *Richardia africana* is

THE CHINESE SACRED LILY.

As our illustration serves to show, there is no freer flowering Polyanthus Narcissus than the above, botanically known as *N. tazetta chinensis*. The beauty of the same is most noteworthy, for the perianth or outer ray of petals is of silvery hue, and the corona or inner cup is bright, shining yellow. Added to quality and quantity of blooms, they possess a delightful fragrance, quite agreeable in dwelling rooms. Like other plants shrouded with mysticism and superstitious reverence, this Narcissus or "Lily" bears also such endearments as Joss Flower, Flower of the Gods, Water Fairy Flower, the "Shui Sin Far," and Oriental Lily. The Chinese use it lavishly at the advent of their New Year, as a symbol of good luck. Their method of treatment or culture of it is peculiarly kept among themselves, but their methods are most successful. The remarkably short space of time required to bring a good bulb into bloom (four to six weeks after planting) is quite inconceivable. For pot culture no plant of a like nature is simpler to grow. The bulbs can be secured in October and potted up at once, treating them afterwards as advised for any other Narcissus. In ornamental bowls among water and only steadied by a few pebbles, the Chinese Sacred Lily is invaluable. We are indebted to Messrs. Wm. Cutbush & Son, of Highgate, London, N., for the use of the block. (p. 11)

NARCISSUS INCOMPARABILIS ORANGE PHOENIX.

HERE we have another of the most popular double varieties. Thousands of it are bought and sold in the course of the bulb season without difficulty. The more it is known the more it is wanted. It is a fine double form of the *N. incomparabilis* which belongs to the Continent originally, but is now naturalised all over Britain and Ireland. It makes a good pot subject. Three or four bulbs in a 7-in. pot are sufficient, using a rather rich fibrous loam, and attending to the watering and nourishing of the spikes when they appear. The spikes need some neat support because of their weight. Well-ripened bulbs are always sure to turn out well. Batches can be brought on in succession by taking different lots into heat at intervals. Ripen off the bulbs after growth has finished and dry them. Sound young bulbs may be planted now. The illustration of this useful variety (p. 12) was lent us by Messrs. J. Peed & Son, Roupell Park Nurseries, West Norwood, London.

NARCISSUS TELAMONIUS PLENUS.

Is there any double variety of Daffodil "taken to" more than this old favourite? It is really just a Continental variety or form of our native Daffodil (*Narcissus Pseudo-Narcissus*), but it keeps its character

so persistently as to stand as a good species. Its freedom of growth is well known. In our school-boy days we remember having plucked it along the banks of the Tweed. The bulbs, however, had been thrown out with weeds and parings from neighbouring gardens. But from this we may learn that a moist

other small bulbs, but the size and great brilliancy of the blue, white, yellow, striped, feathered and mauvy flowers make a fine blaze all over the land. Anyone who has a real love for the garden will not be content without Crocuses. It is no use, however, only to buy a few hundreds. Every square yard of ground

been able to gather together a great many of the best varieties, both of Irish, English and Scotch origin. He has also a splendid collection of rare single Tulips, of which we hear good accounts at local shows during the time they are in bloom. On this occasion we would speak of three beautiful and



SCILLA SIBIRICA. (See p. 9.)

humic or vegetable soil in an open position with the bulbs undisturbed for a period, are the conditions most suitable to it. It makes a good pot and window box or garden bed variety, and lasts well when cut, so that market men indulge in it largely. We also remember when this and the ordinary double form of the Daffodil were almost the sole representatives of the genus (omitting the single and double Poet's Narcissus) to be found in shrubberies, shady woodland walks, the cottage and farm gardens, and that of the laird in Aberdeenshire. Single varieties were regarded as rare curiosities. All that is altered now, though *N. Telamonius plenus* still enjoys its former position and regard. The accom-

panying illustration of it (p. 12) was lent us by Messrs. J. Peed & Sons. will require more than a hundred corms itself, if the very best and happiest effect is wanted. Why should not this be the aim? They do not require, nor indeed do they like to be disturbed for some years after being first planted. It spoils their vigour, however, to let them remain any length of time crowded up. Get them in now, either in lines along with Tulips or Hyacinths; for the plan should always be to plant bulbs, as in cases like this, so that one thing succeeds another. Then when the Tulips or Hyacinths are past, the summer bedding will come on and keep up the display. The accompanying illustration, (p. 12) lent us by Messrs. Ed. Weh & Sons, shows a fine clump of these familiar spring flowers.

distinct varieties that should be in every collection of any importance.

NARCISSUS MAXIMUS, often alluded to as *Trumpet maximus*, is one of the finest, if not the best of all the early flowering Daffodils on account of its uniformly rich golden-yellow colour and large flowers, having an open fluted trumpet of splendid proportions. It was originally an importation of a wild Daffodil, that does not seem to have been improved in any way, if indeed it could be improved in the matter of size, shape and colour. The chief or only complaint is that cultivators sometimes fail to flower it; but when it does bloom the reward is worth the trouble of growing it.



CHINESE SACRED LILY. (See p. 10.)



RICHARDIA ELLIOTTIANA. (See p. 10.)

panying illustration of it (p. 12) was lent us by Messrs. J. Peed & Sons.

CROCUSES.

It would hardly seem like spring if Crocuses were not to be seen. They may not be so sturdy as some

IRISH GROWN DAFFODILS.

THE climate of Ireland is particularly well adapted for the cultivation of Daffodils, so that it is not surprising they should be more or less extensively grown in that green Isle. Mr. W. B. Hartland, Ardcairn, Cork, has been working at the Daffodils for the past eighteen years, and has in consequence

N. NELSONI MAJOR may be described as a bicolor Daffodil with a shortened tube. Compared with *N. maximus* it is of course much smaller and blooms later; but the white perianth is of ample width, and the whole flower of good width and durable. For pot work this variety is admirable, and the duration of the flowers is then brought into prominence. For

cut flower purposes it is equally choice and pretty, the white segments contrasting well with the bright yellow goblet-shaped crown. In the open ground it is an equally satisfactory bloomer.

N. scoticus is a variety of the common Daffodil which had existed for many years in the south of Scotland without any particular notice having been

freely as a rule; and are worth the trouble of rearing to flowering dimensions. The stems seldom exceed 6 in. in height; while the flowers are of a lovely blue making it one of the most choice of the Gentians. It is of easy cultivation in a firm and fairly moist soil. The flowers are five-lobed as a rule, but may be more, though not constantly so as the

room, yet the soil may be fairly dry, and certainly well drained in winter. It may be propagated by cuttings of the healthy young shoots which have not flowered. There are blue and white varieties, which are often grown in pots for conservatory decoration or in windows, where it thrives handsomely.

SILENE SCHAFTA.—The long reddish calyx and



NARCISSUS TELAMONIUS PLENUS (See p. 10)

paid to it till Daffodils became popular. It is now known as the Scotch Lent Lily, or Scotch Garland Flower, from that circumstance. It is a graceful and pretty Daffodil with white segments and a yellow trumpet. The illustrations of the above three (p. 13) were placed at our disposal by Mr. Hartland.

ALPINE AND ROCK PLANTS.

LINARIA ALPINA—Whoever takes a delight in rock plants will find this one of the neatest growing subjects he can place in a niche of the rockery. The stems are more or less decumbent at the base, and then ascend; but they rarely exceed 6 in. in length when planted in full exposure to sunlight as it ought to be. The deep sea-green foliage is very distinct from that of most of the species of Toad-flax. The

name would seem to imply. The leaves are set on horizontally in four rows, reminding one of a New Zealand Veronica.

ALCHEMILLA ALPINA—The flowers of this plant are green and inconspicuous; but the leaves are palmate and pretty at all seasons of the year. The underside is covered with silky, silvery hairs lying close to the surface. Though a native of high altitudes on the mountains it succeeds well on the rockery of a lowland garden, forming neat evergreen tufts, little if at all affected by the drought where the soil is capable of holding a little moisture. *A. conjuncta* is very similar, but differs in having the

deep rose flowers of this Catchfly, together with its decidedly dwarf habit, make this one of the choicest of rock plants. It is not at all particular as to soil, but may be grown on rather dry positions on the rockery, or in the open border where it will give equal satisfaction and flower freely. The plant may be propagated by division or by cuttings, but does not seem to produce seeds. In taking cuttings, only the freshest and most vigorous of the shoots should be selected. During moist weather, when the plant is growing freely, cuttings will more readily be found that will root readily.

ASPERULA SUBEROSA.—The stems of this plant



NARCISSUS INCOMPARABILIS ORANGE PHOENIX. (See p. 10.)



CROCUSES. (See p. 11.)

flowers are moderate in size but of a charming deep purple-blue, with an orange palate. Any good garden soil will meet its requirements admirably. Seeds are produced in fair quantity, and by this means it may readily be propagated.

GENTIANA SEPTEMFIDA.—Most of the Gentians can be raised from seed, which they produce pretty

leaflets joined at the base. Both are easily propagated by division, or by taking crowns having a little bit of stem, and treating them as cuttings.

CAMPANULA ISOPHYLLA.—This is liable to be killed or lost during winter; but in some soils succeeds well. A sunny position is best for it; and though there should be plenty of depth for root-

form little tufts only 3 in. to 4 in. high; and produce soft pink flowers in a terminal cluster. The tube of the flower is much longer than that of the common Woodruff, its better known congener. The stems and leaves are very downy or hairy. It comes from Mount Athos, but is very little known in gardens.

JASSIONE PERENNIS.—The annual British species

of Sheep's Scabious is common in some parts of the country, and produces compact little heads of bright blue flowers, but is only an annual. That under notice is a perennial, growing to the height of 12 in. It forms tufts of linear leaves at the base of the stems, which also carry leaves of the same or similar shape.—*Alchemilla*.

SOCIETIES.

SEVENOAKS FLOWER SHOW.—August 16th.

FLOWER shows do not always increase in popularity, but the show held in the Sevenoaks district seems to go onwards every year, and it has had thirty-one years of seasoning. Lord Sackville gives the promoters the use of his very lovely grounds for the show. Mr. de Barri Crawshaw, as chairman, assisted by a large committee of influential persons, shares with the secretary, Mr. Hancock, the more special thanks of those for whom the work was done. Mr. Edwards, too, was invaluable. Although in the classes for plants a scarcity of entries was evident, as also in some others, there were classes with much increase, and everything is reported as of superior merit. The cottagers' classes contained entries of great merit, and in many there was little to hang points of difference upon. The band of Her Majesty's 1st Life Guards attended; so also did the Sevenoaks Town Band. The prize for a collection of miscellaneous exotic flowering plants (open) fell without competition to Mr. A. Hatton, The Quarry, Sevenoaks. The prize amounted to £4, which surely might have tempted a few entries. The class for six distinct foliage plants was better attended to, and Mr. Hatton was here first. For six Fuchsias, in three varieties, Mr. H. Heath, gardener to Mrs. Petley, of Riverhead, came in first, followed by Mr. A. Hatton. Four distinct varieties of Caladiums were best shown by Mr. Talmage, of Hernewood; and second, Mr. N. Turner, of Windernesse, Tunbridge Wells. Another class for four distinct flowering Begonias was filled in the first place by Mr. H. Heath, followed by Mr. W. Adams, of Edenhurst. Six Coleus, in comparatively small pots, were good, Mr. W. Tebay, of Everlands, being first winner. Half-a-dozen hardy Ferns brought Mr. J. Talmage the first prize.

A specimen stove or greenhouse plant from Mr. C. Sutton, gardener to Earl Stanhope, of Chever-

Messrs. Hatton, Heath, Turner, and Hough stood in this order for a collection of Ferns, also arranged for effect. For six table plants, Mr. Earl, of Somerhill, won first.

CUT FLOWERS were very fair, and included classes for Phloxes, Gladioli, Roses, Dahlias, c. llec-

black Grapes went to Mr. Taylor, of Forest Hill, with Mr. Osman second. For white Grapes Messrs. Earl and Taylor stood so. In the class for a bunch each of three varieties of Grapes Mr. T. Osman beat Mr. C. Earl and Mr. W. Taylor.

Mr. Hough had the best Melon (any variety).



NARCISSUS MAXIMUS. (See p. 11.)

tions of both herbaceous perennials and annuals, table decorations and floral designs. The principal prize-winners in this section were Messrs. Sutton,

Peaches were best shown by Mr. Tebay, with Mr. Cowper, second. For six Nectarines Messrs. Hatton and Cowper were placed in this order. The



NARCISSUS SCOTICUS (THE SCOTCH LENT LILY). (See p. 12.)



NARCISSUS NELSONI MAJOR. (See p. 11.)

ing, brought him the highest award; while for a specimen foliage plant Mr. Hatton came first.

The groups of plants arranged for effect (9 ft. by 6 ft.) only brought three competitors, of which the order ran, first, Mr. Hatton; second, Mr. Hoadley; and third, Mr. Tebay.

Tebay, Haddaway, F. W. Seale, Talmage, A. Parkes, Noble, Earl, Elmes, and Turner.

FRUIT.—For a collection of fruit in six kinds Mr. R. Potter, gardener to Sir Mark Collet, St. Clere, beat Mr. Earl, and he was before Mr. T. Osman, Chertsey. The first prize for three bunches of

entries for Plums were good, for three dishes of nine each the order ran, first, Mr. R. Potter; second, Mr. A. Hoadley; third, Mr. E. Colman. Mr. Potter won for a like class of cooking Plums. For three dessert varieties of Apples, and six of each, Mr. T. J. Barney, of Maidstone, won; and Mr. R. Potter was second.

For culinary Apples Mr. Potter and Mr. C. Sutton were first and second. Mr. Kennard, of Maidstone, came in first for Pears (dessert); and for a dish of fifty Cherries, Mr. E. Colman.

VEGETABLES.—The prize for a collection of nine kinds was won in the first award by Mr. A. Hoadley, second, Mr. Whiffin. There was a division (II.) for gentlemen employing one gardener and one assistant only. And yet another division for amateurs.

NURSEYMEN'S EXHIBITS.—Messrs. Geo. Bunyard & Co., of Maidstone, had a large consignment of Apples and Pears, and some fifty varieties and species of herbaceous cut flowers, Roses, &c.

Messrs. Cutbush & Son, Highgate, London, N., had a group of tree and other Ivies amounting altogether to forty-five varieties.

Messrs. H. Cannell & Sons, Swanley, had a magnificent group of Cannas, also a great show of Dahlias, and vegetables.

Messrs. J. Peed and Son, Roupell Park Nurseries, West Norwood, made a brilliant show with their superior strain of Caladiums, Gloxinias, and Streptocarpuses.

Mr. Webber, Quarry Hill, Tonbridge, had an assortment of greenhouse Ferns, stove and other plants. Mrs. Seal, of the Vine Nurseries, Sevenoaks, had a magnificent group of decorative material, occupying a run of 75 ft. Dahlias and other fine flowers were so tastefully arranged as to make this one of the finest groups in the show.

DEVON AND EXETER HORTICULTURAL.

August 18th.

THIS well known society has held its show for another year. The exhibition was held in the Bury Meadow grounds, granted by the Exeter City Council. Entries were up to the average, and produce very fair, so that everyone feels satisfied. The band of the 4th Battalion of the Devonshire Regiment was in attendance. Below follows a selection of the winners in the principal classes:—

OPEN CLASSES.—Mr. W. B. Smale, of Torquay, was the first-prize winner for show and fancy Dahlia blooms, being backed for the second place by Messrs. Jarman & Co., of Chard. Gladiolus blooms were extra good, Mr. F. H. Fox, Wellington, showing up well, and second, Mr. Kneel, of Exeter. Roses of the Tea sections were best as shown by Messrs. Jarman & Co., followed by Mr. J. Jerman, of Exeter.

For a dinner-table arrangement of fruit and flowers, Miss Lucy Lock, of Crediton, secured the Silver Cup. Mrs. Barnes, of Winslade, was second winner, followed by Mr. W. Rowland, from Exeter, and Mr. F. Lock, of Crediton. There were nine entries for this class.

GENERAL CLASSES.—A Silver Cup was offered for twelve stove and greenhouse plants, six foliage and six in flower, and won by Mr. W. Brock, of Exeter. The same exhibitor came first for a like entry of six plants, three of each division, followed for the second prize by Rev. A. W. Hamilton-Gell, Winsdale. The same two won first and second places for six stove and cool house Ferns.

The silver cup for the large miscellaneous group of plants was awarded to Mr. B. H. Hill, of Crediton; and second, Mr. W. Brock. For a similar but smaller group, Lady Duckworth, of Exeter, was the winner. The chief winners of prizes in the other classes for pot plants were those already named and Messrs. Farrant, Heberden, Savile and Coldridge. The honours were variously awarded in the cut flower classes, and no competitor secured any great advantage over another.

FRUIT.—The collections of ten dishes were very fair. Mr. W. A. Sandford (gardener, Mr. S. Kidley) was here awarded the first prize. V. Stuckey, of Langport, came second; and Mr. B. H. Hill, third. The Rev. Hamilton-Gell stood first for a collection of six dishes, and next him Mr. H. H. Spencer, followed by Sir John Shelley, of Shobrooke.

For Black Hamburg Grapes, Mr. A. Sanford beat Rev. W. H. Clark, from Exmouth. Mr. Eady, Q.C., of Weybridge, won for Muscat of Alexandria Grapes. Admiral Parker won first for cooking Apples, and Mr. Kekewich for a dish of dessert Apples. The class for Pears fell in the first award to Mr. Farrant, while for Figs Mr. Milford, of Thorverton, was foremost winner. The best green or white-fleshed Melon came from Rev. Hamilton-Gell; and the best scarlet-fleshed variety from Mr. Farrant.

VEGETABLES.—These were largely shown and formed one of the best divisions of the exhibition. The silver cup, for a collection of twelve kinds, fell to Sir J. Shelley. Mr. B. H. Hill came next him, followed thirdly by Mr. W. C. Cleare, of Crediton.

Lady Duckworth had the premier collection of six kinds; and second best, Rev. E. Heathcote; and equal third, Messrs. M. Farrant and Shapland. The above winners were also the most prominent in the lesser classes for so many of this or that distinct vegetable. There were also classes for British wild flowers and for amateur gardeners.

MISCELLANEOUS EXHIBITS came from many of the prominent seedsmen and other firms or works about Exeter, adding by their worth and diversity, greater attraction to the show as a whole.

Messrs. Robert Veitch and Son, of the Royal Nurseries, Exeter, made the largest display, including chiefly stove and greenhouse plants, cut blooms, and a collection of hardy shrubs.

The West of England Horticultural Works, Howell Road, Exeter, had a display of horticultural requisites in the shape of greenhouses, garden frames, and handlights.

Mr. W. J. Godfrey, of Exmouth, was also a prominent exhibitor, having a large and beautiful display of flowering plants, &c.

Mr. James Walters, of the Mount Radford Nurseries, had a specially fine group of Roses.

The "Jadoo" Company, Ltd., had a prominent stand in the centre of the vegetable tent. The plants exhibited were all seen growing in the "Jadoo" fibre, and ranged from Apple trees to Asters.

The Selton Nursery Co., of Sowton, near Exeter, had a large variety of choice decorative plants.

Lord Poltimore exhibited a splendid collection of fruit. A number of Certificates of Merit were awarded to the honorary exhibitors.

FALKIRK HORTICULTURAL.—August 25th.

THIS society held its annual flower show in the Town Hall, Falkirk on Friday, August 25th. It is to be regretted that the quality and the quantity were both behind those of past years. The collections of pot plants were one of the features of the show, and to Mr. John McLaren are due the thanks for sustaining this feature. The lack of rain had had a deleterious effect upon the cut blooms, the entries of which were poorly represented. Carnations, however, were very fine. Mr. R. Brown, of Wallacestone, had a collection which was much admired all round. Asters of the Chrysanthemum types were also particularly well shown, and here Mr. John McArthur, of Lauriston, came in first. Of vegetables, Potatoes and Leeks were the most select of any class.

Mr. J. Ogilvie, gardener to Rev. Mr. Yellowlees, of Larbert, had a splendid first prize collection of vegetables.

The fruit could not be called high class, nor was the quantity great either. The best exhibitor of Peaches was Mr. Sutherland, of Parkhall, who won with a capital lot. Mr. Shanks, of Daldene Avenue, who is an amateur grower, was very successful with his Grapes. He showed both black and white varieties in good condition.

Adding greatly to the value of the show was the miscellaneous group of plants, fruit and flowers from Messrs. Murray, of Parkhall. Messrs. Stirrat Bros., of Summerford Nursery, were also among this class of exhibitors; and Messrs. Henderson & Son, of Camelon, were likewise gratuitous in their displays. They staged a handsome tableful of wreaths, crosses, and other floral decorations, and did not spare even expensive flowers.

Messrs. Murray were strong in table plants, &c., and their table was a great centre of attraction. The Messrs. Stirrat had a miscellaneous group of pot Tomatoes, plants and flowers.

Messrs. D. Dow & Sons, Nurserymen, Falkirk, exhibited a table of Ichthemis and other Guanos in tins of various quantities, receiving considerable attention.

The whole of the arrangements were carried through under the secretaryship of Mr. John Fleming. After the judging was completed, the officers and judges sat at dinner in the "Crown Hotel." Mr. McMurrich presided, and Mr. Wm. Robertson acted as croupier. The Chairman said he was sorry that the show had fallen backward rather than made an advance. He did not know where the blame could be; but he knew the gardeners did not now enter with the heartiness he should like to see, and he

hoped they would look to the interest of the old society which was established so long ago as 1832. We cannot hope to enumerate all the prize-winners, but below will be found the names of those mostly in prominence:—Messrs. John McLaren, of Millfield; T. C. Sutherland, of Parkhall; John Ogilvie, of Larbert; Mr. Robertson, Peter Tait, John Fleming, Robert Brown, Peter Lamont, James Jarvie, E. Mackie, H. Dunsmore, and J. Samuel.

ROYAL HORTICULTURAL.—August 29th.

THE meeting on Tuesday last was not a very strong one; but it is seldom expected to be otherwise at the end of August. There were several groups of stove and greenhouse plants, including a striking group of Pitcher Plants. Outdoor subjects were represented by hardy herbaceous plants, Dahlias and Roses.

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited a group of Orchids, chiefly hybrids. Some of the finest of them were *Laeliocattleya callistoglossa ignescens*, Lc. Nysa, and Lc. Phryne, of each of which there were several fine plants. They also showed the new *Cypripedium* Captain Holford, C. Janet, *Phaiocalanthe insperata*, and *Zygopetalum Prothersay*. (Silver Banksian Medal.)

Messrs. F. Sander & Co., St. Albans, staged a splendid piece of *Oncidium divaricatum*, having six large, branching panicles of flowers. They also had *Dendrobium formosum giganteum*, *Cypripedium callo-rotschildianum*, *Laelia pulcherrima*, *Cypripedium gigas*, and *Aérides sanderiana*.

H. F. Simonds, Esq. (gardener, Mr. Geo. Day), Woodthorpe, Beckenham, exhibited *Cattleya hardyana* and the beautiful C. h. Simond's var.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited *Cattleya Warscewiczii* Prince of Wales, C. *hardyana*, and C. *molle*, a hybrid between *superba* and *gaskelliana*. Mrs. Mason, The Firs, Warwick, showed *Cattleya Harrisoniae* *superba*, and C. *superba splendens*. G. W. Law-Schofield (gardener, Mr. Shill New Hall Hey, Rawtenstall, staged *Cypripedium Juno* Schofield's var. Mr. A. J. Keeling, High View Nursery, Cottingham, Bingley, exhibited *Cypripedium bingleyense* (Charlesworthii × *harrisonianum*).

Mr. H. B. May, of Dyson's Lane Nurseries, Upper Edmonton, made a very liberal display of a highly creditable character. The general plan was got by raising a central and two end conical groups, while below were Ferns, Cocos, Eulalia, and an edging of *Campanula isophylla* Mayi. *Acalypha hispida* occupied the central prominence, and *Abutilon Golden Fleece* the end two. Altogether the group was most creditable.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, sent a lovely collection of cut Roses, of which H.P. Mrs. Reynolds Hole, Tea Mdme. Cochet, H.T. Mdme. A. Chatenay, Kaiserin A. Victoria with Mrs. W. F. Grant, and Charles Lefebvre were the finest. *Althaeas*, *Kolreuterias* were ranged in vases along the back. (Silver Banksian Medal.)

Messrs. Wills and Segar, Decorative Florists, Onslow Crescent, South Kensington, sent a beautiful group of fine foliage plants. *Alocasia Sedenii*, A. *argyrea*, *Anthurium crystallinum*, A. *montfontainensis* were large and beautiful for their kind. *Dracaena goldiana*, D. Sanderi with Rex and other stove Begonias, Aralias, Crotons, and some specimen Palms, small Ferns and ornamental exotic grasses completed a handsome table. (Silver Gilt Banksian.)

Messrs. Barr & Sons, of King Street, Covent Garden, had groups of herbaceous cut flowers arranged in easy grace. Most conspicuous in this collection were the Gladioli of the *Gandavensis* and *Nancleanus* strains. G. Grande Rouge, Mdme. Poirer (pink), G. Baroness Burdett Coutts (pale mauve) were remarkable for size and brilliance. *Helianthus multiflorus* var. Queen Victoria, a strong, deep-hued and strikingly handsome type. *Eryngium corniculatum*, *Tritoma* (Kniphofia) *corallina* *superba*, and *Phloxes*, &c., helped to make a very attractive display. (Silver Banksian Medal.)

Messrs. Thos. Ware, Ltd., Hale Farm Nurseries, Tottenham, arranged quite a massive table of Cactus and Pompon Dahlias in a triple row all around the large stage, and above these vases filled with *Liliums*, *Helianthus*, *Lythrums*, and *Eryngiums*, &c. A large bank of Cannas in a cut state filled up one of the ends. C. Progression (pale orange and spotted red); C. Antoine Crozy (rich bright crimson), &c., were grand. It would be useless to try to

individualise the varieties of Dahlias, all are worthy of a place in our gardens. (Silver Flora Medal.)

Messrs. James Veitch & Sons, Ltd., of Chelsea, brought together a magnificent display of their famous Nepenthes. To say that no better could be seen means a deal, but it cannot convey the magnificence of these Chelsea plants. The broad luxuriant foliage showed brightness, and for pitchers the plants were literally massed with them, *N. formosa*, a gigantic type with stout and highly coloured pitchers; *N. Curtisii* superba, of an oblong form, and ridged with vertical hairy protuberances on the inner surface; *N. mastersiana*, dark and stout; *N. mixta sanguinea*, one of the handsomest, and many others above finely grown Maidenhair Ferns. (Silver Gilt Flora Medal.)

Messrs. Sander & Co., of St. Albans, sent a numerous group of new or recently introduced plants. *Dipladenia atropurpurea* is a very dark and fine variety; *Dendrobium formosum* giganteum, *Oncidium divaricatum*, a magnificent form, and *Acalypha hispida* were each fine.

Messrs. Veitch, of Chelsea, also had a collection of New Zealand plants, of which *Plagianthus betulinus* was very graceful and fine; *Pittosporum Buchananii* and *Aciphylla squarrosa* were most striking.

A magnificent box of eighteen Apples (Lady Sndele), from Messrs. Geo. Bunyard, of Maidstone, was much admired.

Pear Jargonelle came in fine form from Lord Chesham, of Latimer, Bucks.

Messrs. J. Cheal & Sons, of Crawley, had half a dozen pots of a Tomato, Cheal's Prolific, which though a great bearer was yet very irregularly shaped.

Tomato Chemin Rouge, came from Mr. F. Lucas, The Grange, New Barnet.

A collection of Potatoes which had according to variety been manured with different stuffs, as stable dung in one case, soot, wood-ashes, &c., farmyard manure and vegetable refuse, but showed small differences.

Apple Early Victoria taking after the style of Lord Suffield, large and handsome, was shown by Mr. W. Cross, of Wisbech. Two photos of the tree in bearing were also shown.

Messrs. Harrlson & Son, of Leicester, sent samples of the *Rubus palmatus* (Strawberry-Raspberry).

Melon Foster's Seedling, from Mr. Foster, of Hendon, was also put up.

Messrs. Harrison & Son, Seed Growers, Leicester, received a Silver Banksian Medal for a representative table of Onions in all the finest of up-to-date varieties. (Silver Banksian Medal.)

QUESTIONS AND ANSWERS.

Compositae.—*E. C. H. D.*: You will find that the specimen you sent, No. 1, has the involucre bracts in many series, not one series, they being very numerous and inserted upon the axis at many levels. No. 2 (*Crepis virens*), as you say, has got a double set of involucre bracts. You will find something similar in *Coreopsis*, *Silphium*, *Barkhausia*, etc. No one can be held responsible for the giving of popular or English names to plants, as it cannot now be determined who gave them. The leaves of *Hypochaeris* may have a fancied resemblance to a cat's ear, but there are many others quite as like a cat's ear.

Making up a Flower Bed for Autumn.—*John Miller*: We are surprised that your Fuchsias should have given up flowering so early, but your description of the soil explains it, taken in conjunction with the dry weather. You should trench the soil in winter, and put a layer of cow dung in the bottom of the trench, and another above the first spit. The hard clay should not be taken up to the surface, but merely dug over, well broken up, and manured. Keep the top foot of soil on the surface, and gradually incorporate it with the bottom material from year to year. To take the place of the Fuchsias you should get some early flowering Chrysanthemums, such as *Gustave Grunerwald*, *Mdlle. Marie Masse* (both rose), *Précocité* (yellow), *Madame C. Desgranges* (white), or any others you have or can get. Another alternative is to plant Pelargoniums, but their season will now be short. If you could get China Asters in pots, you could have a fine display for some time. If you do not have any in a reserve garden you might get them in the market. Dig the soil over, level it, and give it a good watering before planting. Let it soak away, then plant and water again. Some would plant *Celosia pyramidalis plumosa*, but they grow the plants for the purpose.

Pear Marie Louise Blighted.—*A. D. W.*: The fruits you sent us were very badly attacked with *Cladosporium dendriticum*, a fungus that affects

various parts of the tree, but nearly always shows its worst effect upon the fruits of Apples and Pears, causing the fruits to split open if they have been attacked in the early stages of their growth. It is very difficult to destroy the fungus without also injuring or killing the foliage; but spraying at different times during the season has been recommended in America. The fungicide is first applied soon after the fruits are set, and afterwards at intervals of ten days or a fortnight. The insecticide generally employed is the Bordeaux Mixture. An equally good or even better plan is to feed the trees to make them grow vigorously. The lime and the farmyard manure are good enough in their way, if properly applied. A better plan would be to lift the trees about the end of October next, and replant them in good substantial loam. The second best plan is to feed them well by mulching on the top with farmyard manure, and by giving the ground soakings of liquid farmyard manure at various times, and even in winter. This will encourage the trees to grow vigorously and to grow out of the disease, perhaps.

Calceolaria.—*St. Issey*: Something like 173 species of *Calceolaria* are recorded in the *Genera Plantarum*. The more common species in gardens are *C. rugosa*, *C. rugosa angustifolia*, *C. amplexicaulis*, *C. violacea*, *C. Burbridgei* (hybrid), *C. fuchsiaeifolia*, *C. alba*, and *C. pinnata* (annual).

Vegetables for a Heavy Soil.—*John Miller*: The fault of your soil is as stated in the case of your Fuchsias. You have to contend against a very low average rainfall in your district, and the season has been against you. More rain is wanted to keep the soil soft and workable. The best antidote or remedy is to trench deeply in autumn or winter, as deeply worked soil, with plenty of stable manure, retains the moisture better. We should not dig up the Cabbages because they may come in useful in winter, even as collards (coleworts). They will become more tender after frost and rain. Other vegetables you might try are Brussels Sprouts, Curly Kale, Cottager's Kale, Asparagus Kale (for spring use) and various others of the Brassica tribe. It is a matter of taste as to which you prefer, and cultivation as to what will grow. We do not advise Cauliflower as they would probably button, that is produce small and useless heads. If your soil were brought into proper working order they would succeed. You might try Broccoli, sowing them in spring, planting them out in June, and looking for the crop the following spring. They ought to stand the winter with your firm soil, but not soft and wet. Early Potatoes ought to do well.

Wingless Field Crickets.—*Mr. C. F. Wood*, The Gardens, Heathfield, Reigate, sends us a specimen of the Wingless Field Cricket (*Micropteryx aptera*). He has caught four of them, all within a week, and in the house. It is a strange looking creature, in a brown, horny coat of mail, a great shield being over the shoulders and neck, the rest of the body being in rings or segments. The most striking feature of the creature is its hind legs, which are of great length (three or four times as long as the rest), and having thighs of remarkable thickness and strength, by which it leaps, no doubt. The horny, curved ovipositor is about $\frac{1}{2}$ in. long. If any of our readers have met with this insect this summer we should be pleased to learn; and whether it has been caught doing any damage. It is akin to the locusts.

Names of Plants.—*E. C. H. D.*: 1, *Leontodon autumnalis*; 2, *Crepis virens*; 3, *Juncus bufonius*; 4, *Lavatera arborea*; 5, *Kerria japonica* flore pleno. *Cottager, North Cornwall*: 1, (Wood Sorrel) (*Oxalis acetosella*); 2, *Smaller Toad-flax* (*Linaria minor*); 3, *Angelica* (*Angelica sylvestris*).—*W. M.*: 1, *Cent-aurea macrocephala*; 2, *Malva moschata*; 3, *Pentstemon barbatus*; 4, *Veronica longifolia*; 5, *Spiraea lindleyana*.—*R. C.*: 1, *Berberis stenophylla*; 2, *Clematis davidiana*; 3, *Clematis flammula*; 4, *Artemisia Abrotanum*.—*E. G. Read*: 1, *Agapanthus umbellatus*; 2, *Hypericum Androsaemum*; 3, *Chrysanthemum maximum*; 4, *Nepeta Glechoma variegata*; 5, *Achillea Ptarmica* flore pleno; 6, *Rudbeckia nitida*.—*R. M.*: 1, *Retinospora obtusa*; 2, *Retinospora pisifera*; 3, *Thuja orientalis elegantissima*; 4, *Abies concolor*; 5, *Lomaria ciliata*.—*A. C.*: 4, *Ophiopogon Jahuran variegatus*; 2, *Chlorophytum elatum medio-pictum*; 3, *Chlorophytum elatum variegatum*; 4, *Oplismenus Burmanni variegatum* (usually termed *Panicum variegatum* in gardens); 5, *Fittonia Verschaffeltii*; 6, *Maranta bicolor*; 7, a slight variety of *Maranta bicolor*, or simply an older leaf; 8, *Calathea zebrina* probably, but the leaf was dried up and colourless; 9, *Tradescantia discolor*; 10, *Alocasia macrorrhiza* probably, but was dried up. —*D. L.*: Not *Asperugo* but *Phacelia tanacetifolia*. —*D. W. D.*: *Schizanthus pinnatus* (easily obtained from the seedsmen).—*Botanist*: 1, *Mentha sylvestris*; 2, *Ampelopsis quinquefolia*; 3, *Anemone japonica elegans*; 4, *Pedicularis palustris*; 5, *Mentha aquatica*; 6, *Molinia coerulea*; 7, *Carex flava* (late growth); 8, *Scirpus setaceus*; 9, *Senebiera didyma* (your other questions next week).

Communications Received.—*C. F. Wood*.—David Provan (next week).—Hudson & Kearns.—*C. L. S.*—*A. P.*—Sutton & Sons.—*J. R.*—*A. Read*.—*W. G.*—*A. H.*—*E. Rangar Johnson*.—Sutton & Sons.—*J. Veltch & Sons*.—*M. Cuthbertson*.—*John K.*

King.—*John Miller*.—*D. Chisholm*.—*A. P.*—*A. D. W.*—*E. Wehh & Sons*.—*A. C.*—*W. W.*—*R. M.*—*A. S.*—*Green Hand*.—*R. H.*

TRADE CATALOGUES RECEIVED.

H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, S.E.—Descriptive Catalogue of the best Bulbs and Tubers; also List of Strawberries and Plants for Forcing.

Benj. Soddy, 243, Walworth Road, S.E.—Soddy's Catalogue of Bulbous Flower Roots.

Little & Ballantyne, Carlisle.—Bulb Catalogue.

Wm. Carmichael, 14, Pitt Street, Edinburgh.—Royal Seedling Strawberries.

John T. Gilbert, F.R.H.S., Anemone Nurseries, Dyke, Bourne, Lincolnshire.—Illustrated and Descriptive Catalogue of Bulbs, Tubers, &c.

Toogood & Sons, Southampton.—Toogood's Royal Bulbs and Roots.

Vilmorin-Andrieux et Cie., 4, Quai de la Mégisserie, Paris.—Catalogue of Flowering Bulbs and Strawberries.

Toogood & Sons, Southampton.—Toogood's Hardy Perennial Plants and Hardy Florists' Flowers.

W. Drummond & Sons, Ltd., Seed and Nursery Establishment, Stirling.—Bulb List.

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6 Polyanthus Narcissi	25 Single Tulips, Barr's Rainbow Mix-	12 Chionodoxa Lucillae	2 Crown Imperials, in two vars.
5 Daffodil Queen of Spain	6 " ture	12 " sardensis	2 Lilium candidum
5 " obvallaris	25 Double Tulips, Barr's Rainbow	24 Winter Aconites	2 " tigrinum splendens
5 " princeps	6 " Mixture	12 Blue Grape Hyacinth	25 Spanish Irises, mixed
5 " pallidus praecox	50 Crocus, large yellow	12 Allium Moly, yellow	12 English Irises, mixed
5 " incomparabilis Queen Bass	50 " striped	25 Star of Bethlehem	50 Anemone, large-flowered, single,
5 " Leedsii amabilis	50 " blue	25 Wood Hyacinths, mixed	12 mixed
5 " poeticus ornatus	50 " white	10 Milla uniflora	
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50 Blue Starch Hyacinths	25 Dog's-Tooth Violets, mixed	12 Snakeshead Fritillarias	12 " " The Bride
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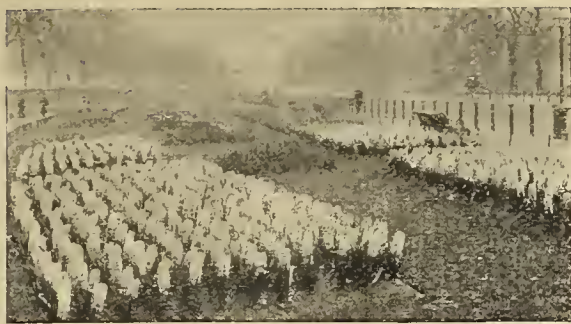
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Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 9th, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, September 11th.—Sale by Messrs. Protheroe & Morris at Mr. H. B. May's Nursery Upper Edmonton.
 TUESDAY, September 12th.—R.H.S. Meeting at Drill Hall; Auction Sale by Messrs. Protheroe & Morris at Messrs. B. Maller & Sons' Nurseries, Burnt Ash Road, Lee.
 WEDNESDAY, September 13th.—Royal Caledonia Horticultural Society's Show in Waverley Market, Edinburgh (2 days); Messrs. Protheroe & Morris' Auction Sale at the Nurseries of Mr. J. Fraser, South Woodford.
 THURSDAY, September 14th.—Messrs. Protheroe & Morris. Auction Sale at the Nurseries of Mr. J. Maller (Mrs. Thomson), Brimsdown, Epsom Highway.
 FRIDAY, September 15th.—Auction Sale by Messrs. Protheroe & Morris, at the Longlands Nursery, Sidcup, by order of Messrs. Gregory & Evans (second sale).

BURFORD LODGE, DORKING.—At whatever season a visit is made to this, the residence of Sir Trevor Lawrence, Bart., there is always something interesting to see,

discuss and study, but particularly during the summer months, from June to September. The president of the Royal Horticultural Society is one of the keenest of plant lovers; hence the reason that his garden is always well stocked with plants of a vastly varied description, many of which, both under glass and in the open air, are far from being common or generally cultivated. Burford Lodge nestles close under the steepest escarpment of Box Hill, which rises with remarkable abruptness from the River Mole, which, in our opinion is responsible for the North Downs in Surrey being cut through at this point. The steep, almost perpendicular, slope on this side, no doubt owes the preservation of its steepness to the fact that the white chalk is thickly clothed with sombre Yews and Beech, now much embrowned with the summer heat and drought, but remarkably fresh compared even with trees of the same species grown in the sandy alluvium near the Thames in the vicinity of London. There is also a sprinkling of White Beam trees, White Poplars, wild Cherries and other subjects that enliven the hill side, especially when stirred with a gentle breeze. The effects of the sinking sun upon this arboreal picture would make a study in themselves for the landscape painter. We went to see the garden, however, and finding Mr. W. Bain, the genial gardener, we were soon deeply engrossed in the study of the rich collections of plants.

Sir Trevor believes in cultivating plants under more natural conditions than usually obtain; and with that object in view many subjects usually grown in stoves or greenhouses are grown in the open air during summer with most satisfactory results. One of the most striking plants at present is a large plant of *Solanum Wendlandii* trained

to a wall in a sheltered corner close to the entrance of several of the glass houses. It was planted out at the end of May, commenced flowering in June, and at present is a sight worth seeing. The foliage is leathery and healthy, and great trusses of bloom are fully expanded, while others yet in bud will keep up the display till the advent of frost. The plant is lifted and taken indoors in winter. Its congener *S. seaforthianum* is planted in the open ground and trained to supports; it has finer foliage than we have ever seen under glass, and is laden with darker flowers. Next year it is to be trained over an arch in summer. *Aristolochia elegans* is flowering and fruiting alongside of *S. Wendlandii*. Here also *Antigonon leptopus* is being tried, but is not yet strong enough to flower. *Swainsonia galegifolia* *spendens* is a richly coloured variety; the white one, *S. g. alba* is very floriferous trained on a pillar. Near these plants are some tanks containing such Water Lilies in bloom as *Nymphaea devoniensis*, and a variety of *N. stellata*; while seedlings of a white species from the Soudan are approaching that stage. In an open area between the houses is a collection of hybrid *Nymphaeas* in tubs sunk in the ground, and which have been flowering for a long time. The crimson-red *N. ellisiana* is very handsome.

A varied and prolonged display is produced by other exotic and tropical or warm country subjects more or less sheltered by the glasshouses, but in the open. A large plant of *Romneyi Coulteri*, with its huge, white Poppy blooms, put out in spring, flowered freely. *Roscoea purpurea*, at the foot of the wall, has been blooming for some time past. Very pretty and uncommon are *Alstroemeria peregrina* and *A. p. alba*, the former being dark rose along the centre of the segments, and spotted on the

upper ones. *Coburghia incarnata*, a Cape bulbous subject, does well at the foot of a wall all the year round, but has not yet flowered. *Abutilon Souvenir de Bonn*, with its pale red flowers and handsomely variegated foliage, makes an excellent standard. *A. Ball of Silver*, in standard form, is freer and of better substance than the old *Boule de Neige*. A standard yellow variety is also very handsome with its great yellow bells. *Musa japonica* has been in the open air for three winters, and now forms a great stool of stems, with leaves nearly 18 in. in diameter, and as long as those of *M. Cavendishii*. The shrubby *Mimulus*, generally known as *Diplacus glutinosus*, and its crimson variety *D. g. puniceus*, make free flowering subjects for outdoor culture in summer. Healthy bushes of *Streptosolen Jamesoni* are laden with their rich orange blossoms. A very conspicuous subject in the open ground is *Hibiscus Manibot*, with its huge, pale lemon flowers and black centre, resembling a Hollyhock in the distance. *Dimorphotheca Eckloni* is a sort of Cape Marigold with white flowers and a blue centre, that delight in full sunshine. The large deep rose flowers of *Ruellia macrantha*, we opine, are seldom seen out of doors. The white, pink and crimson double varieties of *Begonia semperflorens* are flowering freely out of doors, and may yet give rise to finer varieties for bedding purposes. The long racemes of violet flowers, produced by *Angelonia salicariaefolia grandiflora* are very pretty, and may be likened to a blue *Celsia*. The slender, prostrate stems of *Lotononis* from South Africa, produces lilac-blue, Pea-shaped flowers. The finest specimen of *Clianthus Dampieri*, we have seen, is a plant in the open ground, and consisting of seven branching stems, flowering profusely and even fruiting. The seeds were sown under glass on the 6th February last, and the plant was merely covered with a hand-light for a time, after being first put out. The soil is light, but is the ordinary material of the garden, without any preparation. *Cassia corymbosa* makes a floriferous shrub, 6 ft. to 8 ft. high in the open. A most graceful grass is *Apera arundinacea*, which has produced a great quantity of its slender and thread-like stems. *Caryopteris Mastacanthus*, a dwarf shrub belonging to the *Verbena* family, will be a mass of blue presently; it is quite in the open. The best of the modern, large-flowered and dwarf *Cannas* are flowering profusely and in succession from fresh suckers being thrown up. A fine lot of *Richardia elliptica*, *R. Pentlandi* and *R. aurata*, is being summered in the open air. *Coriaria nepalensis* and *C. japonica* are dwarf, shrubby, and very rare plants, representing the natural order *Coriariaceae*, hardly ever seen in gardens. The former is flowering and fruiting, the small green petals becoming thick, fleshy and yellow, resembling an open berry in fruit.

Herbaceous and annual plants, more usually regarded as subjects for outdoor culture than the above, are grown in a great variety of showy and useful kinds. A splendid strain of *Salpiglossis* has flowered well, but did not like the artificial application of water. *Ipomopsis elegans*, 2 ft. to 3½ ft. high, is late, and though very healthy, is just commencing to bloom. A very dwarf *Gaillardia*, 15 in. high, with brilliant crimson flowers, tipped with yellow, has kept its character for two years. Two plants of the new *Campanula mirabilis*, having its branches spread over the ground, are just finishing the expansion of their pale silvery-blue flowers. They have had no special treatment. *Veronica Hectori*, imitating a *Lycopodium*, now forms a bush a foot in diameter and 6 in. high. A patch

of the scarlet flowered *Zauschneria californica* measures a yard in diameter. There is a fine variety of *Rudbeckia purpurea*; also the white Poppywort *Eomecon chionantha*; *Tupa montana* just getting strong enough to produce its scarlet flowers; *Asclepias tuberosa*, with scarlet flowers, and well advanced fruits; a large bed of *Aster Thompsoni* with large, graceful heads of light blue rays; huge clumps of the pale blue, sweet-scented *Clematis davidiana*; and a fine tuft of *Montbretia imperialis*, with orange-scarlet, handsome flowers, larger than those of any other we have seen. This is bound to come to the front when more plentiful. The superb strain of *Pentstemons* grown here has been flowering for some time past, though the seeds were sown in the beginning of February last. The golden rays and black centres of *Rudbeckia speciosa* (*Newmanni*) display themselves all over a triangular bed. Three lines of *Lilium auratum rubrovittatum* in a bed of *Azaleas* and *Azaleodendron*, have been simply grand. *Physalis Francheti*, 2 ft. high, is laden with its great, inflated calyxes like Chinese lanterns.

Hybrid and other *Lobelias* are a special feature of Burford Lodge. *L. Kalmii* is a blue-flowered species like *L. Erinus*, but erect in growth. The Willow-leaved *L. laxiflora* has scarlet flowers, but rather sparsely produced. The hybrids of *L. splendens*, *L. fulgens*, *L. cardinalis*, *L. syphilitica*, and perhaps some others, get more attention here than in any other private garden coming under our notice. Such forms as *L. splendens*, *L. cardinalis* (both scarlet), *British Maid* (pink), *Queen Victoria* (brilliant scarlet), *Carmine Gem* (rosy-carmine, floriferous and one of the best), *Purple Emperor* (purple), *Crimson Gem* (deep crimson and raised here), *Amethyst* (rich, dark purple), and *Distinction* (deep magenta with bronzy foliage), are the glory of this Surrey garden. Another but unnamed seedling, also raised here, is notable for its dwarf habit, green leaves, and rich carmine, very distinct flowers. *Incarvillea Delavayi*, having flowered early, is now quiescent. The annual species *I. variabilis*, with finely-cut foliage and rosy-purple flowers, is pretty but not very free in blossom. Rather interesting in its way is *Centaurea americana* with rosy-purple heads.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, Sept. 12th, in the Drill Hall, James Street, Westminster, 1—5 p.m. At 3 o'clock a lecture on "Lessons from the Great Drought of 1898" will be given by Mr. E. Mawley.

American Horticulture will be represented at the Paris Exposition by specimens of fresh fruits, vegetables, ornamental plants and seeds, as well as by canned, dried, and manufactured products of fruits, nuts, and vegetables, of which large and representative exhibits are being prepared. Photographs will have to take the place of practical models of the features in American horticulture, owing to the limited amount of space allowed.

Weather in London.—The past eight days have been variable. Upon the whole they have been rather hot. The long drought which for three months or more caused plant growth in the London environs to suffer severely, broke on Thursday the last day of August. But even then the rain came too heavily and lasted only a short time altogether. Thunder was prevalent on Saturday. The town trees are rapidly throwing off their leaves. The evenings are drawing in fast, lamps in London having to be lit by seven o'clock. Still, things are very pleasant. About mid-day on Wednesday it became almost dark, and a brief but terrific thunderstorm, with torrential rain, broke out.

Welcome Showers.—The drought which continued in an unbroken stretch for three months all around the London district has at length broken. But like so many other showers after prolonged spells of dry weather, the rain last week did not come down in moderation, but just pell-mell, and, of course, with such hard ground a vast quantity ran off. Still, what has fallen has done a measure of good.

Extraordinary Scarlet Runner.—The other week an amateur in Twickenham showed an extraordinary pod of the Scarlet Runner to his comrades and others. The seeds had been sown in his garden, and not having stakes at the time he simply allowed the Runners to trail. When gathering a dish recently he inadvertently pulled what proved to be a pod of monstrous size. After having grown 1 ft. or thereby, it had commenced growing again till it reached the extraordinary length of 17¼ in., and there being a short neck between the old and new growth, the pod looked like one growing out of the other. A shop-keeper offered the workman a shilling for his Bean, but he declined the money.

Graft of Common Lilac on the Ash.—According to M. Petit, Departmental Professor of Agriculture at Morbihan, many towns would find it to their advantage to introduce the Ash tree, *Fraxinus excelsior*, into their streets, avenues, and public gardens. The numerous varieties of Lilac could be grafted on this tree. Both of them belong to the family of the *Oleaceae*, but to different tribes; the Lilac belongs to the *Oleeae* and the Ash to the *Fraxineae*. Several experimental grafts of Lilac on Ash have demonstrated the great affinity of the Lilac (*Syringa vulgaris*) and the Ash (*Fraxinus excelsior*). For avenues, already developed trees should be planted, and after two or three years' growth a cleft, crown, or shield graft made on the branches in a good year, 80 per cent. at least would succeed.—*Agriculteur*, August 26th.

The New Peach Scale.—The original home of this "insect" is probably the West Indies or Japan. It has, indeed, the popular name of "West India" scale. A tree badly infested has a white-washed appearance from the colour of the male scales. The females on the other hand, produce a greyish hue. The trees found to be under its ban are, Plum, Peach, Apricot, Pear, Cherry, Vine, and also other plants. A contemporary gives the following description of it:—"The scale is readily distinguished from the San Jose, in that the female is a little larger, of a lighter grey colour, with the elongated exuvial point ridged and located at one side of the centre; and the male is smaller, elongated, with parallel sides, and white. The habit of the insect is to cluster about the trunk and lower branches of the trees. A twenty per cent. mixture of kerosene and water will destroy the matured females. In favourable parts there are three or four broods in one season, the first lot appearing about March. It is then that the broods should be promptly dealt with.

Collection of "Burnsiana."—Mr. Wm. R. Smith, Superintendent of the Botanic Garden at Washington, D.C., sailed from New York for Glasgow, Scotland, on August 5th. His object is to visit the great libraries of Glasgow for the purpose of making additions to the works of Burns, the great Scotch poet. His present collection amounts to 1,000 volumes relating to the writings of Burns, and he has no fewer than 230 separate editions of Burns' poems. Mr. Smith contends that Scotland's poet is even more appreciated in America than in his native land. Mr. Carnegie has promised to guard and find a home for this wide collection in his great library at Pittsburgh. Each book will contain a slip as follows:—"This book belongs to a literary cairn of Robert Burns collected by W. R. Smith, to honour him whose mission on earth was to preserve the dignity of man with soul erect.

" ' Burns! thou has given us a name
To shield us from the taunts of scorn—
The plant that creeps amid the soil
A glorious flower hath borne.
" ' Before the proudest of the earth
We stand with an uplifted brow;
Like us, thou wast a toil-worn man,
And we are noble now.
" ' Inspired by thee, the gardener poor,
All soul-degrading meanness spurns;
Our teacher, saviour, saint art thou,
Immortal Robert Burns! "

Comfrey (*Symphytum officinale*) is an excellent forage plant for sows or milch cows, says a writer in a contemporary, and is easily grown in any waste corner.

The Sweet Pea Show at Cohocton, N.Y., has been held and passed off satisfactorily. Mr. Charles Larowe was a very successful winner, taking among his other prizes the Eckford Challenge Cup. All his Sweet Peas were grown in Jadoo.

Bristol & District Gardeners' Mutual Improvement Association.—The monthly meeting of members was held on Thursday, the 31st inst., at St. John's Parish Room, Redland. Mr. C. Lock presided over a good attendance. A very interesting and instructive lecture on "Viola and Pansy Culture" was given by Mr. J. C. House, of Coombe Nurseries, Westbury-on-Trym. He dealt with the subject in a lucid manner, giving the history of the plants and explaining the marked difference between the two. He strongly urged their cultivation, especially for bedding purposes, claiming for them, freedom of blooming during a long season. Mr. House gave a list of good Violas, and detailed what he considered the best method of culture, advising cuttings to be struck in a cold frame, with plenty of air admitted, and careful watering. A discussion followed and the lecturer was heartily thanked for his attendance. The Society's Certificate of Merit was awarded Mr. McCulloch for a well grown *Vallota purpurea*.

Jubilee Gifts and Prizes.—The firm of Messrs. Thyne & Paton, seed, plant, and bulb warehousemen, 13, Union Street, Dundee, have just distributed the prizes and gifts announced by them last January. These prizes are given to gardeners, amateurs, and others who were presented with packets of Onion seed (to the value of £100), as a means of commemorating the jubilee of the senior partner (Mr. Thyne, Senr.), as a seedsman. The present firm of course has only been established twelve years, but Mr. Thomas Thyne had thirty-eight years experience before going into partnership with Mr. Paton, and thus founding the business under the present name. Valuable prizes to stimulate customers in the culture of the Onions were also awarded. The competitions as already noted have taken place at Dundee, the Onions being judged by Mr. Wm. Harper, The Gardens, Tullibeltoun, Perth. "The specimens, considering the severe drought of this summer were of good size and well formed. The heaviest were:—Red, 16 ozs.; White, 23½ ozs.; Yellow, 24 ozs. The largest in circumference were: Red, 13½ ins.; White, 15½ ins.; Yellow, 16 ins. The prize winners were as follows: First, Mr. James Kinnear, Fernbrae, Dundee; second, Mr. James Gilmour, Craig Road, Layport; third, R. H. Law, 1, Wolseley Street, Dundee; fourth, Mr. A. C. Cameron, Binrock, Dundee; fifth, Mr. W. Doggrell, Helenslea, West Ferry; sixth, Mr. John Laing, Craighall, Blairgowrie; seventh, Mr. Andrew Duncan, Old Montrose, Montrose; eighth, Mr. James Rae, Balgaries, Forfar; ninth, M. James Stewart, Station, Errol; and tenth, Mr. George Nicoll, Craig Road, Tayport.

Sunspot Influence on London Summers.—"Do our summers give any indication of sunspot influence? And does our past experience of summer near sunspot minima give any hint as to what kind of summer weather we might expect near this next minimum? These practical questions we may briefly consider." So writes that ingenious statistician, Mr. Alexander B. MacDowall, M.A., in *Knowledge* for September. Seeing that we have state-supported observatories for the collection of the data necessary to answer these questions, it is apparent that officials in high places have been impressed with the importance to agriculture, trade, and commerce of reliable information on the points named. "Now," says Mr. MacDowall, "the hottest summers cluster in the earlier years of the series, that is to say, about the time of growth and maxima of the spots. . . . It is in accordance with these results that we generally find, in regard to summer rainfall at Greenwich, a preponderance of wet summers in the five years ending with sunspot minima, and a preponderance of dry summers in the five years following minima. The practical view, then, to which these inquiries point (and it is offered without dogmatism as to sunspot influence, or affirmation of an unvarying law), is that we are at present at a time when cool summers are to be looked for rather than hot ones, and that only

after the next sunspot minimum is passed (say 1901, but not certainly), need we prepare for recurrent times of thorough and persistent broiling!"

Three Monumental Books.—Cervante's "Don Quixote" is the mightiest work in the realm of imaginative literature, and according to a correspondent, there are three books of scientific research, amassing knowledge upon confined subjects, which, because of their vastness and accurate intricacy of detail, may also be classed as mighty books in every sense of that word. These our correspondent names, as Curtise's work on "Insects," Dr. Blackwall's "British Spiders," and the third comes from an altogether different source, i.e., M. Layonet, who published from the Hague in the year 1762, a book entirely devoted to a treatise on the larva of the Goat Moth (*Cossus ligniperda*). The book runs to 616 pages, has 181 full page plates each bearing five or six separate figures. This latter book is probably the finest sample of patient dissection and observation that we have.

FLOWERS AND FRUITS IN SUISSE.

As you have been kind enough on former occasions to find a corner for a few discursive notes from these parts I venture to intrude again. The merry Swiss boy as a rule does not trouble himself much about flowers. His hard life in the country parts is occupied in such agricultural pursuits as are possible, and during daylight hours in the brief summer season he is generally away from his home. In the villages the wooden huts are crowded together, and houses with gardens are rare. Occasionally in the winding main street you will see a few window plants, generally Carnations treated as hanging plants, or a *Pelargonium* or two stuck in an old meat tin. The inn perhaps possesses a couple of Oleanders in tubs at the principal entrance which make a brave show.

In popular centres, however, where British gold and American dollars have brought about an unwonted prosperity there are higher flights of horticulture. The pensions and houses of the tradespeople are usually surrounded by gardens full of flowers and vegetables and fruit trees, not a square foot being wasted.

The only noteworthy feature that I need trouble you with, however, is the lateness of everything. Here, at Chateau d'Oex, in the last days of August, there are Roses in full bloom, Gladioli just in their first bloom, flowers not halfway up the spike, *Pelargoniums* with no dead flowers or spent trusses, Carnations, Sweet Peas, Phloxes in their prime, Verbenas, Petunias, Lobelia, Cannas, *Convolvulus* minor, all like early summer. As for fruits and vegetables there are Gooseberries just ripening, Strawberries, Raspberries, Currants lingering on the bushes; Peas in full crop, Broad Beans just coming in, and Scarlet Runners beginning to bloom. In the garden of a pension here are six standard Gooseberries, four red and two green (young plants judging by their slender stems) about 5 ft. high, laden with fruit just ripening, a graceful and attractive sight. I think I have enumerated all the things I have seen in bloom except Dahlias, Hollyhocks and Marguerites; and I only add those because the spikes of Hollyhocks were wonderfully fine—pale pink in colour—and the latter very poor.

At Martigny I saw some very showy white Oleanders but they were single or very semi-double; still they formed a charming contrast to the bright red rosettes of the ordinary variety. The Carnations are all very poor, which is not matter for surprise, looking at the way they are treated. The flowers are small, excessively fimbriated, and with a very poor range of colour. I have noted one good crimson Clove, and one yellow ground splashed with red but not sufficiently open to enable one to judge what the flower would be like.

As to fruit, I have seen no show anywhere. In the course of ramblings through three cantons I have only seen one Apple tree with a crop sufficiently heavy to require the branches being propped up. Pears are also a poor show, the only good crop I have seen being on a tree near Spiez, in Lake Thun district. This tree, the trunk being apparently about 15 in. in circumference, had been trained to form an awning on the sunny side of a house. Planted about 12 ft. from the building, the branches

had been trained up to a point about 12 ft. from the ground, and pruned on the spur system apparently. It was covered with good-sized fruit. As I made these calculations while driving slowly by, I cannot vouch for their accuracy. The Walnut crop seems very poor. The only good show I have seen was on the old trees close to the well-preserved Chateau, at Aigle. The trees in the fashionable promenade at Interlaken are in splendid health, full of foliage, but few showing a dozen nuts. The best crop was on a young tree with exceptionally rich foliage, so I don't think the reason was that the trees had run to leaf, through the moist situation. The Vines in the Rhone valley look wonderfully healthy, but I should think there is only an average crop. I noticed over and over again that the berries on the bunches had failed to swell, and hundreds of bunches had but four or five full-sized berries.

I don't think I have noticed anything else that would interest your readers, so a word in conclusion on matters social. There are about sixty people here who have come all the way from England or the United States to play lawn tennis or bicycle polo for a month. It is true the air is delicious, the sun persistent, and there is some mild climbing in the neighbourhood, which few indulge in. All the advantages might be obtained nearer home except the name of the thing. They dress like the waiters for dinner, and lounge about in flannels during the heat of the day. Your humble servant is but a passing visitor taking a few days' rest, and the only concession he makes to the *convenances* is to exchange his knickers for a pair of breeks, and his climbing brogues for a pair of shoes, sitting down to dinner in his Norfolk jacket with as much nonchalance as he is able to assume, &c., &c. — E. Ranger Johnson, Chateau d'Oex, August 27th.

THE PEOPLE'S PARK, TIVERTON.

THE above was opened to the public in 1888 and was in commemoration of the Jubilee of our beloved Queen. No less than 1500 friends of the movement subscribed towards the purchase money, though a large portion of the ground was presented to the "late borough" by a former resident, John Coles, Esq., whose generosity is greatly appreciated by the inhabitants of Tiverton. The Park itself stands on high ground, and magnificent views are obtained of the surrounding country, which can be seen for many miles around. It is rather exposed to the north and west winds, some of the many Conifers exhibiting signs of distress from these quarters. There is a nice size tennis court with a pavilion just above, also a plot about four acres which can be used for amusements of almost any kind,—fetes, flower shows, &c.; while a finely-sculptured drinking fountain erected at a convenient spot was being much indulged in at the time of my visit, the day being perfect in the extreme, the thermometer registering 85° in the shade not far away. This fountain was presented by the Rev. George Hadon, rector of Tidcombe, and serves two purposes, bathes the throat of the thirsty pedestrian, and supplies various basins below, where I noted several of the newer Water-Lillies making good headway; and Ferns of many kinds added a greenness to the whole, peeping out of the many nooks at the base, where a miniature rockery has been formed.

As yet very little summer bedding appears to be done in the park. This is to be regretted, as nothing to my mind so cheers the heart of a busy townspeople (who perchance are shut up in their offices or workrooms the greatest part of the day) as a bright show of flowers do, and these beds should be so dotted about as to catch the visitor's eye unawares at different parts of the ground. Dahlias and a few annuals appeared to predominate.

There are a nice few Conifers, the best being *Thuja Lobbi*, *Abies Menziesii*, *A. Douglasi*, *Sequoia gigantea*, *Cupressus macrocarpa*, *Pinus insignis*, *Cedrus Deodara*, *C. atlantica glauca*, a fine healthy piece of the last named, most of these standing on the sheltered or south side of the park; and huge bushes of the many different varieties of the *Veronicas* full of flower were to be seen, as well as *Escalonia macrantha*, a useful flowering shrub and fairly hardy in Devon and Cornwall. There were many other interesting shrubs, plants, and trees in the park; but the railway companies wait for few, so I had to hurry off to get the train for the ever faithful city, Exeter.—J. M. Bickton.

HINTS FOR AMATEURS.

The Planting of Fruit Trees.—I may say that very seldom does one hear that Apples, Pears, or Plums, of the eating sorts especially, are cheap, or cheap enough to indulge in at all liberally. When the public has to pay twopence, threepence, and sixpence for almost as many mouthfuls of any of these fruits, well, can one longer wonder that fruit culture does not so speedily extend? Therefore, grow your own, and save at least three-halfpence out of every four that you now expend. Probably you have limited space, no high or warm brick walls facing south, and no fine borders? Why, then, do what you can with cordons on low walls. There may be the chance, too, of erecting a light trellis, and you can have arched Apple cordons to act as a fence along the sides of flower borders. "Where there's a will there's a way," and I strongly would try to sustain the maxim. About making a suitable border. Anyone who can persuade the district road surveyor to allow him to use the road scrapings will find this of much use. Then for almost any fruit border lime is a good thing. Rubble is generally at hand. Then a load or two of loam, good, solid stuff, may be bought for a few shillings a load. Then a selection should be made of such widespread favourites as Duchess of Oldenburg, King of the Pippins, Cox's Orange Pippin, Stirling Castle, Lady Sudeley; or for good cooking purposes, Keswick Codlin, Eckliaville Seedling, Peasgood's Nonsuch, Lane's Prince Albert, Bramley's Seedling, &c. But the best advice upon the matter of selection is to get a list of those which have proved themselves adaptable to the district in which you dwell. Or the nearest nurseryman may be relied on to recommend a few. In planting do not just say "doom" to your plants through careless workmanship. Give the roots perfect freedom; curl up none of them. Spread them out evenly, and do not have them all in the same strata, but in tiers at different levels. Shake the soil in about them, and make it firm. After having planted neither higher or lower than they had been growing at in the nursery, give them a thorough soaking. This "flooding home" carries the particles of soil all in about each little root, leaving the tree very firm. Later on you may give the trees a mulch, and shorten back any shoot which may be considered too long. Of course, it follows that the main branches or stem will have been fastened or supported. After this one may say that no more can be done till springtime.

Schizanthus pinnatus.—Although we gave a pretty definite description of the genus *Schizanthus* with cultural notes in answer to a question by "Nemo" in the issue for 27th May, we feel yet again constrained to give another notice. This I am constrained to do from notes once more received, and from the attention which those who do know their worth and use always evidence when one visits their gardens. If seeds of any of the varieties be sown as soon after this time as possible on soil of a light texture, the grower may rest assured of a brilliant and beautiful display in March or thereabouts. Pots of 5-in. diameter are large enough, and these should be clean and well cracked. Fill them up and make the compost firm. Sow the seeds thinly on the surface, and merely cover them over with fine soil. They will germinate and grow steadily in a house with a temperature not exceeding 58°. The watering may be carefully performed till the seedlings get properly away. After this they are very easy to manage. Some growers like to pinch their plants, and so get dwarf, bushy plants suitable enough for the edge of conservatory stages. The better plan, however, is to let the shoots develop and thus secure long, arching sprays. Feeding is advisable in the later stages. By all means keep them stout and strong; do not let them run up spindly. There are many beautiful colours among them, and all are worth the growing. Successional sowings should be made. The popular name given to the class is Butterfly or Fringe Flower, and to me a good spike resembles some of the smaller flowered *Oxycodums*.

Present Work.—Cuttings of bedding plants will very soon be under consideration, and preparations for the boxing, &c., of these should be made in reasonable time. Fuchsia cuttings may be taken now, and if grown on throughout the winter one gets a decent sized plant to give blooms during next

summer. I would impress on amateur gardeners the necessity of having a continuous succession of young stock always coming on. Very many of the readers of this page have a limited range of glasshouses, and it behoves them to get the greatest returns from them. The plan of developing specimen plants or plants which encumber much space without an adequate return is a faulty one. Instead of growing on or keeping plants, which are, most likely, unshapely, or becoming lanky, and which crowd other plants not fully developed, why not throw them out? not, of course, before having struck cuttings or in some way propagated your new stock. By this means the interest in what you are growing is kept continually fresh, and your skill and knowledge will be perfecting with every new lot raised. But beyond all this it is necessary, if the love for your plants, your glasshouses, and your garden has to continue, that there be something new to see, something to watch and build new hopes upon, an interest always growing, an experiment always on hand. You will thus have greater pride in what you have, with more variety, and better plants when done. Therefore, I would say again, do away with the cumbersome and overgrown plants whose best days most likely have already passed, and substitute in the place thereof, two or three well-grown, medium-sized, useful plants. These in their turn will also have to yield their place to others.

Shift on *Cinerarias* and *Calceolarias* if they have fairly filled every part of their present pots, not otherwise. More *Cinerarias* and *Calceolarias* are spoilt through over-potting and over-watering than ever is imagined. Those plants which flower most numerous and brilliantly with us are they which have been well confined, and then when they really showed signs of want had been nourished by liquid manures and slight top-dressing. *Cyclamens*, as before mentioned, are plants which are either "made" or ruined by very careful attention to their watering in the first place, and ventilation in the second. Syringe the *Cyclamens* daily, and give them just occasional weak doses of liquid fertiliser. Watering takes up a deal of time in the present rainless weather. Keep the recently-layered *Carnations* and the pegged down Strawberry runners moistened. Hardy annuals such as *Catchflies* (*Silenes*); *Forget-me-Not* (*Myosotis*); *Saponaria*, *Nemophila insignis*, &c., a beautiful plant half a foot high; *Love-in-a-Mist* (*Nigella*); *Prince's Feather*, double-Stock-flowered *Delphiniums*, which are dwarf and free, together with others which may rise to the mind, should at once be sown. The shelter of a warm wall might be allowed them, and some slight winter protection may be given them. By the way, it is at this time that we lay in a store of *Pea* stakes and *Spruce* branches, the latter for placing around the base parts of half-hardy plants. *Hazel* or *Birch* branches are also secured so that during the rough and howling winter days we can employ ourselves in making besoms.

Strawberry lines must now, if not before, be cleaned and given a mulch.

Callas and other plants which have been plunged or planted out all summer, should have their roots checked now, which will save too severe a change later on when they are to be housed.

Melons which are cracking should be cut and laid upon a dry shelf in a warm room to ripen. Any plants which may be cankered at the "neck" should be rubbed frequently with lime, sulphur, and soot, and a drier atmosphere kept up. Look over recently-budded *Roses*, &c., and loosen the ties. *Peach* and *Nectarine* trees which have yielded their crops ought to have the old bearing wood cut out and new shoots laid in. Weakly shoots, too, are better off. The aim in pruning such trees should be to have always a good bud at the base of your bearing shoots, which during growth becomes itself a shoot. Then when the fruit has been taken, the twig which bore it is cut back to the young shoot coming, as said, from its base. The centre and lower parts of *Peach* and other fruit trees should always have a goodly furnishing.

A little more freedom may be allowed to the sub-laterals of *Vines*, especially such as are finishing their crops. The idea is (and a very feasible one, too), that the needed nourishment for finishing off is just produced in the proper amount by the influence of this slight growth, and also that the exuberance of matter is saved from depositing itself in the berries which might otherwise crack. Those lawns which are much worn and in need of rest, are greatly bene-

fitted from being allowed to run wild before the winter season. The advantages of this are many, but need not be discussed now. Sweeping up, weeding, and waterings are jobs which run off with a lot of time.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Climbing Roses.—*T. Laver*: The old *Gloire de Dijon* is out and out a typically fine Rose. The colour is not very common even in the floral range; then it blooms numerous and is hardy. It blooms early and blooms late; no Rose either can surpass it in sweetness of fragrance, and though we cannot praise the form of its "frying-pan" blossoms, they have yet a charm in their masses, when seen on a wall. This is really a recommendable variety either for outdoor or inside. In fact for indoor popularity one generally finds this Rose, *Maréchal Niel*, and *William Allan Richardson*, with perhaps *Cheshunt Hybrid*, a crimson coloured Rose, forming a quartet where only a few Roses are favoured. *Maréchal Niel* is said to succeed best upon its own roots, but we know of others making 10 ft. shoots upon *Manett* and other stocks. Climbing *Niphetos* is a beautiful white Rose, flowering freely where the conditions are favourable. *Belle Lyonnaise* also is good. Probably this selection may suit you in the meantime. Plant in a light, airy, cool greenhouse next month, and onwards till spring. Water carefully and thin and regulate the branches throughout next summer. You will have plenty of hints later on.

Bougainvillea glabra.—*J. T., Stow*: Yes. Of course a slightly warmer house, say 60° at the lowest at any time, would produce an amount of the coloured bracts more quickly just because growth would be faster and more abundant. Either plant out or pot them. Cuttings of half-ripened wood may be struck now under a bell glass or handlight, in heat, and among sandy soil. Dry the plants off when the flowering period is over (about November) and in February prune them hard back. Some growers do not prune at all, however.

Balm (*Melissa officinalis*).—*John Ward, Donnybrook*: The common Balm whose botanical title we have put beside the popular one, is grown, not for the flowers it may give, but for the peculiar aroma of its leaves and the fact of its being a plant known to our forebears in their old-fashioned gardens. We like to keep such plants if only for the past memories they recall. It is a native plant really, but, of course, is found throughout South Europe and has been naturalised in Western Asia. The name comes from *melissa*, a bee, from the fact that bees gather honey from the flowers. There is a variegated form which is very ornamental. The shoots are much used for interspersing among cut blooms. The plants may be got for a trifle and propagation is best by division. Good rich moist soil is what the Balm enjoys.

Cesspool.—*L. M., Mussleburgh*: We understand you to say that you have a cesspool within your own domain in the grounds. What then? If you wish to reconstruct a large or more secure pit, all that we can hint at it is to get able bodied men with good tools, and bid them to excavate a space of so many feet dimensions, this way and that. Whether you are altering the fall or direction of the sewer pipes or not, one thing must not be overlooked, and that is, sufficiency of fall. You might arrange the bottom of the pit or cesspool so that the liquid portion of the contents somewhat filtered away. Otherwise you should have to empty it frequently. Keep it as far from the dwelling house as possible.

Morello Cherries.—*Jas. Turner*: If these are worked on the *Mahaleb* stock and planted closely, say 8 ft. to 10 ft. apart, they form very profitable hedges of bush plants. Of course, they are usually grown on north walls in heavy damp soil, where they do splendidly, but we throw out the above suggestion for your own consideration. Many better crops would be seen, barring frost, if the roots of *Cherries* and other fruit trees received more nourishment. This especially in summers such as this.

Strawberries.—*F. L.*: Well, it is a debatable point. We should, if confined to three varieties, vote for first, Royal Sovereign, as an early variety of good size, appearance, flavour, and cropping powers, which seems to succeed very generally. Then, secondly, we should select Vicomtesse Hericart de Thury (syn. Garibaldi), a small fruited variety, but an excellent cropper; and thirdly, President for flavour, and also cropping qualities.

Herbs for Drying.—*Burton-on-Trent*: The best time to cut and dry herbs is just when their flowers are opening. This would suit at least for Mint, Thyme, Balm, Sage, &c. At this period they are found to contain more of the essential oil upon which their flowers depend than at any other.

Soil for Winter Cucumbers.—*Experiment*: A winter crop of Cucumbers are not at all easy to manage or profitable. Compost:—two parts turfy loam, one each of leaf mould and spent Mushroom dung, else something after the likeness to this material, and an opening quantity of lime rubble and sand. Mix this well, and have it well heated before using it. Do not over-water your plants to start with.

Cure for Mildew.—*L. O. T., Beds*: We cannot recommend anything more effectual for the suppression of this fungoid disease than very hot (130°) soapy water. Put a large piece of soft soap into three gallons of the water, and work it up with a syringe. Spray it on. Of course, gloves may have to be used to hold the syringe, it being so hot. Do not bear heavily upon young shoots. And it is well to syringe thoroughly with tepid water soon after the soapy water has dried off.

LACHENALIA NELSONI.

The origin of this form is said to be a hybrid between *L. aurea* and *L. tricolor*; but whether a hybrid or merely a variety of *L. aurea* obtained from seeds it is certainly a very handsome subject, and



LACHENALIA NELSONI.



TULIP SILVER STANDARD.

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one of the prettiest of Lachenalias or Cape Cow slips. The flowers are larger than either of the reputed parents and the stature somewhat greater. The drooping flowers are of a rich full yellow, entirely devoid of the green hue seen in *L. tricolor*, when fully developed, and we consider it fully deserving of more extended cultivation than it enjoys. The reason is probably that the bulbs are not yet so plentiful, for instance, as those of *L. pendula*; but a careful cultivator could soon increase the number of bulbs to form a very respectable batch of plants for the greenhouse or conservatory. A sandy and porous but rich soil will make a suitable compost. The bulbs should be potted up at once and allowed to come on gradually. When the leaves are developing, the pots should be placed on the shelves of a vinery or other relatively cool house in winter so that the plants will be close to the glass. They must be kept relatively cool, airy or well ventilated, and exposed to all the light possible during the winter months, so that the flower scapes may develop slowly and sturdily, and produce large and durable flowers. The accompanying illustration, lent us by Messrs. Sutton & Sons, shows the character of the flowers admirably.

TULIP SILVER STANDARD.

This may be described as one of the second early single Tulips, such as are used for bedding purposes and come into bloom just as the Hyacinths are getting past their best. The flowers of Silver Standard are more or less flamed and feathered with scarlet on a white ground. The variegation is akin to the "breaking" or "rectifying" of the florists' Tulips, but as the arrangements of the two colours do not correspond with the rules of the florist, the variety would simply be classed amongst the decorative sorts that are used for bedding purposes and pot work. For those who fancy variegated Tulips that under the notice is gracefully elegant, of a light and pleasing colour, and, therefore, amply deserving of extended cultivation. Many of the most interesting and prettiest of the old-fashioned Tulips "waste their sweetness on the desert air" in old cottage gardens, till some one re-discovers them and brings them into fresh prominence. That under notice, however, is not a neglected old garden plant, but annually classed with lists of Tulips used for spring bedding.

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The general appearance of the variety is well shown in the illustration, placed at our service by Messrs. Sutton & Sons, Reading. The companion to this variety is Golden Standard, feathered with red on a yellow ground.

FAIRBURN, MUIR OF ORD, N.B.

IN the last week of July we spent a short but very pleasant holiday at this place; and for rugged grandeur and beauty we do not remember ever having seen anything finer. It is situated about sixteen or eighteen miles to the north of Inverness, and is the property of John Stirling, Esq., a gentleman whose generosity and kindly interest has earned for him the love and respect of all throughout the neighbourhood. The house is a splendid modern building, and it, and also the stables, are lit up by electric light, the power being got from a turban wheel driven by the river Orrin.

Within fifty yards of the house and on a slight eminence the flagstaff is placed, and from this point a most magnificent view can be obtained. Here just on our left rises Coul Hill towering to a noble height, and clad with the Fir for a considerable distance up its sides. Almost in front of us is Achilty Hill, circled on the one side by the river Conon, and on the other by the Black Water. Away in the distance is the grand mountain range of Ben Wyvis; while for miles is a beautiful strath dotted by many a pleasant cottage and hamlet, the whole landscape being coloured up by the dark Pinewoods, the ripple of the colouring harvest fields and the purple glint of the heather.

Around the house are pretty lawns and beautiful ornamental trees and shrubs. Among many fine specimens near the house we noted *Abies Douglasii*, *Picea grandis*, *P. nordmanniana*, *P. nobilis*, *Cupressus lawsoniana*, *Thuya gigantea*, &c., all in fine health and appearance; there is also a fine lot of choice *Rhododendrons* and flowering shrubs on every side one cares to turn, the whole showing what can be done by the hand of a liberal gentleman assisted by an able gardener. From the house away in a south-westerly direction is a most beautiful drive running for about two miles along the banks of the river Orrin, the pretty falls of which are passed within a few yards of the drive.

The plantations on the estate are very fine, and have been deemed worthy of a visit from the Scottish Arboricultural Society. While walking down the drive, Mr. Simpson, the gardener, pointed out one of the finest specimens of *Abies Douglasii* in the north of Scotland. It has a circumference (4 ft. from the base) of nearly 9 ft., and is beautifully furnished. We noted here also fine bits of *Picea Pinsapo*, *Cedrus Deodara*, &c., the drive being one of the finest one could wish to see.

THE GARDEN.

We shall enter the garden from the service drive to the stables; and the first thing to take our attention is a pretty eight-lined ribbon border to the left of the walk and backed by a fine line of the "Eckford" Sweet Peas. Further to the left and surrounded on two sides by a fine Yew hedge is the croquet or bowling green of nearly an acre. To our right is a span-roofed greenhouse containing a choice lot of plants. At right angles to this house is a range of forcing houses, divided into three. In the first two divisions and on the sunny side is a fine crop of Melons; on the other are pot Vines carrying good crops, and also a very heavy crop of Tomatos. This latter crop requires to be almost a perpetual one with Mr. Simpson. The other division is used as a plant stove and is filled by a fine lot of young *Crotons*, *Cocos weddelliana*, *Caladiums*, &c., for house decoration. The pits in front are filled with *Primulas*, *Cinerarias*, *Cyclamens*, and other winter stuff, while the "square" has the usual collection of "Mums," between four and five hundred of these being grown in their various forms.

We shall now get within the walls of the garden proper, which is two acres in extent. A nice herbaceous border runs north and south; while this again is intersected by a very fine ribbon border, dividing the garden into the usual four squares. Facing the south and running the whole width of the garden is a splendid range of fruit houses, 130 yards over all. We shall run through from east to west. No. 1 is an orchard house, 37 yards in length, and this year the crop is under average; especially does this apply to Plums and Pears. Peaches on the other hand are

very good, the varieties grown being Royal George, Sea Eagle, and Violette Hative, all in good crop. Nectarines are also good, and bearing well this year. The trees are grown in bush form, planted out in pots, the back wall being covered with the Peaches, Nectarines, and Greengages.

From this orchard house we cross a walk and enter another fully devoted to Peaches and Nectarines, all bearing a fine crop of grand fruit. The next house is a mixed vinery in fine crop, with the Cape Gooseberry on the back wall, and some fine Ferns on the stage underneath the Vines. We next enter an Octagon conservatory, in which are some fine ornamental plants. In Palms we note good plants of *Kentia belmoreana* and *Seaforthia elegans*; while on the roof is a fine plant of that old climber *Tacsonia Van Volxemii*, and on the back wall a grand bit of *Lapageria alba*; also a general lot of fine useful plants.

From the conservatory we pass on to a good-sized vinery, planted principally with Black Hamburg, and for appearance in bunch and berry the crop is all one could desire. On the stage of this house is a fine lot in small form of *Pteris* and *Maidenhair* Ferns. Again we pass to a Peach house also in good crop, and crossing another walk we are in another orchard house, which is a repetition of No. 1, the only difference being that here Mr. Simpson has had the bush trees in front uprooted and planted with Peaches on trellises.

THE FRUIT CROP.

On account of the large shooting parties which regularly take place at Fairburn this is naturally an important department under Mr. Simpson's charge, the supply being required from the early forcing of Strawberries till late on in the season. Although a fine promise was given early in the season, Apples this year are almost a failure, Lord Suffield, Keswick Codlin, and Warner's King being the only varieties that carry a crop. For Plums, trees of Jefferson, both on walls and as half standards are carrying a fair crop; also Victoria as a bush is very good. Jargonelle Pears on walls are very fine. All small fruits are a very heavy crop, the Strawberries Royal Sovereign, Garibaldi, Macmahon, Dr. Hogg, and Elton Pine being favourites. For dessert Apples, Irish Peach, King of the Pippins, Strawberry Pippin, and Worcester Pearmain are all found to do generally well; but I must stop. The whole place is a delightful retreat, and to those of my readers who may be northward at any time, and who wish to see a nice place, and to make the acquaintance of the genial and successful gardener, I recommend them to call at Fairburn.—Richard.

MUSHROOMS.

BY JOHN MILLER.

It is just at this time of year that we are all anxiously waiting for the first good shower of rain to bring up in a night one of the nicest delicacies the breakfast table can claim, viz., the Mushroom.

At common law Mushrooms, being part of the realty, cannot be stolen, unless growing in gardens or cultivated in other land. This was made clear by the case of *Gardener v. Mansbridge*, decided in 1887, which laid down that it is not unlawful to pick wild Mushrooms; and this case seems to have given the public encouragement to trespass on private fields. Therefore if the owner of a few acres of land does not cultivate Mushrooms, but allows them to grow wild, he cannot prosecute anyone for getting up before he does and taking all his Mushrooms—his only remedy is an action for trespass.

The late Lord Esher (Master of the Rolls) once said "If I were found trespassing I should offer my informant, if he were the owner or owner's representative, a shilling in settlement of all damage I may have done; should he decline to accept the shilling, and I daresay he would, then he has lost his right of action unless he can prove, which would be a very difficult matter, that the damage was more than a shilling."

It is not an uncommon thing in a small village for the owner of many acres of land to go searching for Mushrooms, after he has had his breakfast, and find hardly sufficient to justify his search; and perhaps in the evening to be the guest at a house where Mushrooms form part of the dinner, and those Mushrooms picked that very morning from his fields that he has been searching with so little success!

The right to take Mushrooms from a private field

seems to be confused with the right of common, which is, to use popular language, the right to take a profit out of the land of another man.

Land which is ordinarily known as common may be defined as land, the soil of which belongs to one person, and from which certain other persons take certain profits.

Where then do our Mushrooms come from? From the cultivated garden or field? Apparently not, for Mr. Worthington G. Smith, F.L.S., M.A.I., etc., tells us that the naturally grown Mushrooms of the street vendor are simply the fungi gathered promiscuously by the vendors themselves in fields and plantations, and that genuine Mushrooms are rarely present in hawkers' baskets.

From the foregoing it will be seen that morally the wild Mushroom is not necessarily everybody's property, as is so generally supposed.

An action for trespass against everyone who steals your Mushrooms would be a very expensive business, and might lead to many difficulties, therefore the only effectual way of protecting your Mushrooms is to cultivate them even where they would grow without any special attention.

TOMATOS AT READING.

THE long, warm summer has been conducive to the ripening of Tomatos; and where the ground is in good heart we may expect to hear of highly satisfactory crops of them in the open air this year. Messrs. Sutton & Sons, Reading, have had a large trial of Tomatos in the open ground every summer for many years past. This trial is usually conducted at the Portland Road Nursery, but this year the collection has been transferred to the Trial Grounds or Seed Farm, lying alongside of the Great Western Railway, where they have grown and fruited handsomely. They commenced ripening at least a month ago; and a considerable weight of fruit was gathered for the Shrewsbury show. So heavy was the crop, however, that there is yet no apparent diminution save to those who had seen the plants before the show. The seeds were sown on February 20th, and the seedlings planted in the open ground at the beginning of June. They are fully exposed to sun and air on all sides, not being near either trees or buildings. There are 210 rows, consisting of eighty-two supposed varieties, so that this will give some idea of the magnitude of the trial. Every plant is trained to a single stem, supported by a stake, and stopped at 3 ft. to 3½ ft. in height. They are thus all under uniform conditions of soil and treatment. Neatness, order, and cleanliness is everywhere observable, so that it is a pleasure to look between and along the rows. Late and early, large and small, smooth and corrugated sorts are all grown together; and visitors have thus the chance of comparing the varieties, and noting which are really early and which are suitable only for indoor culture.

FOR OUTDOOR CULTURE.

Sutton's Earliest of All ripens before any other variety. The old stock, being several years old and approaching its life limit, was beginning to degenerate, but Messrs. Sutton, with timely forethought, have selected a fresh stock that ripens three or four days earlier than the old one and bears a heavier crop. It is a corrugated Tomato of medium size, but its earliness creates a demand for it for outdoor culture. Even in cold summers it would ripen a crop where later ones would fail. Laxton's Open air is not so heavy a cropper, and the fruits are smaller. Magnum Bonum is two or three days later than Earliest of All, and is too corrugated for under-glass culture, but it is the heaviest cropping variety for outdoor work. The fruits and bunches are also larger, so that it is well suited for supplying the bulk of the needs for outdoor work. The bunches of fruits would weight 2 lbs. or 3 lbs. each.

There is still a demand for Early Large Red, and many gardeners advocate the variety for its heavy cropping qualities. Being near the old form of the Tomato it has no high character or quality to retain. It is nearly as early as Earliest of All, but the fruits are not so large. It has the recommendation of being a cheap variety. Sutton's Vesuvius ripens as early as Magnum Bonum. The fruits are not so large, but it is an enormous cropper, particularly the new stock which has been selected, and which will enable the old one to be discarded next year. Sutton's Peerless is a handsome variety, well suited

for dessert purposes. The bunches carry seven or eight fruits in a two ranked raceme, that add considerably to the beauty of the round and perfectly smooth Tomatos, which are of fine flavour, and suitable for dessert purposes. Princess of Wales is a dwarfier growing variety, bearing larger and flatter fruits, that is, the latter are slightly depressed on the top. For outdoor culture this is a beautifully smooth-fruited variety, carrying its fruits in racemes after the manner of Peerless. The new strain of Sutton's Abundance will constitute the stock for next year, as it is considerably superior to the old. The fruits are like those of Peerless, but larger, quite round, smooth, and handsome.

The foliage of Maincrop is remarkably like that of a Potato, or, at least, something very distinct from the usual run of Tomato foliage. The fruits are corrugated, slightly larger than those of Magnum Bonum, and freely produced. In 1895 Main Crop Tomato was grafted upon Victoria Potato. Seed was gathered from it, and amongst others gave a variety with similar foliage, but smaller fruits, and bigger bunches, the fruits of which ripened four days earlier than those of the mother plant. In what particular way the Potato stock influenced the graft upon it is a nut for the philosophers to crack. Several varieties are grown purely for ornamental purposes, and Sutton's Cluster is one of the handsomest we noted. The small, globular, red berries, are borne in racemes 18 in. to 2 ft. long, drooping gracefully from the stems supporting them. The fruits are edible, it may be remarked, by those who prefer a slightly acidulated Tomato; but the best place for the variety is in the greenhouse or conservatory, where they would add to the display there, and could hardly fail to be admired. The smooth, round fruits of Sutton's Dessert are of fine flavour, and larger than those of Cluster. They are large enough for dessert purposes for home use, though not of sufficient size to suit the market men. The Plum-shaped fruits of Chiswick Red are produced in great abundance, though light in weight. Though an old sort there is still a certain demand for it; hence the reason for growing it.

FOR INDOOR CULTURE.

Sutton's Eclipse is perhaps a trifle flatter than Best of All, but is otherwise somewhat similar. The fruit is beautifully smooth, and is a very good variety for exhibition purposes. The Apple-shaped Tomato, namely Sutton's Ar, is remarkable for its great depth, the green fruits bearing a strong resemblance to some of the Codlins. When mature it is certainly a handsome and strikingly distinct Tomato. It does best under glass. Frogmore Selected is much like Ar. On the other hand Best of All is similar to Eclipse, but deeper and better adapted for market work. Sutton's Perfection is similar to Eclipse in shape, but much larger, later, and admirably adapted for exhibition purposes. Its best qualities are, of course, brought out only by the aid of glass. It is a perfectly smooth, and more or less flattened fruit.

Quite of a different kind is the Peach Tomato, with its small, round, downy fruits. Sutton's Tender and True is a larger and earlier form of Peach and crops freely. Sutton's Peachblow is yet a larger fruit than Tender and True, deeper in colour, not so downy on the surface, but tender, juicy and perfectly palatable even for dessert purposes. Sutton's Pomegranate is a large, brick-red, downy Tomato, of good flavour; but its colour is objectionable to those who are guided more by the eye than the palate, a trait of the British public which is certainly peculiar.

YELLOW TOMATOS.

The Plum-shaped Tomato, Sunbeam, is oval, perfectly smooth, golden-yellow, and should do much to remove the prejudice that only red or scarlet varieties are worth the having. It is a heavy cropper and very handsome. Sutton's Golden Nugget is practically a yellow form of Cluster; and while it is suitable for dessert purposes, it is also highly ornamental. Prince of Wales comes midway between Sunbeam and Golden Perfection. The fruit is of a good useful size, flattened on the crown, but not to the same extent as in Golden Perfection, while it is beautifully smooth. Golden Jubilee is still a very handsome variety and seems to be a later stock of Golden Perfection. It is of the same shape as the latter and often tinted with orange as it reaches perfect maturity. The largest of all the

yellow varieties is Golden Queen; but it is often deeply corrugated, though solid and juicy. The bunches sometimes weigh 3 lbs. each. The fruits of Golden Perfection are smooth, deep, and often beautifully tinted with orange.

is now regarded as a synonym. The flowers might otherwise be described as soft apricot with scarlet anthers; and they are also deliciously scented as well as showy. We are indebted to Messrs. Sutton & Sons, Reading, for this opportunity of figuring it



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LILIUM TESTACEUM.

The descriptions of the above twenty-seven varieties show that they vary from the largest to the smallest; that there are perfectly smooth and corrugated forms; and practically include all the range of colours met with amongst Tomatos except white. There is surely sufficient choice to meet the wants of everybody and to please the most fastidious. There are also heavy and light varieties, early and late, running through every gradation of flavour. The crop has yet a whole month in which to ripen, and by the end of that time we believe every fruit on the early varieties will be mature.

LILIUM TESTACEUM.

THERE are many beautiful Lilies which cause a deal of disappointment to beginners, that is, those who undertake their cultivation for the first time; but the Nankeen Lily (*L. testaceum*) is of the easiest cultivation, and not at all particular as to soil. A little shade should be assured, so that the surface of the ground about the leaves and stems may be kept cool in the drier and warmer parts of the country. Some of the less recent books describe this species as a native of Japan; but it is really of garden origin, and has been artificially reproduced as a hybrid between *L. candidum* (white) and *L. chalcedonicum* (scarlet), between which it takes an intermediate position; the large expanded flowers being of a light testaceous red, that is, straw coloured with a dash of red in it, such as scarlet and white parents might be expected to produce. The arrangement of the upper leaves of the stem recall those of *L. chalcedonicum*. The name *L. excelsum* has been given to the hybrid, but the plant having since been determined to be identical with *L. testaceum*, the former name

HARDY FRUIT GARDEN.

GATHERING AND STORING FRUIT.—Every year there is much waste in fruit. Fruit is one of the best of natural things sent to us. To waste it then is an unpardonable offence. Care is needed in gathering and storing. There are many points to be considered in such work. The state of ripening is one. Unripe fruits if closely stored, will ferment. It is keenest during the first fortnight. After two months it has subsided. In other words, so long as there is much moisture in the fruits, there will be a sweating and probably fermentation. Apples and Pears are most subject to it.

The first care in gathering is careful handling. Nothing sooner ruins a fruit than rough plucking. All should know when a fruit is ready. Then, when so, gather it. Practical men have acquired dexterity in loosening fruits. One sharp peculiar upward twist avoids all harm. But the boughs must at the same time be held. The chances otherwise would be that neighbouring fruits would be jerked off. Of course large orchardists cannot always be so careful. I have helped to shake down many bushels of Pears and Apples. They were, however, well looked after when stored. But for those who look forward to a succession of fruit through the winter, care must imperatively be taken. The fruits may at times require to be netted. If one has large handsome fruits why let them strain the branches? Only such a course is not often called for by the ordinary grower.

The use of ladders for tall orchard trees forms a convenient way of reaching and securing Apples, Pears and Damsons. If the ladder be placed close

against or among the branches very little breaking, or other damage occurs. The baskets should be lined with soft hay. When upon the ladder, the basket may then be borne upon the left arm. This leaves both hands free although limited. There is also an instrument for drawing the centremost or farthest reaching branches toward one while engaged on the ladder. This is the orchardists crook. In shape it is like a small-headed shepherd's-crook. It has also a moveable "catch," or sliding piece of wood. This allows one to draw in an outward twig by the hookend, and during the time needed to take off the fruits, the "catch" grips or is placed over another branch, so that the fruit branch is held in place steadily. Then for shaking the very tallest branches on old orchard trees we use a long supple rod. Its length is about 18 ft.; and there is an iron hook at the top end. With this one can go over a great deal of ground in a short time. Where fruits are to be kept for a day or two in the baskets, tissue paper is the best material to lay between the layers.

About the storing, most of us now know what constitutes a good fruit store-room. It must not be damp, nor yet excessively dry. Darkness is beneficial, at least, to a degree; and a uniform temperature should be maintained. The fruits should be laid plainly on the boards forming the stages. These should be smooth, but not absolutely close. Air must be wafted freely through them. All of one variety will certainly be kept in one part. When storing, it will be of advantage to keep those first to be used, nearest to hand. The fruit shelves must constantly be watched, and any bad fruits at once removed. Use those of the cooking Apples first, which may be ripening. The general temperature for a store-room should be from 40° to 50°. Some varieties of Pears, however, may not attain to perfection under so cool conditions. For them, there should be a warmer division, or they may be placed in a stove or other heated house a few days before they are required for use.

MISCELLANEOUS WORK and preparations on hand at this time will be the getting ready a quantity of loam and mixed composts for planting trees at the end of this month or early in October. Grapes in houses, or indeed all fruits that are valuable and likely to be attacked by wasps, should be bagged over with muslin. The land for new plantations of fruits must be at once prepared. Plant Strawberries in moist weather, and dress the Strawberry beds. Wall trees should once more be looked over. Cut away old Raspberry canes to allow the young shoots freedom for development. Remove and stop all useless growth from Vines and Peach trees indoors. Thin and stop the shoots of Figs. A mulch may be given to late fruiting Raspberries and Blackberries.

The old fruiting wood may at once be cut from Peach and Nectarine trees, whose crops have been gathered. All old prunings I would recommend to be burned. This is the most effectual way of destroying pestilential germs which may be about the same. Peach and any other trees should be syringed as often as possible, so long as there is no harm to accrue from scorching. Apricots and Plums trees, after having the crops removed, should be spurred back to one leaf. The extension shoots should, however, be left and made somewhat more secure.—*J. H. D.*

The Orchid Grower's Calendar.

DENDROBIUMS.—There are three cardinal points to be observed in the culture of this beautiful genus, and they are plenty of heat and moisture when making their growth, and a good season of rest when it is completed. It is not necessary to have a specially designed structure to grow them in, for some of the best results have been obtained when grown with a mixed lot of stove plants, indeed, for the bigibbum section no better place could be selected than a house where Crotons are grown and very little or no shade is used. When the growths are made up, which is the case now with a great many, they should be removed to somewhat cooler quarters. This obviates their again starting into growth, which is undesirable, as it tends to weaken them, besides spoiling the crop of flowers.

The best place, perhaps, for resting Dendrobiums, is the greenhouse, but some means should be adopted so that the plants do not suffer from the

too radical change from a high and moist stove temperature to the dry and airy one of the greenhouse. I recommend that the plants be syringed overhead for a day or two, and lightly shaded during very bright sunshine. Under such conditions the pseudobulbs will soon harden up and can be gradually exposed to all the light and air generally afforded greenhouse plants. Here they may remain until the dark, dull days of autumn set in, when they should be removed to warmer quarters.

COOL HOUSE.—If the advice given in these notes a few weeks back to get all the material ready has taken effect, the work of repotting can, and ought to be, carried out with all dispatch.

There are some plants, of course, that are in spike and cannot be touched very well, but the majority have made sufficient growth to admit of the work being done to the advantage of the plants, for they are just commencing to make new roots and are able to take hold of the new material at once.

ODONTOGLOSSUM HARRYANUM.—There is no getting away from the fact that this Odontoglossum is more difficult to keep in good condition than are most of the others. That it is one of the finest things for hybridising purposes the seedlings raised from it plainly show. We have several plants, which we have had for years, and although some or other of them flower annually they do not succeed like *O. crispum*. We find they cannot stand quite such a low temperature during the winter months, and should, therefore, be placed in the intermediate house during very severe weather.

ONCIDIUM TIGRINUM.—Look out for the spikes coming up in the young growths, as slugs are very fond of them, and will find them before you do if you are not sharp.—*S. C.*

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned hereunder were made by the Royal Horticultural Society on the 29th ult.

Orchid Committee.

CYPRIPEDIUM CAPTAIN HOLFORD, *Nov. hyb.*—The parents of this hybrid were *C. superbians* (female) and *C. hirsutissimum* (male). The dorsal sepal is large, suborbicular, with faint green veins and marked or mottled all over with black spots on a nearly white ground. The declining petals are oblong-spathulate, broad, white in the lower two-thirds, soft rosy-purple in the upper third, and spotted all over with crimson. The lip is large, and brownish-purple. The leaves are light green, faintly netted with darker green. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

Floral Committee.

ROBINIA PSEUDACACIA INERMIS ALBA VARIEGATA.—The leaves of this variety only differ from the ordinary type in being freely variegated with silvery-white. (Award of Merit.) Messrs. Thos. Cripps & Sons, Tunbridge Wells.

CANNA, BEAUTE POITEVINE, is a variety which bears a strong truss of large individual blooms, stout, and of a rich vermilion-crimson colour. (Award of Merit.) Messrs. Thos. S. Ware, Ltd., Tottenham.

CACTUS DAHLIA, MRS. STEPHENSON-CLARKE.—Here we have a variety with a beautiful combination of colours. The centres of the blooms are a lovely shade of yellow, which stretches up the petals, the tips of which are, however, clothed in crimson. (Award of Merit.) Messrs. J. Cheal & Sons, Crawley.

CACTUS DAHLIA, MRS. J. H. LUSCOMBE.—Petals finely twisted, revolute, and of a pale lavender-peach hue; a colour quite distinct, and much admired. (Award of Merit.) Messrs. J. Cheal & Sons, Crawley.

GLADIOLUS JAMES H. VEITCH.—This variety is of the gandavensis type, very open, large, of great substance in the petal, and strong in the spike. The colour is difficult to accurately describe, but somewhat cerise or pink-crimson, with a broad white beam on the lower petals. It is very handsome. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

POLYGONUM BALDSCHUANICUM.—This is a plant sure to be more liberally planted as a lawn or shrubbery, bushy climber. It bears great showers of small, white flowers, and has oval, acuminate

leaves. Messrs. Barr & Sons, King Street, Covent Garden.

THE following new varieties of Dahlias received First-class Certificates from the National Dahlia Society. They were shown and certificated at this society's show held at the Crystal Palace on Friday and Saturday, Sept. 1st and 2nd:—

Cactus Dahlias.

ELSIE.—In this we have a very beautiful and large variety. The colour is lavender-peach, with a glow of orange-yellow towards the base of the petals. Messrs. Burrell & Co., Cambridge.

EMPEROR has large, very graceful, mauve blooms, well borne on good strong stalks. Messrs. Keynes, Williams & Co., Salisbury.

MR. J. J. CROWE is a fine yellow variety. The inner surface of the twisted, revolute petals, is softly shaded with white. Messrs. Keynes, Williams & Co.

INNOVATION is a variety with a good stiff stem, and a lovely formed bloom. The centre is of a crimson-pink, and the tips pinky-white. Messrs. Keynes, Williams & Co.

MAYOR TUPPENNEY.—The blooms of this variety have very fine revolute petals, loosely arranged, and of good size. The colour is orange-red. Mr. James Stredwick, St. Leonards-on-Sea.

MAJOR WESTON is rather stouter than the foregoing, but otherwise resembles it. The colour is a deep rich crimson. Mr. Stredwick.

MRS. SANDERS is a brilliant sulphur-yellow variety of very graceful build. Mr. Stredwick.

UNCLE TOM is broader and stouter than the variety named Night, but is otherwise like it. Mr. Stredwick.

AUGUSTUS HARE is a very charming form, having extremely fine petals, which are somewhat incurved. The colour is faint orange-scarlet. Mr. Stredwick.

"GREEN'S WHITE" is rather a closely packed variety, but large and fine. It is a capital addition to the list of pure white Cactus Dahlias. Mr. John Green, Dereham.

ZEPHYR makes rather a unique colour, somewhat lavender-pink, and altogether a nice variety. Mr. John Green.

WILLIAM TRESEDER has soft peachy-white blooms of no great size, but very graceful. Mr. Wm. Treseder, The Nurseries, Cardiff.

Single Dahlias.

GIRLIE.—This is a broad Picotee-edged variety, rather uncommon and very fine. The central beam of each petal is of a dull white, or creamy hue with a broad edge of crimson. Miss Girdlestone.

FLAME.—This may be described as a lovely tricolor variety of good form, strength, substance, and brilliancy of colouring. Messrs. J. Cheal & Sons, Crawley.

PRUNING.

MR. BROTHERSTONE, of Tinnlghame, Prestonkirk, East Lothian, read a paper on "Pruning, Why, When, and How To?" before a meeting of the Fellows of the R.H.S. at their fortnightly meeting in the Drill Hall, Westminster, on August 15th. Mr. Marshall, chairman of the floral committee, presided over a very full attendance.

Mr. Brotherstone in the first instance, said that though there are many opinions on how to prune and the why and wherefor of the same, it was a subject nowadays fairly well understood. It used to be that men grew timber and pruned with great saws. They allowed their trees to run away instead of getting them at once into good bearing condition. Discussing his own question, "What do we prune for?" the lecturer gave a concise answer. "We prune to get size and quality of fruit; to get plenty of it and to modify growth, and secondly for the effect of laying the basis for fruitfulness from good lines indicated in the early pruning. For espalier and wall trees it is imperative that during the first few years they be severely pruned. No good foundation will originate otherwise. Rather set a few years apart and do without fruit, than crop and cripple the trees before they develop form and habit. Unless growth is thrown back upon itself, as it were, and the primary shoots plumped up, we cannot expect a tree with much vigour. A shoot if shortened one third of its length will be vigorous and fruitful in proportion to the amount of its reduction. The measure of the

confined force is seen in the increased size of leaf and fruit growth.

Some trees, too, like the Poplar, are much benefited from being "pollarded." The leading shoots are reduced, and the main branches pruned back. The result of this is seen in the speedy increase of stem growth and succeeding vigour. With Portugal Laurel and Yew one should assume and keep the lead. Though in some phases of forestry the exclusion of light among the lower reaches of growth (branch growth) is one of the principles of pruning; yet it is found that in all or nearly all phases of gardening light should freely enter to the centres of the trees. In the case of diseased fruit and other trees, root pruning has a beneficial effect. One may stay the effects of canker by cleanly pruning out the diseased part, and at the same time to root prune. Root pruning, too, has the effect of restricting vitality, and so tends to the production of fruit buds. The root-pruning of young trees should be systematically carried out biennially, indeed, till the ninth year or so. Rhododendrons, Roses, Vines, &c., are invigorated by close pruning. But this rule does not at all apply to Peach or Nectarine trees. Dead or dying wood should be cut back to sound wood. The question of laying the foundation of trained trees was also gone into.

He preferred to leave the cordons unpruned for a few years at the start, then they may be taken in hand and spurred. The development of other forms of fruit trees should not be too eagerly hastened, a practice one might be liable to err in.

Young Vines are an instance of plants which break best when early pruned. Roses are also examples, but we have to leave them often till late that we might save the shoots from harm by frost. And the force which early pruning gives is also evidenced in the greater brightness which variegated shrubs attain when spring pruned, as against autumn pruning. Mr. Brotherstone had experienced the benefit of pruning certain things at times peculiarly their own, as, for instance, the taking away of old wood and weak shoots from Spireae hella in the month of July; climbing Ayrshire Roses in July and August, leaving the current year's shoots; Lonicera Standishii in April, and so on.

It is found that deciduous trees grow more rapidly after being pruned. On the other hand, prune evergreens just before the season's growth is properly hardened, and next year the lessened amount made may be noticeable, according to circumstances.

Dr. Masters said a few words upon the subject, remarking that the whole thing depends upon circumstances. Mr. Bunyard also was called upon to give an opinion. The secret of the Kent system of fruit production was alluded to as lying in the fact of hard pruning before taking fruit from young trees. Unless they did this, he said, they never would get a plant fit to sell. The same rule applied to evergreen shrubs. These, in all our market gardens now-a-days, are trimmed into some shape or other according to desires, during their first half-dozen years. After this, of course, they had become balanced and "set" as it were. In root-pruning he treated his young Plums thus, every two years till a proper system of roots had been secured. With cordons to be spurred, he gave it as a rule that they should be led straight up until they reached the top of the wall, after which they could be put at the angle fixed upon for their permanent growth; and from that time the spur pruning should commence. Most kinds of fruit trees can be root-pruned just before the leaves fall, which time is best. Pears, however, should be left as long as possible, that is, the leaves should be entirely off and growth quiescent.

Mr. A. Dean followed upon Mr. Bunyard, and proved his individuality by saying that the pruner was more or less like a boy with a new knife. He wants something to cut and cut he does. Rules are laid down, and we follow them. But neither Mr. Brotherstone nor anyone else had, so far as he knew, given any clue upon making barren trees fruitful by any system of pruning. It was a subject well worth experimenting with, and one he should like to understand upon its successful solution. He cited the case where a number of Blenheim Orange Apple trees were known to have existed fruitless and untouched for years and years. Nettles grew 4 ft. deep below them. These were at length cut down and the land around the tree dug. Every young shoot all around the trees was shortened back, and some thirty loads of timber taken in the shape of

prunings from the centres of the trees, and the top branches. The year following there was a crop; after years brought more than could be used.

SOCIETIES.

LANARKSHIRE PANSY SOCIETY, &c.

August 25th.

THE 17th annual show of the Middle Ward of Lanarkshire Pansy Society and Floral Association was held in the Town Hall, Motherwell, on Friday, 25th ult. Owing to the unfavourable season the entries were considerably down. The exceedingly hot weather told heavily against the turn out of Pansies.

In Classes XC., XCI., & XCII., Mr. Alex. Kemp was first with fresh blooms of good substance and medium size. In Classes XXI. and XXII., Mr. Kemp was the unopposed winner, and the same grower had also two first prizes in the Rose classes.

In the herbaceous and border cut flower classes, Mr. Jas. Hilton gained the principal prizes, his herbaceous double Sunflowers, Gaillardias, and Lobelia cardinalis being prominent. In his cut flower stand some of his sprays, particularly the pompon Dahlias were too crowded to be consistent with good taste.

James Smith was the only competitor, an unusual thing, for the miniature flower garden, but it was a model of neatness and good taste, the design and colour arrangement being very perfect. For table bouquets Mr. James Kemp was first, and Mr. David Main, second; both bouquets were well built, and showed a cultivated taste. Mrs. Jas. Kemp and Mrs. D. Main were first and second for baskets of flowers artistically arranged with beautiful flowers and foliage. Ten-week Stocks made a good show.

Mr. James Weir gained first honours with an excellent stand of Carnations, which included a new seedling, "Dalziell Pink," for which bloom he also received first for the most meritorious cut flower in the hall (confined section). This Carnation is of a lovely deep pink shade. Pentstemons were good. For the new, wide-open, Gloxinia-like type Mr. Wm. Faulds was first. Besides the above there were many other good exhibits which want of space prevents us referring to in detail.

In the nurserymen's classes Messrs. D. & W. Croll, of Dundee, won first honours for Roses. Mr. Smellie, Busby, was first for show and fancy Pansies and Dahlias, the latter being a most meritorious stand of twenty-four show and fancy blooms, John Walker, Mrs. Fisher, Nugget, and Cheftain being extra good blooms.

In the herbaceous competition Mr. Michael Cuthbertson, nurseryman, Rothesay, was awarded first prize for twenty-four very fine hunches, the most striking specimens being Lillum tigrinum splendens, Montbretias, double Sunflowers, scarlet Martagon Lily, Scabiosa gigantea, double Rudbeckia "Golden Glow," and Gladiolus formosissimus, the latter being very beautiful.

Of the exhibits not for competition the principal one came from Dalziell gardens, where Mr. Angus is gardener. This exhibit was arranged on the platform and made an imposing display, and was undoubtedly the feature of the show. In the centre was an immense fan-trained Hydrangea, "Dr. Hogg," 7 ft. high and the same across, with 110 trusses of beautiful blooms. At the back of this was a splendid specimen of Araucaria excelsa, about 15 ft. high. Right and left were six huge trees of well grown and finely coloured Coleus, cut hunches of Sweet Peas, Zinnias, Sutton's new chamois Poppies, Dianthus superbus, &c., with suitable table plants all combined to make up a beautiful and brilliant display. For far less we have often seen gold medals awarded.

Messrs. Davidson & Co. had a table of fruit of high class quality tastefully decorated, among which were fine hunches of Grapes, Pineapples, Tomatos, &c., for which he received a First-class Certificate of Merit. Mr. Prentice, Carlisle, had over 100 finely coloured specimens of Austin's Eclipse Tomato, for which he also received a Certificate. Mr. Cuthbertson, in addition to his competition stand, had a collection of herbaceous plants, Dahlias, Sweet Peas, &c., which made a fine show and for which it was contemplated awarding him a handsome Silver Medal.

Perhaps we might be permitted to suggest that the competitions might be thrown open to a wider area.

It is almost certain the result would be an increased number of competitors, which a casual observer could see was needed to make the show a complete success.

ROYAL HORTICULTURAL OF PERTH.

August 25th and 26th.

THE annual show in connection with this society was held at North Inch, Perth, on Friday and Saturday, the 25th and 26th of August. The show proved to be a record one with a very keen competition throughout the classes. The committee, recognising the fact that flower shows, no matter how good they be, are not equal to drawing crowds of visitors, devised a number of extraneous attractions. Music of course is always provided and on this occasion the services of the Fechney School Band were secured. All the more important work lies naturally enough to the credit of Mr. Brown, the hon. secretary and treasurer, who also received the helpful co-operation of the society's officials.

Messrs. Harley & Sons, of Perth, had a wonderfully fine array of floral designs and decorations, and just at the entrance to the large marquee the designs of model flower gardens give one the first tasty bit in sight seeing. They were awarded first prize for their floral entry. They also were awarded the premier prize for a group of early Chrysanthemums.

Messrs. D. & W. Croll, Dundee, were strong exhibitors of Roses, &c.; and Mr. Farquharson, Comely Bank Nurseries, was also well represented.

Mr. J. Leslie, of Pitcullen, Perth, had a very nice group of plants neatly set off by Maidenhair Fern. Mr. T. Dohbin, of Balhousie Castle, was the winner with another table of plants. In the classes for fine foliage plants, Mr. E. R. Bush, of Woodlands, had the chief amount of prizes. For Orchids Mr. F. Nicols, of Craigclowan, Perth, was the only exhibitor.

Begonias presented a really good show. Ferns have seldom been seen in better form or in greater variety than at this year's show. Then in the classes for cut flowers the competition was very keen. Pansies were well shown by Mr. J. McFarlane, Kilgraston, and Mr. J. Bisset, of Hillyland, both professionals. Mr. Harris had a splendid collection of Sweet Peas in quite a host of beautiful colours.

FRUIT, even though frosts and, latterly, drought, have been against its development, made a very fair show. Vegetables are always well shown and there was no exception to the rule on this occasion.

Prizes in a few of the leading entries were awarded as briefly follows:—For a model flower garden, the first prize went to Mr. A. Sharp, Ballendrick, and the second to Mr. J. McFarlane, Kilgraston. For twelve hunches or trusses of stove and greenhouse plants, Mr. J. Leslie, of Pitcullen, stood first; Mr. Albert S. Cole, Moncrieff, second; and Mr. T. Dohbin, Balhousie Castle, third. For thirty-six Roses, distinct, first, Messrs. D. & W. Croll, Dundee; they also were first for the two dozen Roses. The collection of herbaceous blooms, in not less than twelve varieties, went to Mr. W. Farquharson, and second prize to Mr. A. S. Cole. Mr. Harris won first for Carnations, and Mr. J. McFarlane second. This latter gentleman was first for twelve Pansies; Mr. A. Barclay, of Lochty, next him, and the third prize to Mr. John Blissett, of Hillyland. For twelve fancy Pansies, distinct, Mr. Bissett was first winner.

Mr. John Leslie won the chief award for a collection of eight kinds of fruit. For white Grapes, he was also fortunate in being thus awarded. Mr. Dohbin won the first award for black Grapes. The order for one Melon was, first, Mr. J. Lowe, Glencarse; second, Mr. J. Robertson, of Springland; and third, Mr. J. Leslie. The principal winners in other of the fruit classes were, Messrs. Harper, A. Brown, Ed. Joss, and of course the names of those already mentioned.

For a collection of ten sorts of vegetables, the first honour went to Mr. Harper, the second to Mr. Joss, and the third to Mr. McFarlane. The names of Messrs. Brown, McFarlane, Harper, Robertson, Marshall, Harris, and J. Lowe, were continually attached to prize cards in vegetable entries.

TRADE EXHIBITS.—The Messrs. Alexander & Brown, New Scott Street, had a large stand of 30 ft. in length, chiefly of specimen exhibition plants and cut flowers, among which were some of their own Sweet Pea Seedlings, &c.

Messrs. Dickson & Turnbull had also a large collection of cut flowers, which were very creditable.

Messrs. Storrie & Storrie, from the nurseries at Glencarse, showed a patented flower stand which proved of great utility. Cactus and pompon Dahlias, Carnations and Begonia blooms, were also to be seen in their groups.

Mr. J. Crichton, of South Street, had an array of white flowers for wreaths, &c.

Mr. Barclay, of Boroughmuir, exhibited models of architectural designs.

BEARSDEN HORTICULTURAL—August 26th.

THOUGH the above is only a small provincial society, its annual exhibitions are usually above the general run of country shows. This year's annual fruit, flower and vegetable show was held in the New Hall, Bearsden, on Saturday, August 26th. Our space is too limited to allow us much detail at this period. We are pleased to know that the interest in the working and the objects of the society so steadily increases. The entries though not quite so numerous were of greater excellence than previously. The judges and committee sat to dinner in the afternoon of Saturday, at which meeting the chair was taken by J. W. Stewart, Esq., of Balgownie. Music is always to be found at flower shows, and at Bearsden the Vale of Leven Minstrels (about forty performers) rendered an appreciated selection during afternoon and evening. Subjoined are to be found names of winners in the more important classes.

PLANTS.—For a group arranged for effect (10 ft. by 5 ft.), Mr. Robt. Glen, of Ledcameroch, led off, followed for the second prize by Mr. Wm. Landsborough, from Beechwood; and Mr. Geo. Waterston, Struan, who came third.

Mr. Watson won first for four stove or greenhouse plants, two foliage plants and two flowering ones. Messrs. Landsborough and Waterston were second and third.

For two ditto, the order read, first, Mr. R. Glen; second, Mr. J. Weatherston, of Crossburn; and third, Mr. Hugh Campbell, of Hillfoot.

For three Palms in 9-in. pots, the honours went to Mr. Wm. Landsborough and Mr. R. Glen. For four varieties of exotic Ferns, Messrs. Landsborough, Waterston and Watson were arranged in this order; and for six table plants, Messrs. Landsborough, Glen and Watson were so awarded. The class for two single and two double Begonias brought as winners, Miss Meiklejohn, of Croftbank; Mr. H. Campbell and Mr. Landsborough.

For two ornamental foliaged Pelargoniums, Mr. Jas. Baillie, of Helenslea, won first; with Mr. Wm. Watson, second. The exhibitors whose names have already been noted were likewise the winners in the remaining pot plant classes.

CUT FLOWERS.—For twelve show Pansies, Mr. Davidson, of Milgarvie Junction, was the winner. Mr. Watson beat him, however, for twelve fancies. Mr. Jas. Burrows had the best six Carnation or Picotee blooms. Mr. Hewitt won for six spikes of Phloxes. Mr. Ferguson was first with six spikes of Gladioli. For twelve Asters other than quilled, Messrs. Campbell, Hewitt and Cummings were thus awarded the prizes.

For six Roses, distinct, Mr. J. Thomson beat W. Watson and J. Weatherston. Mr. J. Thomson had also the honour of staging the best Rose in the show.

Messrs. Glen & Landsborough were first and second for the hand bouquet, while for a shower bouquet the order ran, first, Mr. Malcolm Murray; second, Mr. R. Glen; and third, Mr. Wm. Landsborough.

FRUIT.—Both black and white Grapes fell in this order, first, Mr. Geo. Waterston; second, Mr. Wm. Watson. Mr. H. Campbell had the best Melon. Mr. Weatherston won for a dish of six Plums; and Mr. Campbell for a like amount of Apples. A dish of six Peaches was best as shown by Mr. Watson; Raspberries by Mr. Ferguson, who also had the best Gooseberries, Red and White Currants. He also won for a basket of hardy fruit. Mr. A. Kyle won for Black Currants.

VEGETABLES.—The collection of these was well shown by Mr. J. Thomson who won first. All the other vegetable classes were well competed for, and the above names appeared in various rotations.

The amateurs' classes were filled with enthusiasts who showed creditable produce. The chief names in this section were Messrs. Wm. Hewitt, Jas. Graham, Jas. Baillie, Elliot, Stewart, Davidson, and Cummings. There were also a few classes confined to children

who showed wild flower bouquets and other things. In a honey competition, Mr. Robert Brown, Eaton Stables, Bearsden, had the best box, which had at least to be over 10 lbs. The thanks of all who enjoyed this show are heartily due to the secretary (Mr. M. Fulton) who has had much work in arranging and reporting the exhibition.

NATIONAL DAHLIA.—September 1st and 2nd.

DESPITE the fact of a season opposed to all development of exhibition Dahlia plants or blooms, the show held by the National Dahlia Society at the Crystal Palace on Friday and Saturday, the 1st and 2nd of September, was certainly a beautiful one. The only section which could be said to lack was that of the show and fancy Dahlias. But the entries were equal or better than the high totals of last year (off and on about 300), so that the council and secretary of the society have much to encourage them. The day was bright, but not too hot. The attendance of admiring enthusiasts was fairly large. There were about a dozen new varieties certificated. In the decorative classes, competition was not keen, but the entries put up were of superior merit. Mr. J. F. Hudson, M.A., as secretary, and all others who aided in arranging the show are to be congratulated on the success of their efforts.

NURSEYMEN.

The class for sixty show and fancy Dahlias brought a goodly competition. The stand put up by Mr. John Walker, Thame, Oxon., was adjudicated first award. The blooms were exceptionally large, full, even, strong, and of great clearness and purity in colour. Chieftain, large, well built, brilliant mauvy; Florence Tranter, a pink variety; Victor, dark mauve; John Walker, pure white; John Bennett, brilliant scarlet; Majestic, mauvy-pink; Rebecca, maroon; Comedian, a beautiful tricolor of an old gold hue; Goldsmith, great golden-yellow, tipped with crimson; Sydney Humphries, Geo. Rawlings, Miss Cannell, and James Vick, among others, were the most meritorious. The second prize went to Mr. M. V. Seale, of Sevenoaks, Kent, whose collection was very well balanced, and ran the first-prize lot very closely. The choicest of these were Warrior, literally a glowing ball of ringed crimson; Buffalo Bill, a peppered mixture of old gold and mauve; John Rawlings, a beautiful lavender variety; Mrs. Morgan, peachy-illac, with a dark centre; John Walker, pure white; William Rowell, clear yellow; and Goldsmith, which, however, was not so refined.

Mr. M. Campbell, of High Blantyre, N.B., filled the third place. The blooms here were not so compact as in the first and second lots, though they were larger. Mrs. Sanders was a splendid sample; Pleasance was very fine, and also Mrs. Every.

Mr. Mortimer, of Farnham, Surrey, was fourth with blooms of good substance, build, and brilliancy.

The class for forty-eight blooms also fell to the lot of the first prize winner for the sixty. We cannot enumerate all the good blooms, but will content ourselves with a selection. Of these, Mrs. Sanders, Shirley Hibberd, Maud Fellowes, Mrs. Every, Duchess of York, Champion Rolls, Prince of Denmark, Mrs. W. Slack, John Wyatt, Comedian, and Mrs. Gladstone stood in prominence. The same order for the second place as for the sixty blooms, also held here, Mr. Seale, of Sevenoaks, being again next to Mr. Walker. No one could at all complain of this collection. His Mrs. Morgan, Eclipse, Peacock, Dr. Keynes, and Mabel were all large, well formed, and deeply coloured.

Mr. Mortimer, Farnham, followed closely for the third prize. His Esmond, Mrs. Gladstone, and Duke of Fife were particularly fine.

Mr. Wm. Treseder, of Cardiff, had a glorious collection of thirty-six blooms, with which he won the first prize in this class. Rev. J. Goodday, Mrs. Morgan, Sunlight, Dante, Dr. Keynes, Mrs. W. Slack, and Arthur Ocock in the back row; Pleasance, Buffalo Bill, Goldsmith, Henry Walton in the second row; and Duchess of York, J. T. West, Julia Wyatt, Mrs. Gladstone, and Sunbeam made a collection unsurpassed by any in the show.

Mr. G. Humphries, of King's Langley, Chippenham, filled the second place, and that very creditably. The brilliancy of these blooms was quite remarkable. His Prince of Denmark, David Johnson, and Mrs. Gladstone were superb. Messrs. Keynes, Williams & Co., of Salisbury, were third.

Mr. Humphries took the first also for twenty-four show and fancy blooms, distinct. These were

smaller, but the same qualification in colour, &c., held good for this lot.

Mr. J. R. Tranter, of Henley-on-Thames, stood first for the twelve. Sunbeam, J. R. Tranter, and Mrs. J. Downie were notably superior in this lot. Messrs. J. Cheal & Sons, of Crawley, came second, with larger blooms, though lacking the refinement of the others. Mr. Jas. Stredwick, St. Leonard's-on-Sea, was third.

Mr. John Walker, Thame, Oxon, won first for twelve fancy blooms, distinct. Emin Pasha, Peacock, Rev. J. B. M. Camm, Mrs. J. Downie, John Bretton, and Hero, &c., stood out in great lustre. The second award went to Mr. Seale, Sevenoaks, with a very fine lot; and third, Mr. Mortimer.

Mr. James Stredwick, won first place for the eighteen varieties (distinct) of Cactus Dahlias, in bunches of six.

It was quite a change to break from the stiff fancy and show varieties on to the starry and brilliant Cactus forms. Britannia, Night, nearly black; Stella, brilliant crimson; Harmony, Mayor Tuppenney, Charles Woodbridge, and a numerous lot of fine seedlings went to form a capital array. The second prize was taken by Messrs. J. Burrell & Co., Cambridge. In this collection Whirlwind, Auburn, Decima, a beautifully twisted and peculiarly soft-coloured variety; Imperator, Ajax, Ibis, Elsie, Olive, and Antler made a stand of smaller but awfully sweet blooms.

Messrs. Keynes, Williams & Co. had also a first-rate group, in which Exquisite, Emperor, Starfish, Britannia, and Lovely were the pride of the exhibits.

Messrs. J. Cheal & Sons were fourth. The competition here was close and severe.

Mr. M. V. Seale was the winner in the class for twenty-four varieties, in bunches of ten each. Of these, all of which were exceptionally well staged and very even, we noticed Phoebe, Nellie Broomhead, Emily Hopper, Demon, Sunny Daybreak, Lilian, Doctor Jim, Ernest Harper, and others. Messrs. J. Cheal & Son, Crawley, came in second with extraordinarily bright coloured blooms. Ardiene, Nerissa, Florence Woodland, Claribel, Tommy Keith, Mars, and Donovan shone out. Messrs. Keynes, Williams & Co. followed third with blooms whose petals were a little too open.

Messrs. J. Burrell & Co. occupied the first place for twelve varieties. Bacchus, Emily Hopper, Nerissa, Whisper, Gipsy, Lilian, Sunny Daybreak, Geo. Brickman, Douglas, Isabel, Eurydice and Mary Kirk were each a sample of excellence. Mr. J. Walker, of Thame, was second; and Mr. Humphries, third.

Messrs. J. Cheal & Sons, Crawley, had the pull for twenty-four varieties of ten blooms each of single Dahlias. These formed one of the features of the show, for, being well set up, and of a splendid variation of colour, they really were charming. The choicest varieties were Naomi Tighe, Puck, Miss Gordon, Miss Glasscock, Amos Perry, Polly Eccles, Louise, Formosa, Leslie Seale, Flambeau, Miss Roberts, Violet Forbes, Demon, Columbine, and Tommy. Mr. Seale took off the second prize; and Mr. John Walker, of Thame, followed third.

AMATEURS.

In the large class for twenty-four blooms distinct, the first award was creditably taken by Mr. F. W. Fellowes, Luton, Beds. These were all of one size, not large, but well formed, refined, of good depth of tone. His Chieftain, Harrison Weir, James Vick, Lilian, Mary, John Bennet, among others were very fine; third, Mr. R. Burgin, St. Nicols, Hants, with a fair lot; and Mr. Wm. Mist, of Ightham, fourth.

Mr. Thomas Jones, of Ruabon, N. Wales, had a splendid array in the class for eighteen, though some were weaker than others. Mrs. W. Slack, Duchess of York, John Walker, Colonist and Dr. Keynes, were his best. Mr. R. C. West (gardener to H. J. Wigram, Esq., Salisbury) came second with a capital lot; and Mr. W. Peters, third.

Mr. S. Cooper, of Chippenham, Wilts., was first for twelve show and fancy blooms, and splendid they were. Mr. E. Jeffries, Langley Burrell, was second; Mr. W. Wheeler, Henley-on-Thames, third; and Mr. E. West, Junr., fourth.

For six blooms, distinct, Mr. A. Stirling, of Romford, stood first; Mr. S. Crouk, of Hansworth, second; Mr. A. Taylor, East Finchley, third.

For twelve blooms of fancy Dahlias only, distinct, Mr. R. C. West, of Salisbury, was the winner,

and his lot was as fine as any one could wish for. Mr. Fellowes, of Luton, was second.

For six Fancy Dahlias, the order ran—first, Mr. R. Burgin; second, Mr. E. Jeffries; and third, Mr. Thos. Jones.

CACTUS DAHLIAS ONLY.—For twelve varieties in bunches of six blooms each, Mr. R. Keeble (gardener to F. W. Sharp, Esq., Twyford, Berks), took off the prize. His Fantasy, Magnificent, A. Vasey, Lady Penzance, Lucius, Mary Service, Charles Woodbridge, Vicomtesse Sherbrooke, and Stella were at

Mr. James Hudson (gardener to Leopold de Rothschild), Esq., Gunnersbury House, Acton, was a good second; and Mr. Wm. Mist, third.

Mr. H. A. Needs, from Horsell, Surrey, had a beautiful collection in nine varieties. The purity of the blooms was more than once remarked upon. Starfish, Island Queen, Keynes White, Ranji, Mary Service, Chas. Woodbridge, and Cinderella gave a varied array of colour. The second prize went to Mr. W. G. Handcock, of Kingsworth, Ashford, who staged poorly; and the third prize to Mr. L. McKenna, of Twyford; Mr. Fellowes was fourth.

E. Mawley, Esq., Berkhamstead, scored for six varieties, three blooms each. His were also very pure, and possessed the good qualities wanted in Cactus Dahlias. Mr. J. Bryant, of Salisbury, came second. It may here be noted that the prizes in the last three classes were presented by Messrs. Keynes, Williams & Co., of Salisbury.

In Class XXI., Messrs. J. Cheal & Sons presented the prizes. Mr. Keeble, of Twyford, won the first place with distinct and lovely bunches. Mary Service, Cycle, Beatrice, Stella, and The Clown were good; second, Mr. J. Hudson; and third, Mr. L. McKenna.

Mr. James Hudson won for the twelve varieties of pompons, in bunches of six; second, Mr. Peters; and third, Mr. Osman.

For six varieties of single Dahlias, Mr. James Hudson again was first; Mr. W. Peters, second; and Mr. C. Osman, of Sutton, third. The quality here was very well sustained.

E. Mawley, Esq., took the first award for six varieties in bunches of six. His Northern Star, Demon, Victoria, Miss Roberts, Beauty's Eye, and Polly Eccles were superb.

For those who had never won a prize at the N.D.S. shows, the following classes were open:—Mr. Thos. Jones, of Ruabon, won the prize for six blooms of show or fancy Dahlias. Mr. W. J. Joy, of Romford, Essex, was second.

In the entry for six varieties of Cactus Dahlias, Mr. W. E. Reive, Woking, won the chief place, and next him Mr. W. Peters; Mr. Bronsson, Sidcup Place, Kent, came third.

OPEN CLASSES.

Fancy single Dahlias, that is, varieties whose blooms are tipped, striped or edged, were provided for, and proved interesting. For eighteen varieties, in bunches of ten each, the first prize was well won by Mr. M. V. Seale, Sevenoaks, Kent. Besides many of the fine varieties already named elsewhere, he had Alice Seale, Clara Oblien, Gaiety Girl, and Dorothy Seale, which were striking in their beauty. Messrs. J. Cheal & Sons came closely second, with Veronica, Shamrock, Miss Glasscock, &c.

For six blooms of any dark Dahlia, show or fancy, Mr. Seale won with Prince. For any light Dahlia, not yellow, Mr. John Walker won with Mrs. Gladstone; also for a pure yellow with Mrs. Powell.

Mr. West secured the award for a red Dahlia, showing Duke of Fife; and Mr. John Walker for a white.

Mr. Seale took the prize for blooms of any other colour, showing Duchess of York, a rich crimson.

DECORATIONS.—For a vase of twelve Dahlia blooms, Mr. Mawley won first; Mr. H. A. Needs second; and Mr. Hudson third. It goes without saying that the vases and tables of cut blooms were great objects of attraction, especially to ladies. For three vases of the Cactus blooms, Mr. R. Edwards won with a delicious arrangement, in which were sprays of Prunus Pissardi, yellow Poplar and grass shoots of Eulalia above some half dozen graceful salmon hued Dahlias with asparagus beneath them. Mr. J. F. Hudson was second; and Mr. Needs third.

Mr. Hudson won, however, for the epergne of cut Dahlia blooms; second, Mr. R. Edwards; and third, Mr. Pagram. Each was very light and well arranged.

Mr. W. Treseder, Florist, Cardiff, won the first prize for "any floral design such as Wreaths, Crosses, &c." His was a harp in this case, in which vermilion and white Cactus blooms were used together with some foliage. He also won for the shower bouquet of Cactus blooms, having a pale yellow variety. Mr. Seale was second.

Mr. John Green, Norfolk Nurseries, Dereham, had rather a unique table of Cactus varieties in the cut state. Green's Red Rover, a seedling of tremendous size, wavy form, and strong stalks, dark crimson colour, and altogether of good appearance, occupied the central portion. Eclair, Green's White and Zephyr were splendid of their class.

Messrs. J. Peed & Sons, of Roupell Park Nurseries, Norwood Road, S.E., staged a collection of herbaceous cut flowers, and a very liberal array of Cactus, Pompom, show, fancy, and other Dahlias of good quality. The whole was backed up by Palms from behind.

Messrs. John Laing & Sons, Forest Hill, S.E., likewise brought a strikingly meritorious group of hardy cut blooms, Roses, Dahlias, Cannas, and other choice flowers of the season. Roses were particularly fine. Their group of variegated shrubs of the perennial foliage class, with a central mass of well flowered Clematis (Jackmanni and lanuginosa sections) was much admired and creditable to the firm. They also showed a collection of tree Ivies in much variety and of good quality. Their collection of Caladiums also sustained their reputation as first-rate cultivators of these plants.

Mr. J. Williams, 4a, Oxford Road, Ealing, W., made an attractive display with his patent table decorations of "The Rural" type.

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries; Tottenham, filled a broad stage, 50 ft. long, entirely with Dahlia blooms in all classes. Words cannot describe the grand effect of these. Suffice it to say that the staging was exemplary, well studied as to combined effect, and the individual varieties in their multiplex array, were beautiful to a high degree.

Messrs. H. Cannell & Sons, of Swanley, Kent, were also very strongly represented with Dahlias belonging to all the sections, very tastefully arranged. Besides the quality of the blooms and the good staging, a great aid to the effect was got by the introduction of Gypsophila elegans. In fairness we cannot enumerate even a tithe of those lovely flowers, but, indeed, we could make no satisfactory selection where all are so typically fine.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargonium, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Melons Decaying at the Top.—*Green Hand*: It would be difficult to speak with certainty concerning the decaying of the fruits of Munro's Little Heath Melon, without knowing all or at least some of the circumstances of the case. We believe, however, that a clue will be found for the cause in the statement that the fruits of that variety were very bad in colour and never became netted. In all probability the fruits were never fully developed, so that they commenced to decay in place of ripening. This might have arisen through the destruction of the roots by eelworms or some fungus. If that is the case, and the Melons continue to decay, though kept under dry conditions, you cannot do anything to save them; but as all your other varieties have ripened properly you may rest satisfied this season. You should, however, remove the old soil as soon as all the Melons are gathered, give the house a thorough cleaning, and use fresh soil next spring, or before you plant anything else in the beds.

Clematis Marie Lefebvre.—*R. H.*: It seems that you are perfectly correct about the flowers of this variety being delicate mauve, and that it belongs to the C. lanuginosa section. The writer of the note in question was inadvertently led astray owing to notes of the variety being mixed up with several others having white flowers.

Names of Plants.—*E.C.H.D.*: 1, Tanacetum vulgare; 2, Stachys palustris; 3, Stachys ambigua, a hybrid nearer to S. palustris than S. sylvatica, and not that figured in Syme's English Botany; 4, Scirpus setaceus is the same thing as Isolepis setaceus, under which name you will find it in your book; 5, Candelis Anthriscus; 6, Epilobium hirsutum; 7, Leontodon autumnale; 8, Pedicularis palustris.

Please consult Next Week.

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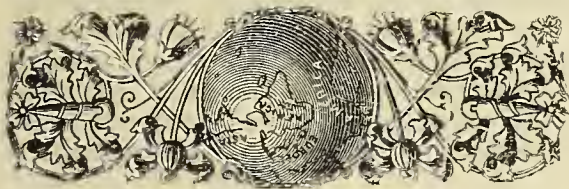
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The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 16th, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, September 18th.—Messrs. Protheroe & Morris' Auction Sale of Bulbs continuing daily excepting Saturday.

TUESDAY, September 19th.—National Dahlia Society's second Show at the Royal Aquarium (2 days).

FRIDAY, September 22nd.—Messrs. Protheroe & Morris' Sale of Orchids at their rooms, 67 and 68, Cheapside, London, E.C.

BURFORD LODGE, DORKING.—We here resume our notes, abruptly dropped on p. 22, of the interesting garden of Sir Trevor Lawrence, Bart., at Burford Lodge, Dorking. The mansion itself is situated

on the edges of the soft, grassy lawns stretching down to the river Mole, and in full view of Box Hill. Here again a variety of high class and interesting subjects are grown for their own sakes and the love of them, rather than for mere display. Most of them are grown in the immediate neighbourhood of the house, so that with the exception of a Water Lily tank nothing interferes with the fine expanse of restful, green sward. The walls of the house are covered with a wealth of greenery, consisting chiefly of *Vitis variabilis*, otherwise known as *Ampelopsis Veitchi* or Japan Ivy. Against the wall is a large bed of *Nicotiana affinis*, 5 ft. to 6 ft. high. Mr. Bain, the gardener, persistently and consistently selects the tallest or most vigorous plants as seed bearers, so that the size of his plants is accounted for, if we couple with that the skilled culture accorded. Close by is a bed of *Begonia martiana*, having rosy flowers, and with *B. Bavaria*, only 6 in. to 9 in. high, and throwing its rich rosy-carmine flowers well above the foliage. The flowers are larger than those of *B. Gloire de Lorraine*, to which it makes a fine companion, though superior. Right on one front of the house is a floriferous bed of Cannas, including General Meribel, rich orange; Martin Cahuzac, 3 ft. to 6 ft. high, and covered with large, brilliant crimson flowers; and edged with the showy and dwarf *Koengin Charlotte*. The crimson variety is a particular favourite of the owner. At right angles to the Cannas is a fine mass of *Eulalia japonica variegata*, and *E. j. zebrina*. Near a dividing hedge is a charming circular bed of *Lobelia Carmine Gem*, and another of dark-flowered, seedling *Heliotropes* raised here. In the centre of the

grass a hexagonal tank is filled with hybrid Water Lilies, flowering freely, in yellow, white, scarlet and rosy-salmon varieties. The bays of the tank, outside, are filled with dwarf, tuberous *Begonias*, flowering profusely. A vase elsewhere is filled with a double variety of *Begonia boliviensis*, having pendulous, salmon-pink flowers, with loosely arranged petals, and very suitable for basket work. It rejoices in the name of *B. erecta panachée*. Here and there are young trees of the lovely blue-foliaged *Cupressus arizonica*.

The glass-houses contain many interesting subjects, including the rich collection of hybrid *Anthuriums* still flowering more or less, but now about to be repotted. *Ixora macrothyrsa* carries a truss of scarlet flowers 12 in. in diameter. Many superb varieties of *Bertolonias* have made splendid growth, and the foliage is richly coloured. *Gynierium Van Geerti marginatum aureum* is a golden edged variety of the Pampas Grass. A house is almost entirely filled with white-flowered varieties of *Anthuriums*. A seedling from *A. rothschildianum*, raised here, has the whitest flowers we have seen in this particular section.

The conservatory or greenhouse is filled with a variety of subjects, the roof being draped with scarlet and white *Lapagerias* in full bloom. A beautiful old-fashioned subject is *Crowea latifolia*, with large, rosy flowers. Here also are hybrid *Streptocarpus* in great variety; *Exacum macranthum*, with large Gentian-blue flowers; and the new and singular-looking *Begonia venosa*, rough as a bear's shaggy coat. In fine form are *Asparagus Sprengeri*, *A. retroflexus* and the well-known *A. plumosus*.

Mr. W. H. White, the skilled and enthusiastic Orchid grower, being from home, we were put in the hands of his deputy to be conducted through the Orchid houses. This is the quiet season for the Orchids, nevertheless we found a considerable variety of choice things to entertain us. A strange and uncommon thing is *Bulbophyllum mandibulare*, with fleshy flowers, brown petals, and paler sepals, the lateral ones being connate. An uncommon variety of *Laeliocattleya schilleriana* was also in bloom. The sepals and petals of a form of *Laelia superba* were dark purple, and the lip of a rich crimson-purple. The summer-flowering *Miltonia spectabilis moreliana* may be seen in several forms, of which one has intensely dark sepals and petals. A graceful thing is *Coelogyne Veitchi*, with drooping racemes of pure white flowers. Very interesting also are *Burlingtonia decora*, with white flowers; *Epidendrum xanthinum*, having a short, dense raceme of golden-yellow flowers; the blue *Dendrobium* (*D. Victoriae Reginae*) flowering freely on a raft and making good growth; *Laelia pumila*, characterised by a yellow disc, while *L. p. dayana* is distinguished by deep purple ridges on a white disc; *Cypripedium radiosum superbum*, having two of its scapes bearing twin flowers; *Coelogyne speciosa*, always in bloom; and *Oncidium lanceanum*, with richly spotted sepals and petals, a mauve lip and violet base. *Epidendrum sceptrum* is like a small *E. prismatocarpum*, with a richly spotted lip; while *E. Berkeleyi* is a hybrid between *E. stamfordianum* and *E. o'brienianum*, with red flowers and a rosy lip. The flowers of *Sobralia liliastrum* are white, with a yellow lip, and small for the genus, yet sufficiently large to be conspicuous.

The smallest of the *Laelias* we know, and one of the rarest, is *L. monophylla*, bearing a small, scarlet flower on each short stem. A quantity of *Cypripedium Charlesworthii* is throwing up flower scapes and will flower before the autumn is far spent. Of the New World species *C. conchiferum* is one

of the prettiest, the straw-yellow flowers being spotted with brown at the mouth of the pouch. *Oncidium longipes* is naturally dwarf, but is here taller with more numerous flowers than usual. A small piece of *Odontoglossum aspidorhinum* carried nineteen spikes of its flowers, which remind one of a large form of *O. constrictum*. The yellow sepals and petals, and golden lip of *Oncidium cristatum* are both distinct and pretty. The Bee Orchid (*Oncidium dasylepis*) is also in season. The huge white flowers, especially the great expanded lip of *Catasetum Bungei* are much larger than we have hitherto seen them. The celebrated collection of *Calanthes* is just finishing up splendid pseudobulbs in many cases, so that a fine treat is again in store for the public at some future Drill Hall meeting in winter. Two houses are largely occupied with them; and some of them are already showing their flower spikes. A pretty little Orchid, though large for the genus, is *Polystachya lawrenceana*, with yellow flowers, and a pinky-white lip. *P. odorata* alongside of it has small yellow flowers. *Microstylis bella*, with dark purple flowers and a deeply fringed lip, may be described as one of those miniature pets which find a friendly refuge at Burford Lodge. In the same house is a tank worthily filled with a large pan of *Ouvrirandra fenestralis*, the Lattice Leaf Plant, in first-class condition. Very rarely do we see it in such healthy form as it is here.

Passing on we came to a fine batch of *Dendrobium Phalaenopsis schroderianum*, in many beautiful varieties, and flowering freely. *D. formosum* added its quota to the general display. *Phalaenopsis grandiflora* carried huge white flowers with a conspicuous yellow disc. About fifteen to twenty flowers were borne by *Trias disciflora*, spotted with crimson on a pale yellow ground. A fine hybrid is *Cypripedium ashburtonianum expansum*, freely spotted on the large dorsal sepal. A fine variety of *Cattleya Acklandiae* is also in bloom, the sepals and petals being handsomely blotched. The neat form of the flower, and the dark blue lip of *Zygopetalum maxillare* are very attractive. Along with *Prominea citrina* was *P. stapelioides*, both in bloom, the lip of the latter being velvety black, with a purple edge and the whole not unlike a *Stapelia*. *Masdevallia infracta rosea* (the first of the genus introduced), *Odontoglossum biconense album*, and *O. Uro-Skinneri* are also in bloom. In the next house entered *Cypripedium niveum*, *C. concolor*, the hybrid *Lawrebel* (raised here), *C. javanico-superbiens*, and *Habenaria rhodochila*, an exotic species allied to our native Butterfly Orchids, but having an orange-scarlet lip, were all uncommon and interesting subjects.

Passing on we came upon *Cypripedium Exul*, *Epiphronitis Veitchi*, *Trichopilia Lehmanni*, with large, white flowers, and *Maxillaria striata grandiflora*, strikingly striped with reddish-brown on a yellow ground. The collection is rich in *Coelogyne*, this house containing flowering samples of *C. barbata*, *C. fimbriata* and *C. fuliginosa*, bearded and brown. *Oncidium*s include *O. incurvum*, *O. sphacelatum* and *O. Kramerianum*. Very pretty is *Dendrobium longicornu*, with its white flowers and salmon-orange throat. The *Eucharis Dendrobe* (*D. Dearei*) owes the name to its green throat. An uncommon *Cattleya* is *C. speciosissima*, having soft pink sepals and petals, and a dark crimson-purple lip. *Cypripedium calurum* is a hybrid with a purple lip and rosy sepals and petals. The cool *Odontoglossum* house is quite a recently built house standing apart from all others of the range. The plants are mostly of recent importation, but many are flower-

ing, particularly varieties of *O. crispum*. *O. harryannm* is finely coloured of its kind. *Oncidium crispum*, with a panicle stem, 3 ft. high, is preparing to bloom. The same may be said of *O. varicosum*, 3 ft. to 4 ft. high. Even Orchid growers must admit that the above constitutes an excellent list of species in bloom at this, for them, dull period; and many are very uncommon.

Appointments.—Mr. J. Whytock, gardener to Earl Fitzwilliam, Coollatin Park, Shillelagh, is the fortunate candidate for the vacancy of Dalkeith Palace Gardens, lately directed by Mr. Malcolm Dunn. Mr. F. Edwards, some time foreman at Bushy House, has been promoted as head gardener to A. Thompson, Esq., Mymwood House, Hatfield. Mr. F. Dunn, bailiff and gardener for the late Sir Francis and Lady Truscott, at Oakleigh, East Grinstead, Sussex, has been appointed sub-agent on the estate of the Hon. Dudley H. Ryder, at Westerbroke Hay, Hemel Hempstead.

Tropaeolum speciosum is the glory of many a shepherd's hut just now in the Perthshire Highlands, far up the lonely glens and miles from anywhere.

The Crimean Lime (*Tilia petiolaris*) is still in full bloom in Killin, N.B., whereas at London it flowers in July. A large and handsome specimen in a villa garden is feathered to the ground.

Messrs. Stevens & Smith.—We understand that Mr. J. C. Stevens, who has carried on business for many years at Stevens' Auction Rooms, 38, King Street, Covent Garden, London, W.C., has taken into partnership Mr. D. Pell-Smith, who for some years, and until recently, has held a responsible position with Messrs. J. Veitch & Sons, Nurserymen, Chelsea. The horticultural branch of the business will now receive more particular attention than was formerly the case; and this department we believe will be taken in hand by Mr. Smith, who has a wide experience in all that pertains to nursery and garden work and business.

Wirral and Birkenhead Agricultural Society (next year's show).—At a meeting of the Executive Committee, held at the society's offices to-day (Tuesday, September 12th), it was unanimously resolved, on the motion of the President (Mr. W. H. Lever), to recommend to the Executive for next year that the show be held on August 3rd, 4th and 6th, being the Bank Holiday and preceding Friday and Saturday.

Our Yield of Wheat.—Thirty years ago, says *The Farmer's Gazette*, the average price of English Wheat was 63s. 9d. per quarter. In 1894 the average had fallen as low as 22s. 10d., and although this year there has been a slight recovery, and the average is likely to come out at something over 30s., it will be seen that in comparison with the good old times present prices are not by any means encouraging. It was not until 1894 that the average price of English Wheat had fallen under 40s. per quarter. Last year's yield of 34.74 bushels per acre was the largest crop of English Wheat grown for over twenty years. The nearest approach was in 1896, when the average yield amounted to 33.68 bushels per acre. In 1895 the yield per acre fell as low as 26.23 bushels, and in 1893 to 25.95 bushels, so that there was an increase last year of 8.79 bushels per acre—a very substantial one.

The Biggest Thing in Wheat Fields.—California is said to have the honour of possessing the largest wheat field in the world. The field in question is a little over six miles square and contains about 25,000 acres. An interesting calculation gives that to plough it, taking a two-foot furrow, the plough would have to travel nearly 100,000 miles. Travelling at the rate of twenty miles a day, exclusive of Sundays, it would take over sixteen years to complete the operation. The owner of the farm containing this mammoth field has over a 1,000 horses at work and considering the amount of work to be done this would not appear to be one too many.

Basic Slag greatly assists the Clover in lawns and, of course, also aids the grass. It supplies two most important soil ingredients, namely, lime and phosphoric acid. The clover, through the medium of its root nodules, assimilates free nitrogen from the atmosphere, and, say, from an application of basic slag, a third and greatly needed element is gathered for use. Three cwt. per acre is the quantity generally used.

Mr. Herbert Spooner, lately a Chiswick student, has been appointed to a charge at Kew.

Weather in London.—No more rain has fallen. The weather is, however, much cooler and has continued, more or less, dull. Indeed, so cold have one or two days been, that overcoats are again requisitioned. Saturday was the brightest day. Tuesday, September 12th, was bright.

A Norfolk Correspondent asks us for the address of the secretary of the Royal Horticultural Society's office. It is 117, Victoria Street, Westminster, and catalogues of the R.H.S., Crystal Palace Fruit, or other large shows, may be applied for at this address.

United Horticultural Benefit & Provident Society.—The Annual Dinner of the above society will take place at the Holborn Restaurant, High Holborn, W.C., on Thursday, October 5th, at 6.30 p.m. W. Y. Baker, Esq., has kindly consented to preside on this occasion.

Open Spaces.—The area of open spaces in London, which has been doubled within the last ten years, now amounts to 3,753 acres.

Agave americana.—Notable cases of this plant's flowering are not rare, yet they are generally taken note of. In *American Gardening* for August 12th, the photo of an excellent sample of this, the Century Plant, appears. The flower stem is 25 ft. high with a girth of 14 in. at the base. It carries twenty-five trusses of bloom. A short while ago the leaves from tip to tip, when stretched horizontally, measured 16 ft. An old observer of this plant tells of it having been a monster in size some sixty-five years ago during his own boyhood. But the plant is now fast declining and will soon be dead.

New Daffodils for 1899.—Those who have seen the exhibits of the beautiful hybrid *Narcissi* made by Rev. G. H. Engleheart at various of the spring meetings held by the R.H.S. in the Drill Hall, Westminster, will remember appreciatively their purity and loveliness. Messrs. Barr & Sons, King Street, Covent Garden, have, we note from their Daffodil Catalogue now before us, secured the complete stock of some of the best varieties raised by Mr. Engleheart. The names of the most recent of other hybrid *Narcissi*, in all sections, such as Duke of Bedford, the largest trumpet "Daff" there is; Ray Smith, a rich yellow trumpet variety, the Twins (*Tridymus*), and others are also among their list of new Daffodils for 1899.

A Farmer's Cruelty.—On Thursday, September 7th, at Mansfield, a farmer was fined for cruelty to geese. He had put quills through the nostrils of the birds in order to keep them out of the cornfields.

Growing for Exhibition.—In a little article on the above in *American Gardening*, the attention is called to such facts as fineness of form, smoothness and good colour as well as firm substance in such crops as Parsnips, Carrots and Salsify, to be the aim much rather than mere size and bulk. Crops to secure these points must have a well-mellowed soil to grow in, and one which has been previously enriched by good manure and moisture, which must always be abundant.

Carnations.—In America, where Carnation culture is so ubiquitous, we yet find, after all is said and done, that the larger part of their fine formed and brilliantly coloured varieties are without fragrance. They have yet something left to strive for.

Mode of Getting Rid of Snails.—The creatures are passionately fond of bran. When this food is placed out for them they leave it as seldom as possible, and when they do retire for a time, they return more eagerly to again feed on it. This suggests a mode of freeing any piece of ground of the pest. You have only to place over little heaps of bran pieces of broken pipes, or pots, or vessels of any kind, which may shelter the food from the rain, and your work is done. The snails will congregate below, and you can in a short time destroy vast multitudes of them. —*Annales des Jardiniers Amateurs.*

Sentiment.—

Plough Deep!

Sow not thy precious seeds
Among the scarce uprooted weeds,
Or thou shalt weep

To find thy crops all choked and dead,
And nought but Thorns and Tares instead.

Then plough down deep,
The promise ringing in thy ears
That those who sow their seeds in tears
In joy shall reap.

—A. G. Evans, in "The Canadian Horticulturist."

Poignant Hints.—A contemporary says that "keeping the paths wet, the plants watered, weeds down and yourself cool are the chief occupations for the present." The same paper cites a case of "How not to hoe." Having engaged a man (one who had worked for years in public parks and gardens) his progress was observed. "He handled the hoe as a country school madame handles a hay rake—body perpendicular and sideways, and the left or lower hand guiding the hand betwixt the index finger and the thumb, precisely as an expert billiardist poises his cue. This is all right for sun-bonnet and petticoats, but a poor apology for hoeing by a gardener." What is wanted is to clear off weeds and to loosen the soil.

Ontario Fruit Exhibit at Paris.—Canada wants to have a creditable display of fruits at the Paris Exposition next year. With the aim of carrying out this desire Mr. McD'Allan, Superintendent of Horticulture for Canada, is now doing his utmost to get at least 1,000 bottles of tender fruits, from the province of Ontario, secured this summer. During this autumn many fruits, such as Apples, Pears, Grapes, are to be sent to Paris and kept there in cold storage. All the great fruit growers and members of horticultural societies are to be invited to contribute, and it is expected that a good representation will be collected.

American Plant Notes.—Allen's Defiance Mignonette is shown in grand form in a recent number of *The Florists' Exchange*. The plants are grown by Mr. Charles Allen, Floral Park, N.Y. The flower spikes measured 10 in. to 14 in. in length on stems of 3 ft. Great care has been bestowed in working up what is now a grand strain.

TRIALS AT CHISWICK.

THE undernoted awards have been made by the Floral committee of the Royal Horticultural Society at the society's gardens, Chiswick, where the plants (Dahlias) have been grown for trial. Two meetings were held, one on August 25th, and the other on September 8th, when XXX (Highly Commended) was voted to the following pompon varieties:—

ADMIRATION.—A variety some 4 ft. high, vigorous and free flowering, the flowers being large, crimson, tipped with white, and well borne above the foliage. From Messrs. Cannell & Sons, Swanley; J. Veitch & Sons, Ltd., Chelsea; and J. Forbes, Hawick, N.B.

BACCHUS.—Over 3 ft. in height; a moderate bloomer, with bright crimson flowers which, however, are not well thrown up. From Messrs. Dobbie & Co., Rothesay, N.B.

ANNIE HOLTON.—About a yard high, with a compact habit and vigorous growth; a very free flowering variety, having crimson-scarlet blooms tipped with white. From Messrs. Cannell & Sons, Swanley.

GEORGE BRICKMAN.—This reaches to 4 ft., and has a splendid branching habit; bears freely, and has well formed white flowers, borne well above the foliage. From Messrs. J. Veitch & Sons, Ltd., Chelsea, and C. Turner, Slough.

IRENE (as a border flower).—Less than 3 ft. high, with a bushy habit and free flowering qualities, this rosy-purple, white tipped variety, is one of a very showy list. From Messrs. Dobbie & Co., Rothesay, N.B.; Cannell & Sons, Swanley; and Charles Turner, Slough.

HILDA (as a border flower).—This variety reaches 3 ft. but makes rather slender growth. It is moderately free flowering, the flowers being rosy-purple, heavily tipped with white. It is, however, variable. From Messrs. Dobbie & Co., Rothesay, N.B.; and Cannell & Son, Swanley.

ISEULT.—Another variety of slender growth, but flowers abundantly and bears them well above the foliage. Its deep yellow blooms are very showy. From Messrs. J. Forbes, Hawick, N.B.; J. Veitch & Sons, Chelsea; and Cannell & Sons, Swanley.

GRACE.—This goes to 2½ ft. in height, has a compact bushy habit, is free flowering and bears the peculiar red hued blooms well up. From Messrs. Cannell & Sons; and Dobbie & Co.

SUNNY-DAYBREAK (cactus).—In height it varies from 3 to 4 ft. The habit is bushy and the flowers are of excellent form, in colour yellow or light apricot. From Messrs. J. Forbes, of Hawick; and Dobbie & Co., Rothesay.

NANCY.—In height 3½ ft., bushy, very free flowering. The colour may be described as

orange heavily edged with red and flushed scarlet. From Mr. C. Turner, Slough.

VULCAN.—A beautiful rich crimson variety of very free flowering qualities. The blooms are handsomely raised above the foliage on stout stalks. A very brilliant addition. Messrs. Dobbie & Co.; and C. Turner.

PHOEBE.—This is a very showy orange-scarlet form, of bushy and compact habit, running to 3½ ft. in height. From Messrs. C. Turner, Slough; and Dobbie & Co., Rothesay.

OPAL.—The height of the variety is somewhat dwarfer than others, being about 2½ ft. It has all the qualities of vigour, compactness and erectness. The blooms are bright and clear yellow. From Messrs. Dobbie & Co.; and J. Veitch & Sons.

LITTLE SWEETHEART.—In height only 2 ft. but is very free flowering, flowers light red tipped with white. From Messrs. Dobbie & Co.

The following were certificated on September 8th:—

MARS (pompon).—Grows 3 ft. high, is sturdy, compact, exceptionally free flowering and with flowers of good form, borne on long stalks erectly. It is a very showy, bright scarlet variety from Mr. Charles Turner.

CAMELLAEFLORA (as a bedding variety).—Attains to 3 ft., is of sturdy habit, exceptionally free, with large pure white blooms. From Messrs. Cannell & Sons, Swanley.

LONDON PARKS AND GARDENS.

II.—HYDE PARK.

THERE is little need to tell that Hyde Park covers so many hundreds of acres, and has a great lake, The Serpentine, within itself, or bandstands, avenues, memorial statues, its Rotten Row, and many other attractions. Most people, even those from hundreds of miles off, have heard something about these. It is so conveniently placed at the back of Park Lane and Oxford Street, so to speak, and is bordered on all sides by the great arteries which flow out from London's heart, that one cannot wonder at its very liberal share of attention. It is a real pleasure to anyone with a meditative mind, or rather let us say, sympathetic heart, to go along the southern boundary of the park almost any evening of the week. The ground here is higher than any other part of the park, and here there is a great plateau bordering Park Lane, and screened from that pleasant thoroughfare, with its tall and elegant villas, by a continuous line of Plane trees and others, which are able to stand the fogs and smoke of the city. All along this part the choicest bedding is arranged, and, as already said, it furnishes typical sights. The clean shaven priest rubs shoulders with the workman who also is enjoying the evening air. Or the invalid and the nurse, the soldiers and the little children, ladies and gentlemen, they all are there.

There can be little value in enumerating how each bed is filled and what with; but as some of the choicest combinations and some of the handsomest plants in any bedding are to be seen in the London public parks, it may be of use to our readers to have a few notes upon them. The beds are all laid in a setting of grass, and nearly all of them are large. For neatness and protection they are also hemmed in by low fences. In an oblong bed close by the Stanhope Gate, the Coral tree (*Erythrina crista-galli*) may be seen flourishing in a way that would make many with glass houses envious. For a neat, round corner bed the salmon-pink zonal *Pelargonium* King of Denmark, and dot plants of *Trachelium caeruleum*, a graceful thing; edged with *Emperor William Lobelia*, are very suitable.

Then again, one may see great massive bedding in which breadth is given, and also much variety. Tall *Nasturtiums* are trained in among *Pelargonium tomentosum*, which rises in dense forms to 3 ft. or so; *P. Radula*, the major, and minor forms; dwarf pompon *Chrysanthemums*, *Iresines*, and *Heliotropes* as standards; and below these is *Pelargonium Eleanor*, a bright scarlet variety, the whole edged with *Lobelia Snowball*.

In another of the same form was noted the tall *Eucalyptus globulus* (Blue Gum-tree), *Epilobium angustifolium*, and *Fuchsias*, all being edged with *Alternanthera magnifica*.

Between the beds, are dot plants of *Chamaerops humilis*, *Phoenix canariensis*, *P. rupicola*, and

Araucaria excelsa, which, when grouped as at Hyde Park in knots of half-a-dozen on the face of the sloping grass banks, they give a most furnished and proper effect. A good effect was obtained from the union of *Plumbago capensis* with its pale caerulean trusses, and lower statured *Ivy-leaved Pelargoniums*. *P. Abel Carrière* a shade of rosy-mauve with other brighter forms of the same are used as a carpet. The green leaves and white flowers of *Nicotiana affines* contrasted well with the *Iresine Herbstii*, and the grounding of *Begonia Carrière*, with an edge of *Alternanthera aurea*.

Carpet-bedding is greatly deprecated by a great many people. It will often be found, however, that a person's views are swayed by one powerful writer who, from his eminence urges his convictions. Those whom he schools, or very many of them, accept his arguments without giving them one digestive turn, and very soon they wean themselves from ideas they once enjoyed and acted upon. It is so with carpet-bedding and bedders. Very many will say it is worthless, or at least too expensive to remunerate the trouble, &c. Well, if we are to have gardens at all, let us have variety, and according to circumstances let the variation be as multiplex and valuable as possible. The two carpet beds in Hyde Park are models of neatness, accuracy, and tasty colouring. They are oblong with rounded ends. These beds are too intricate to be described fully within the space at command. Scroll work and rounded lines are sharply joined to the angular prominences of both sides, the sides, or indeed any one part, being duplicated exactly opposite. Depressions and mounted tracings are modelled in the inner area of the bed. Exactly in the centre of the bed there is a suitable sized little Palm (*Kentia*), (and in the corresponding bed, a *Latania*), with branches of a cross outwards from it. Then follow paneling of various *Alternantheras*, carpetings of *Leucophyton Brownii*, *Antennaria tomentosa*, *Herniaria glabra*, and glaucous lines or walls of *Echiveras*. *E. metallica* is used as a dot plant and so with *Yucca aloefolia*, *Cotyledons* and *Acorus gramineus*. They command much attention. Exactly opposite these beds in a great sheltered hollow the *Banana* (*Musas*) stand out during summer, and with them many sorts of Palms, *Eucalyptus globulus*, *Phormium tenax variegatum*, *Bamboos* and the like. A strange and pleasing union was that of *Celosia plumosa* (red) and *Lilium speciosum* (*lancifolium*), *rubrum* with an edging. In many other corners of the park the free or gardenesque system of bedding has been becomingly adopted.

The management, of course, rests with Mr. Browne the superintendent who, in so dry a season is yet able to give the public a great deal of real beauty.

GARDENING MISCELLANY.

CACTUS DAHLIA, STARFISH.

If we are to have flowers let them be bright and cheery. The undecided trees or the murky, dull hued Dahlias so often seen are not to be tolerated beside such colour as the glorious rich crimson of Starfish. It is graceful, free, and of good habit, not apt to bury its flowers with its foliage. Colours like this are best not mixed or contrasted with those from blooms of other varieties. Not to say that a lighter shade of the same colour would not be an agreeable hue, if intermingled; but too many and varied colours clash, and spoil the concentration of interest which ought to be given to each. It is one of the foremost cactus varieties.

SAXIFRAGA SARMENTOSA TRICOLOR SUPERBA.

BEAUTIFUL little plants of this *Saxifraga* were shown recently in London by Messrs. John Laing & Sons, of Forest Hill, S.E. The general type of the plant closely resembles the common *S. sarmentosa*, only that the foliage is softly tinted with pink, and cream, and shades of green. Indeed, the handsome little plants much resemble a silver tricolor *Pelargonium* with a cheering suffusion of warm pink hue. It is not difficult to cultivate, nor to keep in condition, and propagates easily. It is suitable for a cool conservatory.

HINTS FOR AMATEURS.

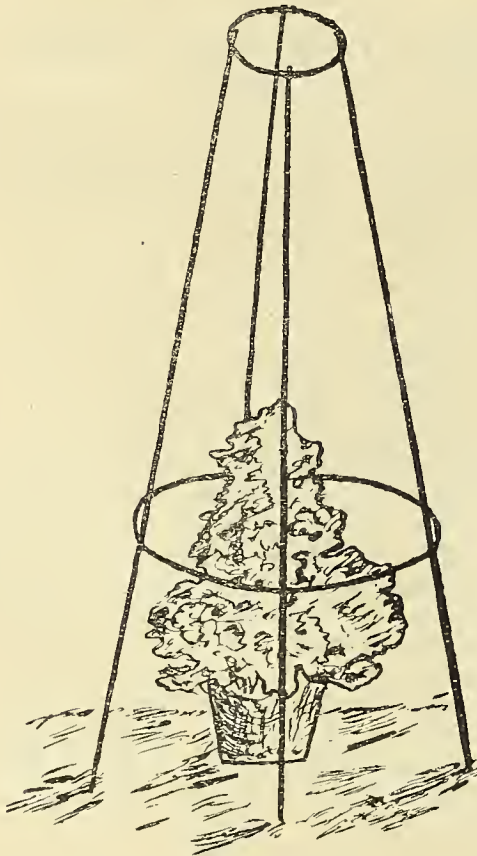
The Culture of Nerines.—The flowering season for the majority of these beautiful Cape bulbous plants is just approaching. No class of plants are finer in their season, and their culture is simple enough for anyone to try them. At the end of November, when the flowers are practically gone, till the time when the foliage begins to die off, say in March and April, give them very liberal treatment. They grow actively after flowering if they are placed in a house with a temperature of 55° as a minimum, and up to so much as 85°, with sun heat. In any case maintain a temperature ranging between 55° and 60°. During growth they must also receive all the light possible. Knowing this, the careful cultivator will give them a place on a shelf near the glass. Another point worthy of notice, is that they flower best when their roots are pot-bound. This of course applies to many bulbous members of the Amaryllideae, and the brilliance of the flowers is also noticeable under such conditions. Top-dressing, then, becomes the next best means of supplying new nourishing soil. Gently prick the surface soil and shake it out, to the depth of one inch at least. Then mix up a rich compost of loam and leaf-mould, some dried natural manure, with charcoal, and sharp sand. Firm this evenly, in place of the quantity which you scraped away. Leave a decent space for water. This top-dressing can be done about the beginning of August when they are being taken in to be started. From the time the foliage dies down till about August, the pots should be placed in some warm, sunny part, and shaded from heavy rains. Light showers will not have the effect of starting them, but it is certainly advisable to prevent their being soaked. The sunny haking and drying after the feeding and plumping up, corresponds to their natural treatment in their original habitats. The Guernsey Lily (*N. sarniensis*) is a beautiful and well-known species of a pale pinky-salmon colour; *N. flexuosa* is rose and pink hued, and very graceful. There are, however, many fine species or varieties. They are propagated from offsets which may be treated and grown in the same way as established bulbs.

Everlasting Peas.—The roots of the Everlasting Sweet Peas go deep down and are able to bloom far more freely during a dry season such as this has been, than the annual Sweet Peas. No one, either, can doubt their blooming powers and richness of the same. But probably the strongest point of all with the amateur gardener who wants beautiful flowers without having to do much or anything to produce them, is the fact that they need only to be sown or planted once, and unless from accident or other cause, they do not exact any further attention, more than that of applying some nourishing stimula once a year. The more blooms that one takes from such plants the better, for it saves any waste of energy the plants might expend in the swelling up of seeds. The roots may be planted at the base of trees, to be draped around them during the summer. Or they may be planted by the side of a sheltering wall or house, for the future adornment of the spot. The old *Lathyrus latifolius* is one of my grand old garden favourites. *L. rotundifolia* is a very fine species of an ochre-red colour, very handsome from a distance. The white Everlasting Pea was much loved by an old friend of mine for use in making wreaths, and from the few plants he grew he could gather an astonishing amount of useful trusses. To get this variety true, it is necessary to propagate it by division. Indeed it is a capital plan for securing a good stock and getting them to start well, if all are so propagated. Seeds may be sown in early Spring, or plantings of the roots any time from the period that the year's growth has withered, until it begins to move again in Spring. They make fine clumps after a year or two.

Protection for Plants.—There are very many plants, shrubs, &c., which, in sheltered and favourable places stand the average British winter without taking harm. They are hardy, conditionally. This is rather an awkward constitutional state and keeps the cultivator of such plants for ever in an uncertain mind about their future or their applicability for purposes desired by him. The rough sketch shown above depicts a simple contrivance to form a frame, around which any suitable protective material may, in a few minutes, be wrapped. The making of

such frames resolves itself simply to the tacking of a few strong stakes or laths to the inner sides of two hoops. The lowermost hoop, as shown, is about twice and a half as wide as the top one. Any width and any height can be arranged for according to need. The same sort of frame can be used for shading purposes. Those who may wish to carry some half-hardy plant or shrub through the winter should, before frosty weather approaches, lay plans for getting these needful laths and hoops to hand.

Present Work.—The early Chrysanthemums, which are at present outdoors, should be taken into the greenhouse directly the buds are of sufficient size. Sometimes with bush Chrysanthemums the buds are just a little bit too crowded, and have to be carefully thinned. It does not do, however, to take away any more buds than is necessary to allow the expansion of those remaining. Big blooms are all very well for men who want to capture some prizes at a flower show, and also in some forms of decoration, but the amateur would do wisely were he to confine his time and space to the all-useful bush Chrysanthemums. So much has to be found out about what bud to select and leave, and when to do it, how to time the plants to get them to throw buds at the proper time, &c., if the very finest blooms are wanted. If the amateur gardener really wants to specialise the Chrysanthemum for high culture there are any amount of books and works written by



experts specially upon this plant. Anyone of these we might recommend to amateur Chrysanthemum lovers.

After the bush plants have flowered, and a succession can be kept up till Christmas, the plants should be placed in some cool house with good light to stand until the following year's cuttings have been taken. The white and yellow Desgranges, La Verge, the old Virgin Queen, Miss Massey, and others can be kept for planting out in the open border. Everybody is now busy getting in their Pelargonium cuttings, their Calceolarias, Violas, &c., and laying plans for lifting and potting other tenderer plants to keep them under glass through the winter.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Making Asphalt Paths.—*Jas. T.*: We hope to have an article on the making of various kinds of paths in one of our issues in the near future. Take out a trench the width you wish your walk to be. Make this a foot or one and a-half feet deep. Make the base firm and slightly concave, then fill in to within 4 in. from the top with hard stones. Give a layer of finer stones over the surface and then lay

about 2 in. of gravelly concrete over this, after which your pitch, sand, &c., may be spread over the top.

Orange-fungus on Roses.—*R. Johnstone, Perth*: We have seen a good deal of this pestilential growth during the present summer. Pick off and prune away all the shoots and burn them. The following solution may be syringed over the bushes:—Hellebore root, 4 oz. per half-gallon of water and add half a drachm of bichloride of mercury dissolved in a little spirit. Add the whole to half a gallon of lime-water.

Ixia viridiflora.—*J. Arthur*: This is not at all a new species, for it was introduced so long ago as 1780. Its colour is a most peculiar blue, reminding one of some gaudily dyed ribbon. Light lead-blue might be used to describe it. For decoration, when used alone, or with some erect and sharply cut white flower, amid Asparagus, the effect is more than merely charming, it is perfect. They are easily grown in the same way as for Freesias.

Shelter Plant.—*J. Earnock*: *Thuopsis Borealis* is a very suitable plant for this purpose. You can trim it in without any harm accruing. This should be done during the present month. This Conifer (also known, and properly, as *Cupressus nootketensis*) makes a good hedge plant.

Making Tobacco.—*S. R.*: We do not recommend you to try it. Some twenty or more years ago it was tried on all the approved principles known, but the manufactured article was so strong and vile that no one could smoke it. We have not the proper climate and do not know enough of the peculiar manurial nourishments needed, or the proper varieties of *Nicotiana* (Tobacco plant), to be able to produce "the weed" in a fit state to manufacture for smoking.

Puddling a Pond.—*R. S., Wakefield*: Yes, water is always a luxury, in broad expanses such as you picture. You must put in a deeper layer of the clay. Try to drain off the water this winter, and, after laying planks over the rather soft bottom, proceed to "spud" the clay as you line the bed. Do not let it crack before flooding it. This is often the reason why Reeds, Bullrushes, and other water-plants are so much used in some places.

Cropping fruit Borders.—*Quiz*: Try to avoid any tall-growing plants. We know that many, both professional and amateur, are obliged to do that which they know is a faulty practice. The borders for fruiting trees should be free for a few feet, at least, even for the smallest tree, and more according to greater size.

Coarse Grass on Lawn.—*G. S., Earlstoun*: The weed sent is that of the Cock's-foot Grass (*Dactylis glomerata*). Yours may have come from seeds carried by the wind from neighbouring pastures or hay fields. We should recommend hand-weeding, as by far the simplest and most radical method of dealing with this plant. It does very much disfigure many lawns. The tall dark flower spikes, where it gets leave to throw them up, are rather handsome.

Bouvardias.—*Sermon*: Transfer your plants from the present quarters in the frames to a nice mild greenhouse. Some of the looser outside shoots may be lightly fastened with twisted matting to a stout little stake in the centre. They should be carefully looked over in case of insect attacks. Liquid manure may at times be given. You may cut them back after flowering is past.

Climbers for End Walls of a Lean-to House.—*O. H.*: We presume that your heated house has a temperature similar to that of a greenhouse. If so, the following would grow quickly, flower freely, and soon cover the wall:—*Passiflora caerulea* (blue flowers), *Tacsonia Van Volxemii* (deep red), *Solanum jasminoides* (white flowers in profusion), *Habrothamnus elegans* (rose-purple), *Abutilon megapotamicum variegatum* (yellow and red with variegated foliage), *Clematis indivisa* (white), *Clianthus puniceus* (scarlet), *Bougainvillea glabra* (rose), *Lonicera sempervirens* (scarlet), *Pleroma macranthum* (violet purple), and various others. The

above list is rather a long one, but all are very useful greenhouse climbers, most of them being evergreen. They flower very freely if you allow them to run up a good height and get strong. If we knew what sort of flowers you favoured more particularly, we could reduce the list to any number you liked. The flowers are large enough or in sufficient abundance to be conspicuous and showy. You speak of good size foliage, but we are not sure if you really mean large leaves. All of the above have moderate sized leaves, but plentiful. You would have larger leaves in *Magnolia grandiflora*, and leathery leaves in *Camellias*, but they grow more slowly. Some of the above would be better, but you can write again if in doubt about anything.

DENDROBIUMS AT THE WOODLANDS.

ALL the leading and even some of the less popular classes of Orchids are cherished by R. H. Measures, Esq., The Woodlands, Streatham S.W., who takes

DUNECHT HOUSE, ABERDEENSHIRE.

THIS, the palatial residence of — Pirrie, Esq., at one time the property of the Earl of Crawford and Balcarres, is about twelve miles out of "the Granite City." It is one of the finest and most extensive family seats in the county.

Having met Mr. D. P. Laird in the city, both of us being appointed judges for the unfortunate flower show, he arranged a tour to Dunecht House, as our services at the show were unhappily not required. Your readers are already aware of the calamitous fate of the Aberdeen show from your record of it in a recent leader. Upon this subject I have nothing further to add than that the devastation which met our eyes on entering the show grounds on that ill-fated morning, was pitiable in the extreme. Plants, fruits, vegetables, and flowers were mixed in one confused heap of destruction, so complete that it was entirely a hopeless case to bring anything out of the chaotic mass.

time till't," fully convinced that she had arrived there. This simple incident is a common bye-word among the northern inhabitants far and near.

The entrance to Dunecht is very imposing. The carriage drive is two miles in length, and is spanned by an iron viaduct, 150 ft. long. The drives themselves, on account of using them indiscriminately for the carting away of the large quantities of trees blown down by the great storm of November, 1893, are meanwhile under repair, and we were told they would cost something like £4,000 to put them right again. The drive all along is beautifully arranged with all kinds of ornamental trees and shrubs, and shows where the art of the landscape gardener was at work in by-gone times. The mansion house is a magnificent building, and cost the late Earl about £150,000. The grounds are proportionately large, and in character and conformation they are all that is desirable for a residence of the first quality. A short distance from the house two small lakes



DENDROBIUMS AT THE WOODLANDS.

an intense interest in this grand order of plants. The accompanying illustration shows a house of Dendrobiums, which are chiefly suspended from the roof, however, so that the lower portion can be occupied with Anthuriums, Ferns, and other fine foliaged plants such as are generally cultivated in the stove. The long stems of the Dendrobiums show that the gardener, Mr. J. Coles, understands their cultivation, as well as that of the *Cypripediums* figured in Vol. XV., on p. 823.

The photo was taken by Mr. S. E. Pollard, 133, High Road, Streatham, S.W., and though not in the competition, was yet amongst those shown at the "One and All" exhibition of horticultural photographs, Long Acre, London, and the other week at the Crystal Palace, Sydenham, in connection with the National Co-operative Festival.

In America good authorities predict another short crop with high prices for Beans.

To reconstruct a show, the Aberdeen nurserymen very kindly refilled the new marquees which the energetic committee re-erected, and the public were to a certain degree thus recompensed.

As already stated, on the invitation of Mr. Laird, seeing that our services were unnecessary at the flower show, we started for Dunecht. This trip was of great interest to me as a period of my professional career was spent there in early years, and not having the same opportunity for many years to revisit the grand old place, it was assuredly with a feeling of keen delight that I accepted the invitation.

On the way out, the journey is full of interest. The famous Loch of Skene, nine miles from town, is passed, to which is attached at least one laughable legend. An old woman from the higher regions was once upon a time travelling to Aberdeen, a place to which she never had been before. On reaching the shores of this large sheet of water (Loch Skene) she said to herself, "Aberdeen! an'

appear in the view, and make a feature which always lends a charm and is an added luxury to every gentleman's seat. The grounds are also throughout teeming with fine specimens of deciduous and other trees. Among these there are some grand trees of the beautiful Silver Fir, besides which are some fine trees of *Wellingtonia gigantea*, which, for symmetry and robustness, could scarcely be equalled.

Mr. Pirrie, as is well known, has only recently purchased this estate, and consequently has had little time to renovate it. Much has to be done on account of the long time it has been standing in an unkept state. The heirs of the late Earl never cared to inhabit the place since the family vault was desecrated and the late Earl's body was carried away, some years ago. There is now a beautiful monument erected on the spot where the Earl's body was found.

Mr. Pirrie is, we understand, purposing to make several important improvements on his new estate,

and the gardens most likely will share handsomely in the well expended money. Meanwhile, artisans are busily engaged in putting heating apparatus into the house, three large American hot water boilers being required for this.

We were courteously received and shown over the place by Mr. Foster, the head gardener, who has lately entered upon his duties here. He came from England and has had a wide experience of his profession, and from what we saw of him we have no hesitation in saying that Mr. Pirrie has been fortunate in securing the services of an able and intelligent gardener. His propositions in reference to the renovations of the gardens were those of a man of wide experience and matured reason, and we have little doubt that at our next visit, many, if not all of them will be carried into effect.

Mr. Pirrie is exceedingly fond of his garden, and Mrs. Pirrie likewise takes more than a general interest in horticultural matters, a fact that argues well for a large extension of the glass structures of the place.

It is noteworthy to refer to the abnormal crop of Strawberries we saw there. Plants of Vicomtesse Hericart de Thury were actually surrounded with heaps of berries, inches in depth. We never saw a crop like this anywhere before, and especially at such an advanced time of the season as August 8th.

Aberdeenshire, as well as other northern counties, produces very fine late and early Strawberries. It is possible to maintain a succession of this fruit for three months, provided a judicious selection of kinds is made.

After spending a most enjoyable day we returned in the evening to the city, with the feeling that not only was the time well spent and profitable, but with a deep sense of gratitude to Mr. and Mrs. Foster for the courteous manner in which we were entertained.

—*Jas. Moir.*

Kitchen Garden Calendar.

We have now a little more congenial weather, and though the rainfall has been but slight, one can see a great difference in vegetation, for the slight showers have moistened the surface and the scorching rays of the sun are less penetrating. Should the autumn be a mild and favourable one, many of the late crops have still time to make some headway, therefore, every encouragement should be given them. Where Borecole and Savoys still remain in the seed bed or where they have been pricked out, these should be transplanted with every care, as possibly there will be a great scarcity of green vegetables in spring, particularly should the winter be severe. Better have small supplies than none, therefore, anything that can be done to promote growth should not be neglected. A good breadth of early Cabbage should be got in as these may be cut as soon as the hearts commence to form. If planted about nine inches apart, each other may be cut when small, allowing more room for the others to grow. Endive is a quick growing plant, and is often very useful as a vegetable, in addition to the important part it takes in our winter salads. Where sheltered borders are available these should be utilised for growing this crop, as it is unfortunately not hardy enough to withstand our winters, and will therefore need protection should the frost be severe. Corn salads, Winter Spinach, late Turnips, if sown now on good ground will give supplies in late spring. Celery is a very important winter crop, and one that cannot well be dispensed with, but unfortunately too many blanch the stems too early, thus rendering it more liable to suffer from frost. Celery is perfectly hardy until blanched, no amount of frost seems to injure plants that are left fully exposed. It is the feeding of them so as to produce extra succulent stems and the early blanching that makes them extra tender. The supplies for winter and spring use should not be earthed until there is danger of frost. We often have fine weather in the early part of November, when these late supplies should receive their final earthing. Late planted rows have not made much progress, these should, therefore, be assisted by the application of manure water. Many of our tender vegetables are liable to be cut down by frost at any time, protection should, therefore, be at hand in readiness. Late Beans on borders and those in cold frames will no longer be safe at night in low lying places, as such are more subject to frost than those on higher

ground. A sowing should now be made in a heated pit to give supplies during December. The lights ought to be left off in the daytime so as to keep the plants as dwarf and robust as possible. Cucumbers for winter use ought now to be put in their permanent quarters in order that they may get well established while there is still sufficient external warmth to allow of the ventilators being freely used in the daytime so as to keep the plants stocky. Mushroom beds ought now to be prepared in cellars or other places suitable, as the nights will soon be too cold for their growth in the open. Weeds are sure to grow apace if we get rain, and such must be got rid of before they seed. There is no better plan at this season of the year than to manure and dig all ground as it becomes vacant. Onions should be lifted and stored as soon as they become ripe, taking particular care to have them in a cool, airy place, that all superfluous moisture may be passed off as quickly as possible.—*Kitchen Gardener.*

A HORTICULTURAL TRADE SALE.

No doubt most of our readers have over and over again read the announcements of trade auction sales which the firm of auctioneers doing business under the well known title of Messrs. Protheroe & Morris, 67 and 68, Cheapside, London, E.C., frequently publish in the GARDENING WORLD and its contemporaries. The advertisements read "that Messrs. Protheroe & Morris will sell by auction at — Nursery, a fine collection of, or an enormous quantity of," this or that, and finishing up with — "by order of Mr. or Messrs." so and so, as the case may be. Well, just to find out for personal benefit and for the enlightenment of the "G. W." readers, a representative of this paper went to one of these sales (that of Mr. H. B. May's, at Upper Edmonton) last Monday, September 11th. Having arrived before 11 o'clock, at which hour all the sales begin, there was time to make a close inspection. The reporter was favourably impressed with the quality of the stock, and also its immensity. By and by the eleventh hour struck, and having collected a host of some seventy buyers the man with the hammer (Mr. William Protheroe) started business.

The plants for sale are previously ready staked and labelled, and grouped into batches of 6, 12, 24, or any other number. Intending buyers make it a point to thoroughly inspect all stocks before the sale begins, and thus it is with the utmost facility that batch after batch is put up and sold. A couple of plants as samples, where the "lots" run to a dozen plants, are held up so that all can view them. The merest glance is sufficient for the trained eye. A price is bid, an advance of a shilling may be made, and so on, till there is a halt of about two seconds, which the expert auctioneer regards as the limit in the bidding. Duplicate lots are taken generally without any further dealing by those who have been running up the bidding, but who stopped at a certain figure. In fact, it was noted that the bidding (where there are many lots of the same stuff and in the same numbers) is left to about three, and then, when the highest bid has been given, buyers come forward and pay the same money as the man to whom the first lot was knocked down. They do not compete in the bidding, but they come up to the last bid price all the same. This causes speedy demolition of the stock, and is a very beneficial method, I think, to all parties. The writer had had the idea that the profits resulting from such sales must be very meagre, and that only the quantity of the stuff sold made the business pay; but from conversation with an experienced dealer my opinion was altered. It has come to be recognised now that certain nurserymen hold auction sales at a certain period of the year. They do so every season and about the same time. They have thus gained the monopoly, and, of course, wisely keep it. The sales generally last from six to seven hours, the lots being disposed of at about the rate of 350 per hour. Mr. W. H. Protheroe invariably does the first part of the sale, and Mr. H. G. Morris the second. There would be little use in quoting prices, nor indeed have we space for this. Such good stuff as Mr. May had for sale will always go well, and the ready transactions seen during a short stay on Monday convinces the writer of this, that the producer, the seller, and the buyers had a common trust each in the other, and the memory of this horticultural trade sale has given me a pleasant impression which, it is hoped, will be lasting.—*G. W.*

FRUIT AT STOVER PARK.

MANY of the old Apple and Pear trees in the garden of H. St. Maur, Esq., M.F.H., Stover Park, Newton Abbot, Devon, were uprooted last winter in order to make room for young trees, so that little could be expected of them the first season, especially after such a summer of drought. The old trees still left, however, bear but a very poor crop compared with last year. Plums are in the same condition, but Peaches have borne heavily. Small fruits were also plentiful. Devon being a good hardy fruit county, the young trees will soon be in good bearing condition, so that the remainder of the old trees may be grubbed up, and the garden, both on the walls and in the open, will soon be entirely renovated.

Under glass, however, the fruit is more under the control of the gardener, Mr. A. McDonald, who is an enthusiastic fruit grower. About last Christmas the borders in one or two of the vineries were extended, and a great amount of fresh material added, with highly satisfactory results. One vinery contains good Vines of Muscat of Alexandria, to which a considerable amount of attention was given in the way of turfy loam, stable and artificial manure, all of which were mixed up in a compost and employed to extend the border, as well as to enrich the older portion. The results are now evident in the greatly enlarged size of the bunches and berries, so that the houseful of Muscats presents a very engaging appearance. The variety Mrs. Pince has also done well, and is expected to colour up well during the course of the autumn. It is an oval, purplish black Muscat Grape, which sometimes gives trouble in colouring, but here it develops the dense bloom which gives it a decidedly handsome appearance.

MR. J. ROBSON'S NURSERY.

MR. J. ROBSON'S Nursery, Bowden, near Manchester, was recently in a state of change, and a visitor to the old portion would doubtless be very disappointed, bearing in mind the neatness and order that ruled here some few years ago. But circumstances change, and in the case of this one, a far more commodious piece of land has been taken, a good portion of which is already filled with shrubs, trees, herbaceous plants, &c.; while some large houses are finished and filled with their various subjects, and others are in course of erection. The run of many of these is just 150 ft., and useful places they will be. It is now found that small erections are not adequate to modern requirements, so the houses of considerable length are the present stamp.

I entered a house devoted to Orchids, and it is full of healthy and fair sized plants. That distinct and attractive *Epidendrum prismatocarpum* is represented by several plants with numerous spikes on each. There are several varieties of this, and Mr. Robson has secured one of the very best. The upright spikes carried some eighteen or more flowers, the sepals and petals of which were of a creamy yellow, with large purple spots, whilst the narrowly triangular free part of the lip was of a bright rose slightly margined with yellow. Of *Laelia tenebrosa* there were many healthy pieces; whilst *L. purpurata* was also strongly in evidence. The usual forms of *Cattleyas* were grown in quantity, and excellent varieties had appeared. One of *C. Mendelii* of most beautiful form and colourings had been awarded a First-class Certificate at York show.

Epidendrum bicornutum in a basket was in capital condition. This is such a beautiful species that it well deserves any extra attention that is given to it. A fine plant of a hybrid, *L. purpurata* × *C. digbyana* was looking remarkably well. *Dendrobiums* are grown in large numbers, *D. wardianum* for cutting purposes occupying a large space. *D. jamesianum* in a cooler division was doing well and flowering freely. Many choice hybrids and varieties in pans and baskets were suspended from the roof. These were growing very strongly, and would assuredly swell up stout bulbs. *Cymbidium Lowi* and *C. eburneum* were vigorous, whilst the *Thunias* had grown strongly and were flowering very freely. Many *Cypripediums* are grown, a large number of the varieties of *C. leanum*, and other kindred forms, among which seedlings of especial size and markings had appeared. Many of the old and new hybrids were represented as well as species of tested merit. The *Odontoglossums* were in capital condition. Cool, moist, and free, the atmosphere felt, and the plants certainly responded to their shaded surroundings.

HOUSES FOR PALMS, 150 ft. long, others for Smilax and Asparagus, were already getting filled with their several subjects. Bouvardias, zonal Pelargoniums and Roses were each in varying stages, the latter then past their best, though during the spring a fine crop had been gathered. Besides the many interesting things at the nursery, Mr. Robson had taken a great quantity of flowering Orchids and other plants to York show, where I gather from reports he competed very worthily in almost every class open to Orchids.—S. E.

HOLLAND HOUSE.

THE historical associations of Holland House have served as matter for many descriptive articles to writers in all sorts of magazines. The best of our

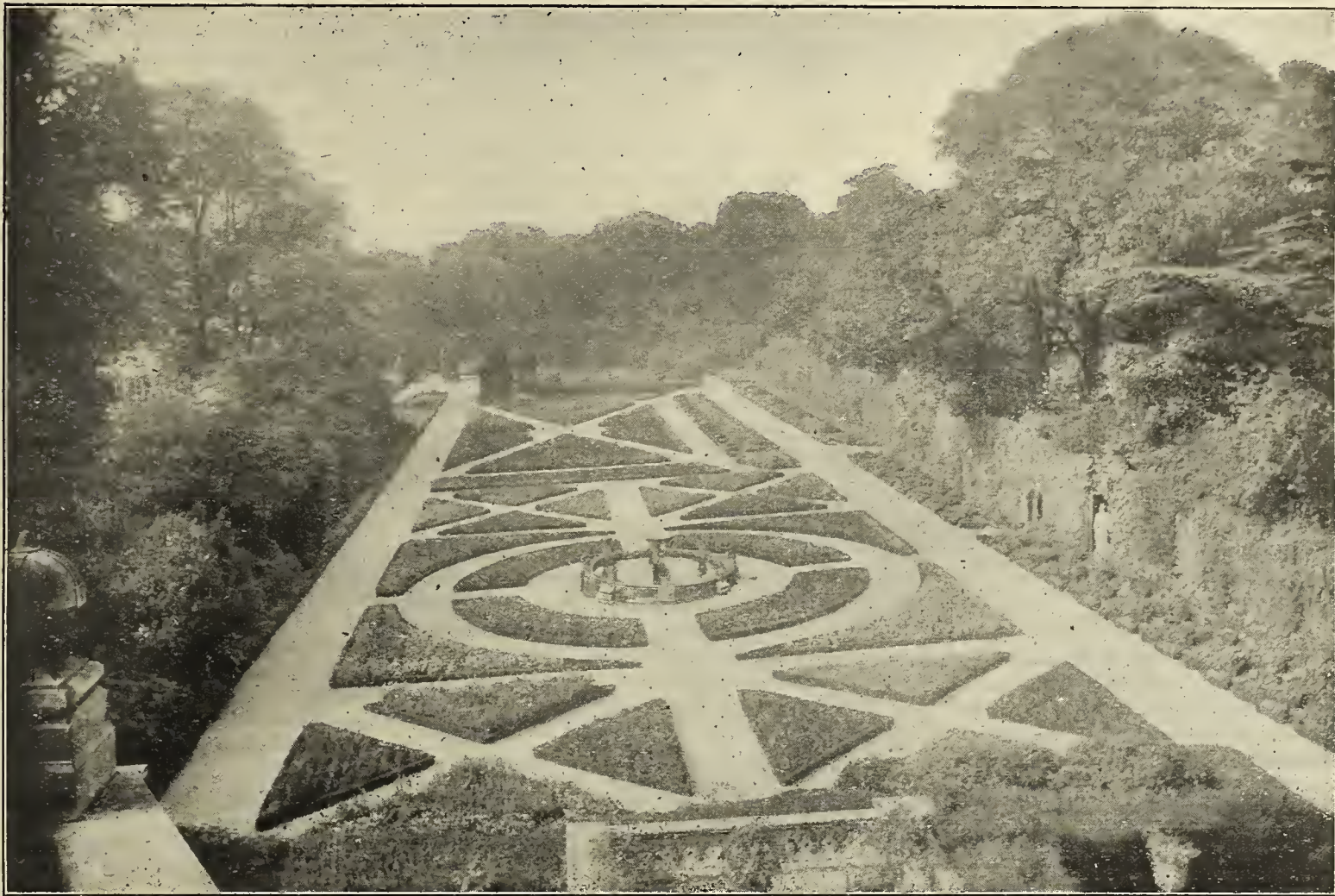
upon it. The south side from which an entrance was gained is very handsome. Great massive iron gates, most elaborately wrought and gilded, stand back in a wide semi-circular reserved area, and at each side there is the estate lodge. Passing through one makes their way up the broad, long, shaded avenue. To see such tall old trees, borders of shrubs, and a great park on the left hand, where equestrians could have a vigorous gallop in, so large is it; all thoughts of just having left street tramways, coster's barrows, rattling cabs, and the street and shop life pass completely out of mind. But let us go on. The handsome old house, all gnarled in Ivies, in Vines and Wistarias, looms its top stories just up above the rising slopes in front of us. Soon this forward prominence is gained, and the greater immensity of the mansion lies pictured. It is on

edged in a becoming way with tall, compact and well trained Box.

On a sunny south wall, seen on the right of the photo, the Pomegranate (*Punica*) flourishes luxuriantly; *Vitis rubrum*, Magnolias, Wistarias, Traveller's Joy, the white Bladder Flower (*Physianthus albens*), and quite a host of other remarkable and beautiful climbers are also to be seen.

By ascending a range of steps which lead to the level roof of a building on the left of the Dutch garden, a splendid prospective opens forth in all directions.

The finer grounds, or at least the more furnished parts, lie away on the right hand, and in the journey there I learned that the greater part of the area about to be described has only recently been arrayed



DUTCH GARDEN AT HOLLAND HOUSE.

English monthlies, and foreign magazines as well, have, more or less, all had a story to tell about this particular "happy home of England." It is now completely surrounded by the sea of streets, business houses, and villas of that great metropolis called London, and in situated in the Kensington district, a western portion of this great city. It has a history bordering upon 300 years. It was begun in 1607 by one named Sir Walter Cope, who willed it to his wife. Upon her death it became the property of a daughter of Sir Walter's, and this daughter, having married Sir Henry Rich, who became Lord Kensington in 1622, and Lord Holland two years later, the house and estate of fifty-five acres came under this name or title.

Twenty-five years from the time the then owner received the title of Lord Holland he was beheaded. One of Cromwell's officers named General Fairfax now took possession, but it again went back to the Countess of Holland. She, however, did not long remain a widow, and by marrying Addison the estate a second time went into a stranger's hands. From the Restoration till the middle of the eighteenth century Holland House became the home of various tenants or possessors, among whom may be mentioned William Penn, the English Quaker, who colonised and gave name to the State of Pennsylvania in America, and Van Dyck, the famous Dutch painter. Then through various transitions and changes it has fallen to Earl Ilchester, the head of the Fox-Strangeways, which is a branch of the Holland line or family. It was a lovely morning early in the present month when I visited this ancient home with the burden of time and tale

our right hand. The "gigantic wheel," which everybody knows is at Earl's Court, a mile or two off, is seen in its mightiness very clearly defined away beyond on the left, and all around us there is either turret or tower, garden, wooded strip or sunny park. A strong wall lies between us and the orchard, at the top or north-west side of which is Mr. Dixon's house, and so are the limited range of conservatories. Mr. Dixon seems to carry history to a respectable age even in his tenure, for he has seen thirty-five summers come and go during his management of the gardens at Holland House. He is a typical old Scotchman, who is famous as a photographer as well as a gardener, and it is from his photographs that the illustrations of Holland House in the finest of magazines are prepared. We are indebted to him for our illustration of the fine old Dutch garden, which is an item under his own charge. The view is from the east side next the house. As may be seen, there are numerous objects of interest all around. Climbing plants are much in evidence, and the collection comprises a very large selection. In a certain little square plot oddly placed in contact with the house, Mr. Dixon has done the best that could have been accomplished in the filling of that particular place. Instead of spare or tangled herbaceous or bedding plants, permanent climbers take the place, and these, which include blue, white, and mauve Clematises; *Vitis* or *Ampelopsis*, Ivy, and Flame Flowers, &c.; these, as I say, are linked in swinging chain fashion in parallel lines and cross-lines, up and down the walls, and over copings.

The Dutch garden itself is filled with summer bedding plants of the usual order. All the beds are

and planted. The complete success of all that has been put out, such as Bamboos, Roses, trees, shrubs, herbaceous and alpine plants, is a standing testimonial to the knowledge and care of the head gardener. The ground is of the most varied formation. Long established and well-kept lawns, a pleasure and beauty in themselves, are more so from the finely placed Catalpas, Hibiscus, Araucarias, &c., which furnish them. Towards the lower part of a sloping lawn, in moist ground, a collection of Bamboos, now-a-days becoming so popular, had been planted less than two years ago. Not one has looked behind, and the growths they are making shows their acceptance of the position. *B. aurea*, *B. virescens*, *B. viridi-glaucescens*, *B. palmata*, *B. Veitchii variegata*, *B. Metake*, a stronger growing variety than any of the others, and quite resistant to London fogs; and *B. Simonii*, already mentioned, are a selection which serves to show what really has been attempted. Close by the Bamboos there is a little aquarium where suitable plants such as *Typha latifolia*, Reeds and Rushes, *Cyperus*, *Aponogeton*, *Polygonum*, *Villarsia*, and *Sagittaria* may be seen, and where the smart and very watchful French frogs and goldfish dive about. The number of aquariums is not limited to one, however, for Mr. Dixon has completed nearly half-a-dozen at various points adown the sloping ground, and each is connected with the other by a tiny streamlet kept in flow from a cistern at the highest point. For Water Lilies and aquatic plants and animals generally, these little pools or screened tanks are very well adapted. All along the course of the streamlet marsh-loving plants have been planted; and

wherever there is a need for some brightening mass Mr. Dixon has managed to arrange a border or a flower bed. Flowers in their season are always to be seen in these places, for the system is one of divisional rotation. When the early summer flowers have gone past, those for the mid-season display are ready to take the place of the fading ones, and then the autumn flowers carry the tide along until the winter frosts stop further show. It is premature to speak much about alpine plants, for many or most of them are but establishing themselves. The natural and yet extensive formation of rockery is a monumental work which we hope will remain for very many years. The beds of *Hydrangea paniculata grandifolia* are quite a treat at this time. *Colutea arborescens* is seen in all its peculiarity, rustling its loads of bladder capsules with each passive breeze. Beds of *Epilobium*, Sunflowers, herbaceous and dwarf Asters, Lilliums, Dahlias, and such-like are in great splendour. Borders of herbaceous plants yield further wealth of blooms. The collection of Hollies (Paul's) is also very complete. Cacti are utilised in quantity in collection by themselves. Hardy Hibiscuses bloom freely in the open, and a full collection of Vilmorin's varieties have been planted. Ornamental fruiting trees are conspicuous. The John Downle Crab trees are very beautiful, the fruit of which are used by the Earl and household as dessert, being appreciated for their acid piquancy. But before leaving off, a run must be made through the houses. The usual seasonable plants fill the conservatory, wherein also may be seen a wonderful array of statuary and busts of persons eminent at one time or another in the centuries gone past.

The fruit houses all bear goodly crops. Vines carry serviceable bunches, and Peaches, though now passing, have done wonderfully well. The indoor Water Lily house is one of the most charming of any. But the health of the Lilies has suffered somewhat this year from a disease which destroys the under-side of the leaf. The roof drapery is very varied, and the plants healthy and flowering in fine style. *Solanum Wendlandii*, *Cissus discolor*, *Thunbergias*, *Ipomea paniculata*, *Allamanda Hendersoni*, *Passiflora racemosa* (syn. *P. princeps*), *Gloriosa superba*, *Aristolochia elegans*, and many other species of climbers are in conglomerate harmony. *Passiflora suberosa*, a new seedling with green flowers, which one has to search for, were pointed out as an anomaly. The renovating or making of new glasshouses is done under the gardener's supervision, assisted by his own men and estate carpenters.

The gardens are an extensive charge, and all departments in the kitchen garden, and the fruit and ornamental sections, prove that Mr. Dixon works on sound principles, and is guided by a wide experience. —Harrison, D.

SOCIETIES.

DUNDEE HORTICULTURAL.—September 7th & 8th. IN our telegram of last week some really deserving exhibits were omitted, as must necessarily happen where the entries are numerous, and the report has to be sent off with all despatch. The day remained fine, so that the attendance was good in the forenoon and again after 6 p.m.

CUT FLOWERS.—The first prize for twenty-four bunches of cactus Dahlias was secured by Mr. M. Campbell, High Blantyre. Messrs. Storrie & Storrie, Dundee, were second with a different arrangement, and Messrs. D. & W. Croll, Dundee, came in third. The leading award for twelve show and fancy Dahlias in the gardeners' section was taken by Mr. John Wilson, Montrose, who was followed by Mr. E. Joss, Milnathort. The latter took the lead for twelve cactus Dahlias. Mr. T. C. Brown, gardener to Wm. Rettie, Esq., Balcrainie, had the best twelve blooms of *Chrysanthemum* blooms, which were fine for this period of the year. Mr. Richard Simpson, The Pines, had the best twelve trusses of stove and greenhouse flowers, and was followed by Mr. William Kennedy, gardener to ex-Provost Ballingall, Ardarroch, Dundee.

FRUIT.—Mr. G. Macfarlane, Kilgraston, Bridge-of-Earn, had the best dessert Apples. Mr. A. C. Cameron, gardener to W. L. Boase, Esq., Binroch, Dundee, had the best dish of cooking Apples. Mr. Jas. Lowe, Glencarse House, Perth, was first for Warner's King Apple. Mr. A. Macfarlane, Kinloch,

Meigle, had the best Lord Suffield, the fruits being of great size, and the best Ecklinville; and Mr. Wm. Benvie, Errol, showed the best sample of the variety Stirling Castle. Mr. Wm. Harper led for dessert Plums; and Mr. A. Macfarlane for culinary Plums. Mr. C. Wilson, Cuba, Errol, took the lead for five dishes of hardy fruit. A considerable amount of fruit was also shown by amateurs, the Apples, Plums and Gooseberries being very plentiful.

VEGETABLES.—In the gardeners' classes the leading award for Beet was taken by Mr. John Laing, gardener to Sir James Clark Rattray, Craighall, Blairgowrie, who also had the best Leeks. Mr. Willie Drummond, Burnside, Fowls Wester, Crleff, took the lead for Celery. The leading award for six dishes of Tomatos was taken by Mr. John Machar, gardener to Robert Mudie, Esq., Corona, Broughty Ferry, whose fruits were large and beautifully ripened. Mr. Wm. Nicoll, gardener to Mrs. Edwards, Farrington Hall, was second. Mr. A. C. Cameron had the best Tomato plants. Mr. Alex. Paterson, Ruthrieston, Aberdeen, took the lead for twelve varieties of Potatos. Mr. Thomas Johnston, St. Fort, was second. Mr. John Laing had the best Parsley in pots.

A large number of exhibits were staged by amateurs, whose Onions, Potatos, Cauliflowers, Carrots, Celery, and Peas were very creditable.

MISCELLANEOUS EXHIBITS.—A dish of huge specimens of Emperor Alexander Apple and a pot tree of the same variety carrying about twenty fruits were exhibited by Mr. R. Cairns, Balruddery. He also had a dish of magnificent samples of Pear Pitmaston Duchess.

A First-class Certificate was accorded to Mr. M. Campbell, High Blantyre, for a new cactus Dahlia Up-to-Date. The blooms were of large size with long, slender, and pointed orange-red florets. The variety is of excellent form.

Mr. Thos. Fortune, 17, Queensferry Street, Edinburgh, had a very showy and tasteful display of wreaths, shower bouquets, crosses, and similar devices, with white and other coloured flowers of first-class character for such work. The Gold Medal awarded to Messrs. Laird & Sinclair for their grand miscellaneous exhibit left all the other exhibitors unnoticed. This is a matter which the society should alter another year by offering a medal or other prize to all the really meritorious exhibits.

ROYAL HORTICULTURAL.—September 12th.

THE show on Tuesday, September 12th, in the Drill Hall, Westminster, was extra fine, and the Hall was filled very completely. Dahlias, among cut flowers, and fruit and vegetables, occupied the greater part of the tabling. Two notable features of the show was the competition in vegetables for the Sherwood Cup, and an exhibit of nine standard *Acalypha sanderiana*'s from Mr. Hudson, of Gunnersbury. A Gold Medal for vegetables was awarded to Mr. George Beckett, gardener to Lord Aldenham, of Aldenham Park, Elstree, Herts., by the fruit and vegetable committee.

Messrs. Wm. Paul & Son, Waltham Cross, Herts., exhibited a table of Roses, running to 30 ft. in length. The blooms were arranged in round baskets, one variety in each. They were better than any seen from this firm during the present Rose season, and the rain has evidently done good. Of Teas, G. Nabonnand, Marie Van Houtte, White Maman Cochet, Empress Alexandra of Russia, Enchantress, &c., were very fine. A new bedding Tea Rose, named Corallina, was shown for the first time. Judging from the samples shown, this would seem to be a capital addition to the bedding class. It is a free flowering variety, deliciously fragrant, and of a soft and rich deep coral-pink. There were some eighty varieties shown. (Silver Banksian Medal).

Mr. John Green, Norfolk Nurseries, Dereham, made a splendid exhibit of cut cactus Dahlia blooms. His method of arrangement belongs distinctly to himself, and is very pleasing. Green's seedling varieties, Red Rover—the largest cactus variety there is, a rich crimson—and Green's White, certificated at the Crystal Palace this year; also Zephyr, another new variety of a pale mauvy colour, were all in conspicuous convex prominence. (Silver Flora Medal).

Messrs. J. Cheal & Sons, Crawley, Sussex, staged a collection of cut Dahlias of all sections. A numerous backing up of flowering shrub sprays, Eulalias and herbaceous blooms, put an additional

value to the table. The single cactus Dahlias were very sweet, and the fact that Messrs. Cheal had a number of these given awards to, proves the high quality of them. (Silver Gilt Banksian.)

Mr. J. T. West, Tower Hill, Brentwood, staged over eight dozen show and fancy Dahlias, all of which were particularly well formed, brilliant, and of good size. Sprays of two dozen different varieties of cactus and pompon were also put up. (Silver Banksian Medal.)

Messrs. B. Wells & Co., Ltd, Earlswood, Redhill, Surrey, staged over forty varieties of early flowering *Chrysanthemums* in bunches. To have such a collection at this time of year after so much dry weather is a very creditable achievement. It ought to be a guidance to lovers of these flowers for making selections of what they choose. Mdme. Zephyr Lionnet (old gold), Mdme. Marie Masse, Golden Fleece, Flora (deep bright yellow), and Market White were remarkable for clear colour and elegant form. (Silver Flora Medal.)

Messrs. Paul & Son, The Old Nurseries, Cheshunt, brought a miscellaneous collection of cut blooms (hardy). Roses were very fine, particularly Maman Cochet and Kaiserine Augustine Victorias. *Helianthus* Miss Mellish, and forms of *Aster sinensis*, in different colours, together with *Coreopsis grandiflora*, were exceptionally handsome. Varieties of *Cyclamen hederifolium* were good; so also were the bunches of flowering shrubs, Phloxes, Tritomias, &c. (Silver Banksian Medal.)

Mr. J. Stredwick, Silverhill Park, St. Leonards-on-Sea, made a brilliant display with new cactus varieties of the Dahlia.

Messrs. Wm. Cutbush & Son, Highgate, London, N., had an exhibit of *Hydrangea paniculata grandiflora* trusses. These were of enormous size, in fact too large to be of much use and certainly not very beautiful.

Messrs. John Peed & Sons, of Roupell Park Nurseries, Norwood Road, London, S.E., had a large array of cactus, pompon and decorative garden Dahlias in about eighty varieties. From so many it becomes a task to individualise special forms, all were very fine, and from what we saw, no one could go wrong in ordering any one of the varieties. Both in this table and forming a group by themselves were specimens of Peed's new white herbaceous *Aster* named Mrs. W. Peters. This will prove a capital plant for cutting purposes. (Silver Banksian Medal.)

Mr. J. W. Whitty, Nunhead Cemetery, S.E., made a splendid semi-circular group with well-flowered early *Chrysanthemums* nicely arranged and set off with *Pandanus Veitchi* and Maidenhair Ferns around the edge. (Silver Flora Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, occupied their usual place in the hall. They showed a very varied, fresh and well massed table of herbaceous cut blooms. *Funkia subcordata grandiflora* is almost like a stove *Pancratium* and makes a splendid hardy plant. *Aster acris*, *Senecio pulcher*, *Helianthus giganteus*, *H. multiflorus*, *H. G. H. Moon* and *H. Miss Mellish* were splendid varieties of this bright class of plants. Lilliums, *Chrysanthemums*, Phloxes, Dahlias, &c., were all in evidence. (Bronze Flora Medal.)

Mr. M. V. Seale showed a number of sprays of new single Dahlias.

Messrs. Thos. S. Ware, Ltd, Hale Farm Nurseries, Tottenham, made a massive show of cactus and pompon Dahlia blooms in vases of five and six blooms each. The evenness of the grouping was relieved by the use of Eulalia and a background was got from herbaceous cut flowers. Cactus Dahlias:—Mrs. C. Turner, canary-yellow; Beatrice, pale mauve; Captain Broad, bright red; African, blood-red; and the fine old crimson Starfish were among the brightest. (Silver Flora Medal.)

Messrs. Jones & Sons, of Shrewsbury, had a very graceful display of cut cactus Dahlias. Island Queen, Keyne's White, Arachne, and Starfish from among others were more in prominence. (Silver Banksian Medal.)

Messrs. Sander & Co., St. Albans, made a fine group of *Dendrobiums*, with *Acalypha sanderiana* intermixed. *D. formosum giganteum* was alone used, and remarkably well-flowered plants they were. The flowers were of great size and substance, of good colour and form.

Mr. James Hudson, Gunnersbury House, Acton,

received an Award of Merit for a new Begonia, var., Mrs. Leopold de Rothschild, a sport from Gloire de Lorraine. The plants showed high-class cultivation, being bushy and well-flowered. In all respects except, perhaps, in larger and flatter blooms, and not so deeply hued, this new variety resembles the parent. We are always pleased, however, to see even one point gained in such things as Begonia Gloire de Lorraine is. (Silver Banksian Medal.)

(To be continued.)

ROYAL CALEDONIAN HORTICULTURAL.

Sept. 13th and 14th.

BY TELEGRAPH.

A GRAND show was again got together in the Waverley Market, Edinburgh, by the Royal Caledonian Horticultural Society, lasting for two days. Some idea of the extent of the show may be gleaned from the fact that there were 2,089 entries. This was 26 fewer than last year, but the falling away is easily accounted for by the fluctuations of the seasons, and its effect upon different crops.

Only one exhibitor on this occasion came forward with a dessert table; but there were ten collections of fruit. There were 149 entries for Grapes alone, many of which were grand samples of cultivations for which the Scotch growers have long been famous. Melons, Peaches, Nectarines, and other fruits of that class numbered 151 entries. There were 38 collections of Apples; but the single dishes amounted to 452, that is, in the competitive classes. This is 50 dishes more than last year, a fact which should indicate a good crop generally. There was a falling away in the Pears, however, due to the effects of unfavourable weather in spring. As it was there were 10 collections and 81 single dishes, being a falling away of 40 dishes as compared with last year's display. Small fruits brought 37 entries, the season for such being now past its best even in the northern parts of Scotland.

There were 212 entries for pot plants; but the cut flower exhibits mounted up to 360, occupying a considerable amount of table space and adding largely to the general effect of the show. Hardy flowers as usual, notwithstanding the droughty season, experienced even in the North, are in splendid form, and show what can be procured from the open air with a minimum of trouble. A class for table decorations has been instituted this year for the first time, and two exhibitors came forward.

The dry season has told most strongly upon vegetables; for although there are many good growers and strong exhibitors at this annual exhibition, there was a falling away of 68 entries as compared with last year. The number on this occasion was 380.

A new class was instituted specially for amateurs on this occasion, and they entered for 123 separate exhibits. This may seem a large number for the first start, but the fact is the amateurs in the Edinburgh district are bold enough to compete with gardeners, or in the open classes.

Nurserymen do not compete so strongly as on former occasions; but they continue to patronise the show with exhibits of a very varied character. Altogether they made 83 entries. The special or non-competitive exhibits set up by them constituted a very marked feature of the show, as they usually do. There were close on thirty nursery firms exhibiting, all of them having tables of greater or less extent, the specialities of which are mentioned below.

COMPETITIVE EXHIBITS.

When the market had been dressed up in the usual exhibition form and all the exhibits in order, the whole presented a very attractive and varied display. The cut flowers of hardy herbaceous subjects were if anything more abundant than ever, and constituted a gorgeous display, the varied and bright hues of the flowers contrasted with the more utilitarian character of the fruits and vegetables, so that every part of the Waverley Market contained something of interest. The non-competitive exhibits occupied the sides of the market chiefly, while the competing exhibits were mostly displayed in the body of the building, the only exhibit for the best and most tastefully decorated table of fruit was that arranged by Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, Chester, who was awarded the first prize. The table was certainly neatly and artistically arranged, while at the same time everything in the way of flowers was light and not overdone. His Apples, Peaches, Nectarines, Pears, Melons, Grapes,

Figs, and Plums were magnificent. Mr. David Murray, gardener to the Marquis of Ailsa, Culzean Castle, Maybole, Ayr, secured the premier honours for a collection of ten dishes of fruit. His Grapes, Melons, Pineapple, Peaches, Nectarines, and Pears were certainly grand. Mr. Wm. Smith, gardener to The Rt. Hon. Earl of Stair, K.T., Dalkeith, took the second place with a very fine exhibit indeed. He was followed in the third place by Mr. D. Kidd, gardener to Lord Elphinstone, Carberry Tower, Musselburgh, whose Grapes were particularly fine. For twelve dishes of hardy fruit grown in an orchard house, Mr. J. Beisant, gardener to Mr. Armitstead, Castle Huntly, Longforgan, took the premier place with an exhibit that would have done credit to Kent. Apples, Pears, Peaches, being magnificent. Mr. R. Cairns, gardener to J. M. White, Esq., Balruddery, Dundee, took the second award with remarkable Apples and Pears, though not very highly coloured. Mr. D. Kidd came in third with smaller but higher coloured fruits.

For twelve dishes of hardy fruit grown in the open, Mr. J. Day, gardener to the Earl of Galloway, Galloway House, Garlieston, took the lead, showing highly coloured Peaches, Nectarines, Apples, &c.; Mr. Wm. Williamson, gardener to J. Home Rigg, Esq., Tarvit, a very good second.

There were six exhibits in the class for six bunches of Grapes, and there is no question but that they were a feature of the show. The leading honours were taken by Mr. T. Lunt, gardener to Captain Stirling, of Keir, Dunblane. His Muscat of Alexandria, Alnwick Seedling, Mrs. Pince, and Black Muscat were magnificent in bunch and berry, and well finished; Messrs. D. & W. Buchanan, Forth Vineyard, Kippen, took the second place with bunches of enormous size; though not so shapely as in the first prize lot, their colour left little to be desired; Mr. J. Beisant was a very good third, with smaller, but still handsome bunches. Mr. T. Lunt again took the lead for four bunches of Grapes, showing the same varieties as formerly, together with Cooper's Black and Madresfield Court; Messrs. D. & W. Buchanan were again second, having in this stand a handsome new variety named Diamond Jubilee, with conical berries of fine flavour; Mr. J. Beisant was again a good third.

Mr. T. Lunt also led for two bunches of Muscat of Alexandria, which were superb. Mr. D. Kidd followed as a capital second, and Mr. J. Green (gardener to Sir C. M. Palmer, Bart., M.P., Grinkle Gardens, Yorks.), came in third. Mr. Arch. McKerracher (gardener to Dr. Benny, Lochpark House, Denny), showed the best two bunches of Black Hamburg. Mr. J. Macdonald (gardener to Mrs. Bremmer, Streatham House, Morningside), was second, and Mr. Adam Knight (gardener to Peter Wordie, Esq., Kenzie), was third.

CUT FLOWERS.—The leading award for a table of hardy cut flowers was secured by Messrs. Harkness & Sons, Bedale, in a keen competition. They had grand masses of Lilies, Sunflowers, Kniphofias, Gladioli, Phloxes, Scabiosa caucasica, and other flowers of that character. Messrs. James Cocker & Sons, Aberdeen, made a splendid second, their exhibit being gorgeous and well displayed. Messrs. Kerr Bros. Dumfries, came in third with another fine display.

Mr. Geo. McKinna, gardener to Sir John Usher, Bart., Norton Ratho, was first for three large trained zonal Pelargoniums, reminding us of olden times. Mr. W. Anderson, gardener to Col. Sir D. Davidson, K.C.B., Woodcroft, Clinton Road, had the best.

Three tricolor Pelargoniums, also trained, and in fine form. He also had the best Bronze Pelargoniums in trained specimens. Mr. T. Lunt easily took the lead for six foliage plants, showing grand specimens of *Campylobotrys refulgens*, *Anthurium Warocqueanum*, *Croton Chelsoni*, *Heliconia illustris*, &c.

Mr. Jas. McCartney, gardener to David A. Croll, Esq., Liberton, was second with smaller specimens; Mr. William Bennett, gardener to James Walker, Esq., Gogar, came in third. Mr. T. Lunt again took the lead in the class for six foliage plants grown in pots not exceeding 9 ins. diameter; his plants being of large size. Mr. M. McIntyre, gardener to Sir Chas. Tennant, Bart., The Glen, N.B., was a good second; Mr. James McCartney was third. Mr. Wm. Aitkin, Balerno, had the three best Fuchsias, also the best two Fuchsias. Mr. Thos. Gibb, gardener to Mrs. Edmonston, Redacre, Kilgraston Road, was

second in the latter case, but first for the single specimen.

VEGETABLES.—The leading award for a collection of twelve kinds of vegetables was carried off by Mr. J. Dymock, gardener to B. W. Vernon, Esq., Stoke Bruerne Park, Towcester. Mr. Dymock is a promising young gardener, and on this occasion his Onions, Cauliflowers, Leeks, Parsnips, Carrots, Potatos, Tomatos, Peas, and French Beans were magnificent. The second prize was taken by Mr. J. Waldie, gardener to Major O. Dobie, Dollarbeg, Dollar, who also had grand samples of Onions, Celery, Leeks, Peas, Carrots, &c. Mr. A. C. Cameron, gardener to W. L. Boase, Esq., Binrock, Dundee, was a good third, his Onions, Leeks, Tomatos, Celery and Cauliflowers being particularly noticeable.

MISCELLANEOUS EXHIBITS.

Messrs. R. B. Laird & Sons, Ltd., Pinkhill, Murrayfield, Midlothian, now seem to be resting on their laurels, for they show "for exhibition only," and untrammelled by schedule conditions, they have placed on the floor of the market two most interesting groups arranged with great taste. The group of ornamental Conifers and shrubs contains over fifty sorts, and clearly points that Pinkhill Nursery is admirably suited for their culture.

We are accustomed to see from this firm well grown and highly coloured foliage plants. This year's group, besides being unique in arrangement, does not contain a shabby plant, and will stand the closest inspection. Crotons are seen in the newest sorts; Dracaenas, especially the narrow-leaved varieties, put into commerce some years ago by the Messrs. Laird. We hope to be able to give a photo of this group next week. Dahlias have always been well done at Pinkhill, and the large collection on exhibition shows that up-to-date varieties are still grown.

Mr. John Downie, 144, Princes Street, Edinburgh, is again prominent amongst the trade exhibitors. This firm has for many years taken a leading position both as exhibitors and competitors, and on this occasion they are well to the front.

Nothing is more pleasing or more effective than this beautifully arranged and most attractive group of stove and greenhouse plants. They comprise many leading varieties of such plants, and are splendidly grown and finely furnished. The net result is a tasteful and well finished exhibit announcing the specialities of the firm and freely bearing out the great reputation they enjoy. They also exhibit a very fine collection of Conifers and ornamental evergreen shrubs.

Messrs. John Ford & Co., 39, Princes Street, Edinburgh, are again to the front in their exhibit of pots and pedestals, a line which seems to us to be their own special feature. For designs and colours we have seen nothing finer, and each successive show seems to add to their attractiveness. In addition to these, Messrs. Ford make an elaborate display of ornamental goods for table decoration and general use, combining utility with elegance. The general effect of this exhibit is at all times an attractive feature of the shows.

Messrs. Dicksons & Co., 1, Waterloo Place, Edinburgh, exhibited a table of pot Vines in fruit, including four varieties; also the early flowering *Chrysanthemum* Craigmillar, which commenced blooming in July, the new tufted Pansy Walter Welsh, *Spiraea* Anthony Waterer, *S. Billardii*, *Sambucus racemosa tenuifolia*, the new *Nemus*, *Media argentea variegata*, *Berberis vulgaris purpurea*, *B. japonica*, *Colutea arborescens* with bladderly fruits, and various other ornamental shrubs. They also exhibit a collection of the leading new and other cactus Dahlias.

Messrs. Harkness & Sons, Bedale, Yorkshire, set up a table of *Monthretias*, Sunflowers, Phloxes, *Delphiniums*, *Gaillardias*, *Campanulas*, and other herbaceous plants.

Messrs. James Grieve & Sons, Redbraes Nurseries, Broughton Road, Edinburgh, furnished their long table with such plants as *Kentia belmoreana*, *K. fosteriana*, *Araucaria excelsa*, *Pandanus Veitchii*, *Ficus elastica*, and *Dracaenas*, all of which are eagerly sought for by our opulent citizens. The Gold and Silver Ferns shown by them, such as *Gymnogramme* Mayi, *G. peruviana glauca*, *G. Alstonii superba*, and many others. Many of the new cactus Dahlia varieties, besides a full collection of *Violas* done up in bunches with their own foliage, made in the finished form, with the edging of small Ferns and

Panicum variegatum, one of the most pleasing groups put up.

Messrs. H. Cannell & Sons, Swanley, Kent, set up a beautiful exhibit of Cannas, backed up with dark-leaved varieties and Palms amongst Klondyke flowering specimens. Very fine were Menelik, Mdme. Pichon, Paul Meylan aurea, Queen Charlotte, Philadelphia, Ami Jules Chrétien, &c. They also had a magnificent exhibit of cactus Dahlias mixed with *Gypsophila*, and surmounted by *Eulalia japonica zebrina*. The best variety in its colour is Lovely Eynsford, a magnificent buff orange sort. The leading varieties were all well represented.

Messrs. Dobbie & Co., Nurserymen, Rothesay, make one of the brightest stands in the show, exhibiting a magnificent collection of cactus, pompon and show Dahlias. The new varieties are staged in large quantities making fine blocks of colour. Magnificent, Exquisite, Countess of Lonsdale, Ehony, Wm. Cuthbertson, Capt. Broad, Ranji, Debonair, Britannia, Navy Service, Keyne's White, Capstan, Alfred Varly, Mrs. John Goddard, and Night, were the most conspicuous. Amongst the fine pompons, The Duke, Iris, Madeline, Hypatea, Claribel, Elegant, Nancy, and Agate, were the most taking. The show and fancy varieties are of good quality too. This exhibit is well staged, the single blooms of Dahlias being shown on black velvet. The whole stand is backed up with handsome Palms and jars of herbaceous cut flowers.

Mr. H. J. Jones, Rycroft Nursery, Hither Green, Lewisham, London, S.E., upheld the reputation he has gained in Scotland for the effective grouping of his splendidly-grown and variously assorted plants. Mr. Jones occupied his usual position at the west end of the market, and the group, which showed this southern nurseryman in the newer role of exotic plant grower, drew forth encomiums from all, and it proved a feature of the show. A tall specimen *Dracaena smithiana* occupied a central prominence, and well balanced healthy Crotons in nearly a dozen of the finer named broad, narrow, twisted, and intermittent leaved varieties were poised becomingly above the wavy grounding of Maidenhair Ferns. Additional brightness was got from the use of Caladiums. Orchids, too, were utilised, and such fine things as *Dendrobium phalaenopsis schroederiana*, and *Oncidium incurvum* were noted. A large selection of Gold and Silver and other Ferns, Cocos and *Acalypha sanderiana*, below which the handsome single Begonias were interspersed to add yet greater value. The group does Mr. Jones much credit.

Mr. John Forbes, Hawick, N.B., had, as usual, a large and comprehensive table, on which he displayed, to great advantage, some of the specialities for which he is so justly famous. Along the front, a really charming collection of Carnation blooms were a treat in themselves. These were backed up by a few hundred blooms of all the newest and best varieties of Dahlias, in all their sections; Phloxes, and Pentstemons in the superb varieties for which Mr. Forbes has no equal, were specially well shown; also herbaceous and other hardy flowers in great variety and fine condition. Altogether the exhibit was a host in itself.

Messrs. J. Hill & Son, Barrowfield Nurseries, Lower Edmonton, had a superb collection of stove and greenhouse Ferns occupying 300 square feet. This group was arranged in well balanced form, in prominences and depressions, abutting fronts and retreating again to recesses. Such handsome exotic Ferns as *Davallia filix-majus*, *D. polyantha*, *D. elegans polydactyla*, *D. tenuifolia stricta*, and others of this class. *Asplenium* in the varieties *Nidus*, *caudatum*, *ornatum*, *Nelangeri*, together with *Polypodiums*, *Pterises*, *Lastrea Richardsi multifida*, &c., were all noted in the group. Stag's horn Ferns and *Lygodium* were used for draping and heightening effect, while lower down were capital samples of *Adiantum curvatum*, *A. macrophyllum* and many others.

The Chemical Union, Ltd., of Ipswich, had an exceptionally striking exhibit of their Canary Guano and Horticultural Fertilizers, artistically decorated with Palms, Ferns, &c. We understand that the sale of their manufactures in the North of England and Scotland is making remarkable strides, and the Fertilizers are being used throughout the British Colonies and in Asia and America. The system of manufacture ensures quick and lasting result, and growers will undoubtedly do well to give these preparations their attention. The exhibit was in

charge of Mr. H. M. Ennals, from Ipswich, and Mr. Alf. E. Brunning, their Northern representative.

Mr. John Russell, Richmond, Surrey, exhibited a large circular group of Tree Ivies on the floor, comprising some thirty to forty varieties, some of which are quite new and not in commerce. Some of the best of them are *Hedera arborea lutescens* H. a. *dentata*, H. a. *russelliana*, H. a. *latimaculata*, H. a. *Glimmii*, H. a. *rhomboidea obovata*, H. a. *Russell's Silver*, H. a. *madeirensis*, and others. Many of them were shown in standard form. He also had a group of Bamboos, including all the best of the hardy species, many of them having been lifted from the open ground in fine form.

Messrs. R. Wallace & Co., Colchester, had a splendid table of Liliiums, including *L. auratum*, *L. speciosum*, in fine varieties, *L. longiflorum*, and *L. Henryi*. He also had a fine batch of *Hemerocallis aurantiaca* major, flowering for the second time this season; many fine varieties of *Montbretia*, *Kniphofia Macowani*, *K. nobilis*, and *K. Solfatare*; some Sunflowers and *Heleniums*.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, Middlesex, exhibited a table of stove and greenhouse plants, including the beautiful *Erica verticillata* major, *Statice Holfordi*, *S. Butcheri*, and *S. profusa*; *Croton Warreni*, *C. Flamingo*, *C. Stuarti*; also *Dracaena goldiana*, *D. godseffiana*, *Araucaria excelsa* in fine form, *Phrynium variegatum*, *Kentias*, and *Heliconia illustris*. These were brightened with *Cattleya*, *Odontoglossums*, *Cypripediums*, and other Orchids.

Mr. Michael Cuthbertson, florist, Rothesay, set up a fine table of hardy herbaceous plants in grand condition. Amongst others, he had showy bunches of the newest and best *Monthretias*, fine specimens of the single and double Tiger Lilies, double and single Sunflowers, *Lobelia cardinalis* Firefly, new French Phloxes, Michaelmas Daisies, and *Lemoines* hybrid gladioli. He also had a beautiful lot of Dahlias, chiefly pompon and cactus including mostly all the new varieties of this year, among which are fine specimens of *Lucius*, *William Cuthbertson*, *The Clown*, a unique variety with white-tipped petals.

Messrs. Alex. Lister & Son, Rothesay, had a table of Dahlias particularly fine, amongst the doubles being *Esmond*, *Majestic*, *Henry Walton*, *Virginale*, *Mr. Chamberlain*, *Rev. J. B. Camm*, *Mrs. Morgan*, and *Mrs. Saunders*; they also had a brilliant show of cactus Dahlias, particularly good being *Keyne's White*, *The Clown*, *Countess of Lonsdale*, *Eileen Palassier* (the finest yellow), *Arachne*, *Britannia*, *Starfish*, and *Ruby*; pompons were well represented; *Violas* were extra fine, including fine flowers of *Mrs. Fisher*, *Blue Queen*, *Princess Ida*, *Sport*, *Andrew Lister* (new); fancy Pansies were extra strong; they also showed splendid Leeks, Parsnips, Beet, Celery, Parsley, and their new Tomato *Lister's Prolific*.

Messrs. Kerr Bros., Dumfries, exhibited the newest varieties of cactus, pompon and show Dahlias; amongst the cactus Dahlias were handsome blooms of *Magnificent*, *Firebrand*, *Exquisite*, *Countess of Lonsdale*, *Arachne*, and others.

Mr. M. Campbell, High Blantyre, Lanark, also staged a grand exhibit of cut flowers, consisting largely of show and fancy Dahlias, pompon and cactus varieties, the latter including the best of the new varieties. Up-to-Date is a very fine new variety raised by Mr. Campbell. Several stands of Carnation flowers, including several beautiful varieties in the freshest condition, and large bunches of hardy herbaceous plants formed a background to these exhibits.

Messrs. James Cocker & Sons, Aberdeen, set up one of their showy exhibits of hardy herbaceous plants, including fine bunches of *Montbretias*, *Gladioli*, *Phloxes*, *Heleniums*, *Veronicas*, *Anemones*, *Sunflowers*, *Michaelmas Daisies*, early flowering *Chrysanthemums*, *Polygonum amplexicaule*, *Lobelia cardinalis*, and a host of other things for which the climate of Scotland is so suitable.

Mr. Henry Eckford, Wem, Shropshire, set up a showy and interesting table of his famous Sweet Peas in tall, funnel-shaped vases of graceful form. Some of the finest varieties were *Duke of Westminster* (purple), *Lady Mary Currie* (orange-pink), *Triumph* (bright orange standard, white wings), *Lady Grizel Hamilton* (lavender), *Lady Benning*, (salmon and lavender), and others. There were fifty varieties in all.

Messrs. Thos. Methven & Sons, Princes Street,

Edinburgh, had plants, Palms, Crotons, Caladins, and variegated grasses, the whole being very prominent. The foliated plants were enlivened with *Lilium auratum* and *L. speciosum*, in several varieties of each. *Gloxinias* were placed round the front.

The Ichthemic Guano Co., Ipswich, exhibited a bold and effective arrangement of their usual specialities, occupying a considerable amount of space. Along the top of the staging under the galleries were Palms, Ferns, and long sprays of *Smilax*, large and well flowered plants of *Hydrangea paniculata grandiflora*, which did much to lighten up the greenery. Amongst these again were magnificent spikes of *Gladioli* and bunches of *Lilium speciosum*, *L. Harris*, early flowering *Chrysanthemums*, *Mignonette*, and other things, all grown with Ichthemic Guano. All the flowers mentioned were certainly splendid examples of cultivation and feeding.

Messrs. Wm. Clibran & Son, Altrincham, staged a large group of *Celosia pyramidalis plumosa*, known as Clibran's Superb Strain, set up with Maidenhair Ferns. The strain included all the usual colours such as scarlet, crimson, orange, yellow, sulphur, and carmine. They also had a very fine hatch of Strawberries, *St. Joseph*, the perpetual-bearing kind which has now been fruiting for the past two months. They were grown in small pots out of doors. The fruit is of good average size, and of wonderful flavour.

Messrs. Cunningham, Fraser & Co., Comely-bank Nurseries, Edinburgh, had a large group on the floor of such hardy subjects as Hollies, Bamboos, Conifers, *Acer Negundo variegata*, Sweet Bays, Ivies, Yuccas, and other plants, edged with Golden Box in pots.

Messrs. Wm. Davie & Co., Haddington, had a table of Potatoes, comprising over fifty varieties, amongst which we noted their Good Hope, British Lion, General Kitchener, and three new varieties of this year, namely, *Duke of Rothesay*, *King Loth*, and *Dunoon*, with many other leading varieties. The old Scotch Blue, re-discovered in Stornoway, was very interesting, because of its being disease-proof.

Mr. Chas. Irvine, Jedburgh, N.B., had a table of hardy cut flowers, such as *Pentstemons* in great variety, and in fine form; *Montbretias*, *Lilies*, *Sunflowers*, *Delphiniums*, *Gladioli*, *Phloxes*, *Sweet Peas*, *Veronicas*, and other plants of this class.

Messrs. Brown Bros. & Co., Meadowbank Nurseries, Uddingston, had a table of early flowering *Chrysanthemums* and herbaceous plants. They also set up a collection of pompon Dahlias, &c.

Mr. Thos. M. Whitehead, of Selkirk, had a table of various plants and flowers, including a stand of a new Carnation named *Mrs. John Whitehead*, a yellow variety, which received a First Class Certificate of Merit at Glasgow. He had many other Carnations, this being his speciality.

Mr. James Rowatt, Glasford, near Strathaven, staged a fine collection of *Pentstemons*, *Gladioli*, and quilled China Asters in many varieties.

TRADE CATALOGUES RECEIVED.

ROBERT VEITCH & SON, 54, High Street, Exeter.—Catalogue of Dutch Bulbs and Flower Roots.

H. CANNELL & SONS, Swanley, Kent.—Complete Catalogue of Bulbs, Strawberries, and Small Fruits.

WM. WATSON & SONS, Clontarf Nurseries, Dublin.—Select List of Carnations and Violas.

JOHN RUSSELL, Richmond Nurseries, Kew Road, Richmond, Surrey.—List of Dutch and other Flowering Bulbs, Herbaceous Plants, &c.

H. CANNELL & SONS, Swanley, Kent.—Cannell's Primulas and Strawberries.

THEODORE TURNER, Begonia Nurseries, Great Sutton, Chester.—Catalogue of Bulbs.

HOGG & ROBERTSON, 22, Mary Street, Dublin.—Robertson's Irish Grown Daffodils and Tulips; also Robertson's Bulbs.

BARR & SONS, 12 and 13, King Street, Covent Garden, London.—Barr's Gold Medal Daffodils; also Barr's Hyacinths, Tulips, Narcissi, Crocuses, Gladioli, and All the Best Bulbs and Tubers.

THE LEEDS ORCHID CO., Roundhay, Leeds.—West's Patent Garden Specialities.

DOBBIE & CO., Rothesay, Scotland.—Catalogue of Bulbs and Plants for Autumn Planting.

W. P. LAIRD & SINCLAIR, Dundee and Cupar Fife.—Bulb Catalogue for 1899.

FRANK DICKS & CO., 66, Deansgate, Manchester.—Bulb Catalogue.

(Questions and Answers, &c., from others are held over till next week.)

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The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 23rd, 1899.**NEXT WEEK'S ENGAGEMENTS.**

TUESDAY, September 26th.—Royal Horticultural Society's meeting in the Drill Hall, Westminster (vegetable competition for the "Sherwood Cup"); Harrow and Rosteth Allotment Society's Exhibition of Vegetables.

THURSDAY, September 28th.—R.H.S. Fruit Show at the Crystal Palace (3 days)

WHAT THEY SAY OF THE EDINBURGH SHOW.—Whatever there may be said regarding the number of classes in a schedule of prizes issued by any society, they are no criterion of the character of a show from the public point of view. There may be hundreds of classes and strong competition in each, but a large proportion of the various kinds of garden produce that must be included cannot be displayed in such a way as to give effect in a building, tent or marquee, whether they be large or small. The old style of exhibiting single flowers or trusses of the same upon boards, whether Dahlias, Roses, Carnations, Pansies, or a host of other things that could be instanced, has scarcely been improved upon, we imagine, since show boards were first called into requisition. Some hundreds of such boards huddled into, generally, a limited amount of space, can only be described as a congeries of articles; but they are ineffective in producing a display that can be taken in at a glance or bird's eye view. On the other hand a large number of classes in which prizes are offered, are a source of strength to a society or their show, inasmuch as an equivalent number of gardeners are interested in the show, and strengthen the same by their presence as well as by their contributions in money as in produce. Some genius, however, may yet invent some method of exhibiting these odds and ends in such a way as to add to the general effect as well as occupy space and gain prizes. The mere novelty of such a change would create a fresh enthusiasm that would serve to draw the public for the sake of seeing the flowers as well as listening to the music, or being attracted by side shows. The perfecting of any such method of attractive exhibiting would stimulate gardeners to fresh enterprise; and could hardly fail to find imitators in other or all parts of the country in the course of a few years.

As far as the Edinburgh show was concerned the multitude of small exhibits has not yet excited any attention; but there were features that appealed both to connoisseurs and the general public. Some of the most attractive exhibits occurred in the competitive classes scheduled, and others were outside that range. The general consensus of opinion was again expressed that the exhibits of hardy cut flowers were a striking feature of the exhibition. Most of them were culled from a wide area of Scotland and the north of England, ranging

in fact from Aberdeen to Bedale. That in some sense may be due to climate and the lateness of the season owing to latitude, for in the south of England the best of the hardy flowers were past their best. But that displays so gorgeous could be grown and gathered from the open air should furnish a greatly increased incentive to the extended culture of hardy herbaceous plants. They are equally as effective, if not more so than indoor flowers; equally suited for cut flower purposes, so much in request at the present day; and likewise adapted for outdoor garden adornment. Even those who competed in these classes had non-competitive exhibits, consisting largely, it may be said, of the surplus material not required for competition. In the way of cut flowers it may also be stated that Dahlias, of all classes, but particularly Cactus varieties made their presence felt in no mistakable manner. The non-competitive exhibits in this case were certainly the most attractive; and this was due in a large measure to the method of arrangement being left to individual initiative, unhampered by the levelling down influences often exercised by competitive groups which must all conform to a certain plan of arrangement that will admit of comparison by the judges who have to adjudicate upon their merits.

Several of those who made post-prandial speeches or remarks upon the show, especially those from the southern side of the Cheviots, admitted that the general character of the show conduced largely to its effectiveness. In other words many shows are held at London or even the near provinces that are more or less of a special character, and devoted to the wellbeing or advancement of a particular class of garden products. The Royal Caledonian Horticultural Society holds two shows only in the course of the year, so that the autumn show is about as general in character as it might well be, including fruits, flowers and vegetables of all classes in season. Independently of the subjects asked for in the schedule the nursery element was in strong force, many of them hailing from London and the immediate neighbourhood. Several of them set up exhibits that were decidedly novel at Edinburgh, or for the matter of that, in the north. That was as it should be at all shows and is the result of the cosmopolitan or broad views of the executive of the society which encourages exhibits from a distance as if the show was an international one. This applies, not only to the non-competitive, but to the competitive exhibits, for a large number of competitors came from the south, though it is equally true that many of them were Scotchmen looking back to the amenities of the old country. Notwithstanding the large number of groups put up, it was freely admitted that nothing was of a rubbishy character, intended merely as a fill up. Several of the groups might be described as common place in the matter of plants and the style of arrangement, though the former were good of their kind, that is, well grown.

On this occasion several classes were set apart specially for amateurs. Not only was competition good, but many of their exhibits of flowers were very creditable. This was no cause for surprise nor much comment at Edinburgh, however, because amateurs had previously been in the habit of entering the open competitions, and that too with success. Vegetables were in smaller quantity, perhaps, than on previous occasions, but there was no falling away in quality compared with the shows of some years past. The question may well be asked how it is that a Scotchman from south the border manages, from the dry climate of the sunny and droughty south, to

carry off the leading prize for vegetables seeing that the moister climate of the north should be all in favour of the vegetable gardener. It may be answered that the second and third prize lots were little inferior in point of quality to the first, but that the more tasteful arrangement, and finish of the first prize lot secured the award.

In the case of Grapes the history of many years seems to show that Scotland does not intend to be or cannot be beaten for that class of garden product. To put it broadly the Grape country seems to extend from the north of England, say from Lambton Castle to mid-Scotland for the heaviest and finest bunches of this class of garden produce. The records of Lambton Castle, Terregles (Dumfries), Castle Kennedy, Eskbank, Clovenfords, Norwood (Alloa), Keir (Dunblane), Kippen (near Stirling), Castle Huntly and some others that might be named, would indicate that Scotland holds the record for Grapes in this country, or for the matter of that, in the world. Scotchmen are not alone in this matter, though they have taken the lion's share of the renown for cultural superiority. On the other hand Mr. Beisant, of Castle Huntly, and Mr. T. Lunt, of Keir, are Englishmen. The reason for the superiority of Grapes grown in Scotland is a problem that yet remains to be solved. Whether science can yet unfold the secret is a question for the future. Many of the exhibits of Grapes on this occasion were really superb.

The Jackmanii Clematises are being "boomed" at present in the American horticultural papers.

Means of Transport.—There are now being constructed in Glasgow, trucks specially designed for carrying Bananas, Grapes, Oranges, and Mangoes with a view to the development of a great trade in these fruits with Jamaica.

We regret to announce that in consequence of the heavy rain at Edinburgh during the show, we were not able to get photographs of Messrs. R. B. Laird & Sons' splendid group of foliage plants, or of Mr. T. Lunt's Champion Grapes.

Weather in London.—The week has been altogether dull and more or less showery. With this the temperature has been lower, although on Saturday the 16th inst., a heavy thunderstorm broke over the southern districts. The evening darkens at 6 o'clock.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, September 26th, in the Drill Hall, James Street, Westminster, 1—5 p.m. At 3 o'clock a lecture on "Instructional Fruit Stations" will be given by Mr. E. Luckhurst, F.R.H.S.

The Assimilation of Carbon by the higher plants was the subject of the address of Dr. Horace T. Brown at the meeting of the British Association at Dover on the 14th inst. He dealt largely with the results obtained from a new line of work he has been carrying out in the Jodrell Laboratory at Kew during the past two years.

Bottles as Mouse Traps.—Glass vessels such as open-mouthed bottles with not too long necks are found to be very satisfactory. Of course, the deeper they are the better, for a mouse can jump a goodly height. However, the difficulty for escape in this manner is much increased if the vessels be inclined at an angle. Poisoned bait may be used, but whatever is put in it should be temptingly aromatic.

King's Lynn Fly Plague.—A plague of flies has visited King's Lynn. They have settled down in the vicinity of the recently burned oil mills. In the streets the walls are almost coated with them, and the houses are infested by such swarms that living is rendered almost intolerable. Frenzied householders are using flypapers by the square yard, but though the slaughter is immense there are myriads more.

Our Mr. Cobbold has recently been presented with a membership of "Sloper's Club" by Gilbert Dalziel, proprietor of the well-known comic paper, *Ally Sloper's Half-Holiday*.

Mr. H. W. Rendell, 90, Queen Street, E.C., is selling a quantity of Dutch Bulbs, without reserve, at 254a, Holloway Road, N. (outside G.N.R. Station), on Friday, September 22nd, and other dates.

Hanworth Nurseries.—Messrs. Thomas S. Ware, Ltd., have nearly completed the removal of their nursery stock from Hale Farm Nurseries, Tottenham, London, to their newly acquired Hanworth Nursery, Feltham, Middlesex. The nursery previously belonged to Mr. William Cooper, the Horticultural Builder, of 755, Old Kent Road, London, S.E. We would point out that until further notice all correspondence should be addressed to Hale Farm Nurseries, Tottenham.

Horticultural Correspondence Classes.—We have just received a syllabus of horticultural subjects taught through correspondence tuition by Mr. T. H. Smith, 4, New Street, Kenilworth. The subjects are varied, treating upon "The Science and Practice of Horticulture," "Vegetable Physiology," "Horticultural Engineering," &c. The fees are very moderate and strict attention to the students' work is guaranteed. All communications for prospectus and particulars may be obtained from the above address.

Snow fell incessantly on Ben Nevis on Monday last, accumulating to a depth of 2 in. for some distance down the mountain sides. Showers of hail and sleet also fell. During the early hours of the morning a thunderstorm raged over the mountain and in the district of Lochaber. Late on Sunday night the worst thunderstorm experienced for many years passed over Dunoon. Boisterous winds, at times amounting to a blizzard, laden with sleet and hail, were experienced in the Upland districts, and rain over the whole of Scotland and the north of England.

Cannas Certificated at Chiswick.—The following two Cannas were awarded three marks (XXX) (Highly Commended) by the Floral Committee of the R.H.S. at Chiswick, on September 8th:—

C. Plate.—This is a splendid variety both from its dark purple foliage and its handsome spikes. The variety is dwarf, and freely bears its orange-scarlet flowers. These are large and beautifully marked with yellow at the throat. From Messrs. J. Veitch & Sons, Chelsea.

C. Francois Gos.—This bears a good spike of rich orange, self-coloured blooms, having a depth of substance. From Messrs. Vilmorin, Paris.

The Prince of Wales at Duntreath Castle.—On Tuesday, the 12th inst., the Prince of Wales arrived at Duntreath Castle, Blanefield, Stirlingshire, the seat of Sir Archibald Edmonstone, travelling by rail from King's Cross, London, on his way to Balmoral Castle. The station at Blanefield was moderately but effectively decorated, greatly improving the usual sombre appearance of the station. His Royal Highness was received at Blanefield by Sir Archibald Edmonstone and his brother-in-law, the Hon. George Keppel. Shortly after reaching the Castle, the Prince partook of breakfast, and during the forenoon he strolled through the beautiful lawns and gardens.

The Fruit Growing Business.—The current issue of "Chamber's Journal" contains an article on "Fruit Farming in Scotland," in the course of which the writer says:—"To grow Strawberries and Raspberries profitably on anything like a large scale, there are three things essential. The farm must be situated within sufficiently short distance of a station to admit the fruit being easily transported to the markets; it must be near enough to a town to ensure a constant supply of labour on a large scale; and, finally, it is obvious that the land must be well adapted for the culture. It is a somewhat curious fact that our ideas as to suitable soil differ materially from those of our southern friends. In Scotland it is thought that the best ground for growing Strawberries is a light gravelly soil—for choice, reclaimed moor or woodland—which to the Kent or Hampshire farmer would appear most unlikely to produce good crops.

At the Royal Horticultural Society's Great Fruit Show at the Crystal Palace, on September 28th, the first notice on p. 3 of the schedule will be strictly carried out—it runs thus:—"All fruit should bear its natural 'bloom'; any polishing process disqualifies." Exhibitors must regard this stipulation.

Boycotting the Paris Exhibition of 1900.—In relation to certain events in France lately, a feeling in favour of boycotting the Paris Exhibition has been developing. Several English firms have given formal notice of their withdrawal from participation in the Exhibition. A similar movement is progressing in Germany and Belgium.

We learn that the marriage of Martin Hubert Foquett Sutton, eldest son of Mr. and Mrs. Martin J. Sutton, of Henley Park, Oxfordshire, with Eleonora, daughter of Colonel Morton (late Border Regiment) and Mrs. Morton, of Mildmay, will take place on Thursday, October 12th, at St. Mary Abbot's, Kensington, London. Our readers may remember that we gave a photograph of this gentleman in company with his universally esteemed grandfather and father, in our issue of June 19th, 1897.

Presentation at Beckenham.—On Friday, September 15th, the committee and friends belonging to the Beckenham Horticultural Society met and presented Mr. Mark Webster with two easy chairs, as a token of their appreciation of his services as Librarian to the society. The presentation was occasioned by Mr. Webster's intended marriage. This gentleman has most faithfully fulfilled the office just noted since 1892, and with so much care that not one book has gone amissing. The speeches at the presentation meeting were very full of genuine good-will and Mr. M. Webster is very proud of this testimony of mutual respect and trust. We, too, wish him well.

The Royal Caledonian Horticultural Society, Edinburgh, has now inaugurated or instituted floral, fruit, and vegetable committees, for the purpose of examining new plants, flowers, fruits, vegetables, &c., with a view to granting certificates to deserving or meritorious subjects, which may be brought forward by exhibitors at their spring and autumn shows. Whether they establish meetings at intermediate periods for the purpose of seeing other subjects in their proper season, remains to be seen. The full extent of the powers of such committees will also be a matter for consideration as time goes on, and as the project develops. Possibly there may be a quasi-amalgamation of the committees of this society and those of the Scottish Horticultural Association, for the purpose of attending to new plants, though the two societies will remain entirely separate as formerly. Many of the members of both include the same names of persons in the horticultural community at Edinburgh.

Shirley Gardeners' and Amateurs' Mutual Improvement Association.—The monthly meeting of the above society was held at the Parish Room, Shirley, Southampton, on Monday, the 18th inst., there being a very good attendance of the members, presided over by Mr. B. Ladhams, F.R.H.S. Mr. A. Dean, F.R.H.S., London, gave a lecture on "Horticultural Exhibitions: Their Uses and Lessons," which was listened to with great attention, Mr. Dean having so wide an experience as a judge at shows all over the country. Many of his remarks were much applauded, and the whole lecture was full of good advice to exhibitors, and also the framers of schedules of prizes. Asked his ideas on the propriety of accepting special prizes from the trade for exhibits grown from the donor's seeds, he, the lecturer, thought the trade were not to blame for the offer, but the committees who accepted prizes under such conditions, as it tended to demoralise exhibitors. A hearty vote of thanks was accorded to Mr. Dean at the close of the discussion, to which he as heartily responded, and in doing so proposed a vote of thanks to the exhibitors who had shown such a splendid collection of fruit and vegetables that evening, and further he handed to the hon. sec. a cheque, which had been subscribed by the members as a recognition of his services for the past five years, adding thereto many complimentary remarks. The exhibition included fruit, flowers, and vegetables brought by different members of the society, and constituted quite a little show, prizes being given for best Onions and Tomatoes, and Certificates for some of the other exhibits.

Reptile Killed at Ipswich.—An excellent specimen of the ringed snake (*Tropidonotus natrix*), has been killed at Ipswich. Alfred Podd, the keeper of the public Arboretum, was removing a heap of twigs which he had cut from a fence, when a snake darted out and was promptly dispatched with a stick. The reptile was 26 in. long, and is being preserved for the local museum.

Fruit Show of the Royal Horticultural Society.—The Royal Horticultural Society's great show of British-grown fruit will take place at the Crystal Palace on Thursday, September 28th, and the two following days. Entries should reach the Royal Horticultural Society's office, 117, Victoria Street, S.W., not later than September 21st. On each day of the show, after 10 a.m., Fellows of the society (on producing their tickets), will be admitted to the Palace free.

The Evesham Fruit Growers and Insects.—In the Vale of Evesham there was recently a committee for the consideration of coping with insect pests, but which dissolved itself after having conquered the attacks of the winter moth in the district. But why this committee should have lapsed has lately been under consideration; for though there may not be a serious infestation now, such conditions may not for long prevail. It would be wise if all great fruit districts had a representative body whose duty it was to keep abreast with invention, or knowledge, and experiment, so that in the case of serious outbreak the best remedies for the occasion would, with the greatest dispatch, be employed.

Insect-Trapping Orchids.—"The Story of the Orchids" is a theme on which the Rev. Alexander S. Wilson, M.A., B.Sc., discourses in the September issue of *Knowledge*. "One of the Australian Orchids, *Pterostylis longifolia*, has a sensitive labellum which acts as a spring trap. When an insect alights it instantly flaps up, and the unwary visitor is entrapped in the flower. There is only one opening above by which escape is possible, and, as happens in *Cypripedium*, the stigma and anther are encountered on the way out. An irritable labellum also occurs in species of *Megaclinium*, *Bulbophyllum*, *Drakea*, and others. In the *Vanilla* Orchid, the pods of which supply the well-known flavouring, an arrangement of hairs, somewhat resembling the mouse-trap hairs of the Birthwort, induces visitors to enter and depart in the manner most favourable to cross-fertilisation."

Fruits and Vegetables—Fruit is always beneficial to the well-being of human bodies. Potash salts, magnesla, lime and iron are largely present in all vegetables and fruits, more so in some than in others. In Spinach we have iron in a very marked degree, says a writer in a contemporary, and also in Black Currants, Raspberries, Blackberries, &c. Those who suffer from poverty of blood would do well to make Black Currants their standard fruit. In Cabbage, Peas, green Gooseberries and Greengages we have more phosphates and lime than iron. In Mushrooms, Beans and well cooked Potatoes we find an abundance of nourishment, which is easily digested. All sappy fruits or vegetables are beneficial in hot weather because they do away with the necessity for so much drink.

Labeling Plants.—Time goes by so fast and work comes along so thickly that one can excuse busy gardeners for not using more permanent labels at the time or soon after planting of trees, shrubs, plants, &c. Roses, fruit trees, and most other nursery stock, come from the growers, labelled no doubt, but generally the labels are those easily defiled or soiled; card-board slips, sometimes wooden tallies, are sent, but in any case they are only meant for the present guidance and security in transmitting the names. At the planting time they are of course deemed enough. But, somehow, time goes on and they are not substituted. They become unreadable, the name is lost, and then in many cases how much bother and waste of time and patience, money and all else, is needed before the title can be again found. Those who own gardens and do not know the names of the plants contained in them, must be ignorant also of the proper value of the stock, of its history, and of many or most of those hidden references, probably legends, and the inner value or heritage of the plant or plants. It becomes all growers then to see to it that blame in this respect may not be charged to their account.

PEOPLE WE HAVE MET.

MR. THOMAS GEORGE SWALES.

THIS gentleman is at present more particularly known amongst London horticulturists, but the important post of Honorary Secretary to the "Gardeners' Charity Guild," which he has recently been pressed into accepting, will shortly make his name known all over the kingdom.

Born in the historic village of Hatfield, in 1869, it is no wonder that the famous gardens belonging to the Marquess of Salisbury should have instilled a



MR. T. G. SWALES.

very early love of flowers and plant culture; therefore, we presently find Mr. Swales becoming a member of the National Amateur Gardeners' Association, and receiving Awards of Merit and prizes.

His courteous and genial manner to everybody, combined with an innate love of work, soon brought him prominently forward as an officer of the association; and as assistant secretary for three years he was so successful that promotion to superintendent of the N.A.G.A.'s shows then followed. This position Mr. Swales still holds, and the interests of members and exhibitors are consequently in real good hands. In 1896 he was elected as a Fellow of the R.H.S.

For some time past Mr. Swales has been a patron of and exhibitor at the Lewisham Horticultural Society's shows, where his great love of the Chrysanthemum was particularly recognised by Mr. H. J. Jones, who, in 1898, named one of his new Japanese varieties after him. He is also a member of the National Chrysanthemum Society.

Professionally, Mr. Swales has for twelve years been connected with the South African Exploration Company, but the recent purchase of this undertaking by the De Beers Co. has turned all the staff adrift.

The subject of these remarks has also made himself known as a vocalist, being in much request on the concert platform, and doing well in oratorio work. As a working steward for the concert so successfully carried out last spring, for the benefit of the Royal Gardeners' Orphan Fund, Mr. Swales certainly earned the right to be first approached to hold high office when the Gardeners' Charity Guild gave itself a title and constitution.

"LILIUM BATEMANNAE."

I WOULD like to advocate the merits of this free flowering Lily. The colour is of a most pleasing apricot, the plant itself reaching to about 20 in. high. The flowers are cup-shaped and erect, showing themselves well in beds or borders, and are most valuable when cut and placed in water, and last a very long time if the water is constantly changed. The spikes carry from eight to ten flowers, and bloom during July and August. This Lily appears to thrive well with us in our sandy loam, and I may note that good bulbs can be purchased for 7s. per

dozen. It is of recent introduction, for I do not find it mentioned in Nicholson's Dictionary of Gardening, nor in Robinson's Flower Garden, 1895 edition. Perhaps you, Mr. Editor, will inform your readers when it was sent out, also where it comes from.

I was pleased to see your notes a few weeks back upon *Lilium testaceum* (*L. excelsum isabellianum*) which is a grand Lily for the back row of a border and is sweetly scented. It flowers with us in June and July, and the whole spike keeps fresh for a long time when cut and placed in water.—J. M., Bickton.

JONQUIL CAMPERNELLE.

To many who see and have grown Jonquils for years, they are nothing more or less than Jonquils. And this is no doubt good enough, but in a sentence let us locate their position botanically.

Mr. Baker, of Kew, gave an admirable classification in 1884. By this we find that *Jonquilla* is a species of the sub-genus *Hermione* (*parvicoronata*), under *Narcissi*, which itself, of course, belongs to *Amaryllideae*. So there, *Narcissus Jonquilla* is the Sunday appellation for our Jonquils. The variety of which our note treats, is one of the strongest and most beautiful for spring decoration. Its use in murky, smoky cities, is much appreciated, and in such places it is at home. To relieve a stiff bed of Hyacinths, so long as the colours "go well," nothing is more adaptable. For this purpose the superintendent of Hyde Park, London, uses it largely. The yellow is no undecided yellow, but very deep. The bulbs are ovoid and just about 1 in. thick. So going by the fairly accurate rule of planting them the depth of three times their diameter, we shall find this to suit their liking. A rich open soil suits them well.

For pot culture nothing is sweeter or more fragrant in spring. Five-inch pots are large enough, and these should be clean. Crock them well, laying over the drainage some rough sphagnum or turf. Place in about six bulbs, letting the apex of them just appear half an inch from the level of the rim. Any friable loamy compost may be used, the potting being fairly firm. Place the pots out of doors, and plunge them overhead in coal-ashes (riddled cinders). They force very well, although their truest grace and qualities come best under only gentle pressure. It is over 300 years ago since the specific form, *N. Jonquilla*, was introduced to this country. The common double and single Jonquils, and the *J. Campernelle* and *J. C. regulosus* are much used for various ornamental purposes.—D.

LILY OF THE VALLEY FOR DECORATION.

THIS little flower is a chief favourite with all classes of the community, rich man or poor man, the lady and her servant, are all united in their regard when the small white belled spikes are used as the truce. It is the mediator between distinct affections, and none can disregard it. The growers, like true men of business, have put their minds to work. The result is seen in that now we need never be without this sweet flower, at one time only a plant of early summer. How lovely the pea-green beds are when glistened over with the morning rain drops and the little white beads are seen sparkling among the forest of green stalks and blades. Also how we enjoy the Lily of the Valley fragrance. We love the meekness which seems part and parcel of this plant. But there is perkness in it too. It may be symbolised in our imaginations to the tingling bells which the wedding carriage horses are decked in. So with this plant's blooms we sparkle the bride's bouquet, and put them around the altar and gracefully clothe each prominence within the church. Then the drooping heads are like unto ours when we sob, so again the wreaths upon our dear ones' biers never lack this cosmopolitan little loved thing. The Lily of the Valley lends itself almost without any skill on our part, to the most pleasant arrangements in decorations. For vases all alone, with plenty of its own foliage or interspersed below the crimson *Lobelia cardinalis* or other rich-hued flowers, nothing we can think of could be more tasty.

But it is the utility of the plant and the adaptation of the leaves and flowers when used by itself that the greatest worth is seen. No other small plant, not even the Violet or Primrose are quite equal to Lily of the Valley for decorations, and decorations of any sort.—J.

HINTS FOR AMATEURS.

The falling of Leaves.—May month opens out in a flush of green freshness. By the end of this month the season is rapidly declining, and in early October vegetation drops the worn and faded organisms whose vigour has spent itself, and which, now like the bodies of aged humanity, can no longer stay the tide of time. The semblance of the life of a leaf and the life of man correspond very closely, and is well proven in the weird old song beginning "What's the life of man, more than a leaf?" In the tropics, however, we are told of the constant monotony in the colour and appearance of vegetation. We no doubt picture the tropical forests as mightily enlarged conservatories. But we forget that in our home hot-houses only the very richest of the vegetative treasures from many lands are collected. In the real tropical forests the flowers are usually small and few, the dense vegetation and great dark leaves of Palms and Bananas, &c., causing the under paths to be in perpetual deep gloom. The tropical forests only shed their branches or leaves when the "dry season" is prolonged and severe. In our temperate lands our woods may be described as glorious in their diversity of tint. Indeed, when one thinks of it, we owe a great deal to the fact of having such widespread scenes around us and in having been nurtured under such surroundings. The falling of the leaves implies that the constituents within the leaf are not in a condition to survive the winter. With lessening heat and light the energies of the trees accumulate a debt which the actions of the leaves are not able to pay off. There is of course an expenditure as well as an income account in all Nature. It comes about then, that the waste is greater than the supply. There are also reasons to be found in the different chemical changes which these conditions soon bring about, but which we need not here divulge. There is "food" in the leaf-albumen and carbohydrates. This cannot be lost without bad effects showing themselves; therefore before the leaf actually falls, all these are carefully contracted down the stem and into the neighbour branches. When the green granules (chlorophyll) in the leaf have been removed they leave behind other smaller granules of a yellow tint. Anthocyanin is another substance left within the leaf and which, when combined in various proportions with yellow granules, it brings out the brown, orange, red, and colours of that nature which by the action of light, appear to us so manifold during autumn.

The casting of the leaves is no real loss to the tree or plant. Indeed it is a gain. All they lose is a few useless yellow granules having a certain chemical formula of no direct use inside the plant, but which by falling give at once to the root a proportion of much needed mineral matter. For building up new structure with Calcium oxalate is also left behind in the leaf structure, and other things too, but they all are beneficial to the plant for sustaining and furthering the next season's growth. They all are needed to cause other combinations to form properly and easily in the leaf during the summer, but after the leaf falls, their need fails too. It is altogether an advantage to get rid of them. The rains and snows of winter can then have their full cleansing effect on the trees, and the defoliation is also necessary for the proper development of the new growth in spring. It is rather a significant fact that the evergreen trees of arctic regions where frosts and snowstorms are frequent, have generally needle-like leaves. Had they broad foliage like the deciduous trees, the result might be that they would break under the loads they would sometimes have to carry. In wet, tropical countries, leaves are flat, membranous, and broad with long stalks. They aim at having as large surfaces as possible. The epidermis of these leaves is thin and copiously supplied with stomata, and the two sides of the internal portion are unlike. Just below the surface of these leaves one finds on examination a certain depth of spongy, loose tissue, and so from their size shape and structure the leaves of humid regions expose the greatest possible surface to the air. The advantage is obvious. In our land, when the air becomes heated, the leaves find it necessary to give off some of their moisture. The process is termed transpiration and this really means perspiration. The water in the

leaves is of course not pure. It is laden with substances in solution. The water acts only as a porter, to carry the food or real building matter to the leaf. Once it gets there it is quitted. The light then acts upon the substances which have become thus concentrated and "elaborates them," which again in simpler language means, that they are compounded and baked into proper building structure. The branch or twig upon which the leaves are placed, also helps in the process of casting the leaves. Just before the actual separation takes place there grows between the stalk and its point of union with the twig, a specially constructed triple layer of cells. It begins close to the stem part and spreads across between the firmer and older cells. These new cells are comparatively weaker, and so it happens that by the shaking back and forward, and up and down by the wind, the cells snap from their insecure grip with the older cells, and down the leaves come. After frost, this fact is made clearer and may be accounted for by saying that the cells of the new layers have become ruptured and then collapsed with the thaw which follows. After the fall, a layer of cork-tissue forms over the wound. By the phenological statistics of Mr. Mawley, Berkhamstead, we should have a pretty fair idea of the order in which the various trees defoliate. Even the branches of trees, as I have often noted, hold to a strict rotation of precedence. The order of shedding is not dependent on the order of leafing. Ash trees and Beeches begin to shed their leaves at the top; while Poplars and Willows cast theirs from below upward. Limes and Acers are observed to shed pretty evenly. The reason for the non-shedding of evergreen leaves in winter, is largely due to the fact of their having gammy matter in them, and from their adaptability to formulate their internal matters to survive the winter vicissitudes.

Present Work.—It is well to keep the hardy flower borders free from all dying plants and even yet the hoe may be beneficially used, for all the rain we have so far had has gone no depth down. The beds and borders now occupied with summer bedding plants will soon be planted with winter and spring flowering stuff. Wallflowers are as hardy and beautiful plants as any one need wish to have around the home. Violas and Forget-me-nots also make a fine show in spring. Then bulbs are very cheap and easy to secure for decorative purposes. The annuals recently mentioned on this page will be through the ground now (if sown at the time hinted at) and these should be thinned and kept in active growth. Small plants of various hardy perennials may also be used. Many growers too use small Conifers grown for the purpose in pots and plunged out pretty deeply in the winter. If due care is taken there need be no loss of plants. In the plant houses cleansing operations will be undertaken. Camellias, Azaleas, Myrtles and Bays together with other plants of this nature had better be seen to before the weather becomes too risky. For these and America Aloes, any dry old shed or disused stable will be a fit place for them provided other accommodation be not at command. Plants in frames may soon need protection, or should altogether be taken into the greenhouse where heat is at the cultivator's will. Crops out of doors must be gathered as they ripen. Ground and plots may be manured for digging in. Gas lime at the rate of 1½ or 2 tons per acre will do some good on land which has been infested with any pest. All old rubbish should be burned or, if it is of a decomposable character it will form good vegetable mould. The shade from houses away in the far north may be taken off.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Dendrobium chrysanthum.—*J. Arnot, Darlington:* As a rule the Orchideae like a pure air. Our ideas of Darlington and the other great "black country" cities are not such as would encourage amateurs to experiment with valuable Orchids. However, do your best. This beautiful Dendrobium, with its long, drooping pseudo-bulbs, thrives pretty generally under basket culture. It flowers from the fresh young wood often before the leaves fall. Do not dry

the roots much until the foliage does begin to wither, else you may fail to thoroughly ripen the "shoots." Only a short resting period is needed. When the plant begins to grow away again be very cautious not to hurry or overstrain the growth. As the weeks advance light and heat and moisture should be steadily increased. A maximum temperature during the early months of the year will be 68° or 70°. A rough open compost of peat, turf, charcoal, crocks, and sphagnum suits it well. Grow it suspended near the glass.

Annuals for a Dry Border.—*Elsie, Brixton:* You will find the following annuals to do well in dry places even in such seasons as we have just passed through. Nearly all the Sunflowers may be relied upon. Both the perennial and annual species seem to us to have loaded themselves with blooms and these of great brilliance too, in all sorts of places and different sites. The single new miniature species with clear yellow ray petals and a jet black disc, together with the double Boule d'Or, and multiflorus plenus make exceptionally bright dry-season plants. French and African Marigolds are looked upon by some folks as common plants, but they make the borders cheery even though they are "common." The Snapdragons (*Antirrhinums*) do well on dry walls, let alone borders. Petunias, Coreopsis, Linarias, Nasturtiums, &c., are one and all, useful plants for you.

Tomatos for Winter.—*S. Ireland, Nottingham:* Your query is rather late. If you really want to be successful in having a crop this winter and have not yet prepared plants for the purpose, the best thing you could do would be to take off a leading shoot of some of your present bearing plants and root it. Take it a good way down so as to have a decent plant to start with. Lateral shoots are also of use. Strike them in small pots filled with sandy soil in a warm pit. Do not allow them to become flaccid or drawn before removing them to cooler quarters. Always pot the plants with a compost which has been warmed before use. And give them gradual shifts from a warm house to cooler ones until their winter quarters are settled upon. Very little air will be required during their growth, and heat must always be kept in the pipes to maintain a temperature of about 60°. By keeping the roots rather on the dry side the fruiting powers of the plants will be aided.

Campanula pyramidalis.—*J. Sewer:* For spring decoration very few things would suit you better than the blue of white varieties of *Campanula pyramidalis*. Of course if you wish to have a later or an earlier blooming batch of these plants you must just plan accordingly. Seeds may be sown in March for an autumn supply or in July for a spring batch. When they germinate prick them into boxes and when the boxes have become well filled, pot each plant separately into 4-in. pots. Grow them steadily on until a 6-in. shift has been given at which it will be pretty generally found they flower freely. Rich compost and not at all light either, answers in this respect. Their growing position should be light, cool and free.

Lawn Poor.—*J. Elder, St. Ives:* Where lawns are worn out it either becomes a case of lifting and adding new surface compost before relaying, or of experimenting with top-dressings. We have before hinted at the advantage of allowing the grass to grow from this time onward. It saves the great draining off of strength, and, having a rough coat the lawn can stand the winter all the better. Soot used alone, or a dressing of solid but fine loam, wood ashes, lime and natural manures, could be brushed in at different periods with much benefit. Turf can be laid from now till next April during mild weather.

Planning a Small Back Garden.—*A. L.:* The facts are:—"A small piece of ground lying to the south, oblong in shape, surrounded by a low wall." Then in the first place clear away all the weeds and useless annuals. Do not bury them but clear them away. After this make a rough sketch of a plan which would suit you. We should prefer to make a border with an irregular margin along the side of the east wall. You could help the effect of this by the use of tree roots, large stones and a collection of

suitable plants to flower in rotation. Do not make the border too broad. The rest of the area would certainly appear best if laid out in grass. Smooth, well-kept, even lawns or plots of grass are always pleasant. An arbour for afternoon teas could be erected in the south-west corner, and flowering or bright, variegated, non-deciduous climbers or even fruit trees to give pleasure and profit should clothe all the walls. The alterations should commence any time from now, but should be completed by April.

CYPRIPEDIUM SHILLIANUM.

THE accompanying illustration of this hybrid *Cypripedium* was prepared from a photograph taken at Chiswick on the occasion of the International Conference on Hybridisation and Cross-breeding. It was raised from *C. gowerianum* crossed with *C.*

LONDON PARKS AND GARDENS.

III.—BATTERSEA PARK.

"COMPARISONS are odious." The truth or applicability of the above old adage all depends on circumstances. But we do not purpose to make comparisons at all. We love all our parks, and each according to sentiment may be classed as *the* best. To the man or woman who goes to the parks for lessons in how to decorate plateaus or landscapes, or confined or broad limits, the question must at times arise "How can the supervisor of this park stamp his area with the individuality it bears?" It is, of course, true that no two parks in London have the same natural conformation. Yet all the same it would be easy to fall into sameness of style in the grouping, blending, and arranging of the plants used. But in one or more of the better known parks one will find

stretches, or for heightening other effects that would otherwise fall short. The distinctiveness of a group of tall *Yucca gloriosa*, whose lower trunks are draped in Ivy, was impressive because not so very frequently seen, and this *Yucca*, like the Chili Pine (*Araucaria imbricata*), is a plant whose appearance in gardens is to my mind on the same status as fine old Walnut or Mahogany furniture in the best rooms of dwellings. The purple Vine-like leaves of *Ricinus Gibsonii* contrasted splendidly with the drooping and arching variegated Maize in oval beds, the edge being furnished by crimson *Pelargoniums* and *Verbenas*. Another tasty bed contained a tall, single stemmed *Ailantus glandulosa* (Tree of Heaven) around the base of which the golden Honey-suckle twined, and over the bed were eight or nine plants of *Ficus elastica* of 2½ ft. high. Below these and carpeting the bed were many bushy plants of



CYPRIPEDIUM SHILLIANUM.

rothschildianum, and is a very strong grower. The leaves are light green, netted with a deeper green. The scape bears two flowers. The upper sepal is triangular-ovate, and marked with dark brown veins on a light ground. The petals are greenish, and covered with broad, black spots, and strongly ciliate on both edges with black hairs. The large lip is deep brown in colour. It received an Award of Merit from the Royal Horticultural Society, and would have been honoured with a Gold Medal as the best new hybrid Orchid at the Conference, but was disqualified solely on the ground that it had previously been exhibited at Manchester. It was exhibited by G. W. Law-Schofield, Esq. (gardener, Mr. Shill), New Hall-Hey, Rawtenstall, near Manchester.

The Cape of Good Hope bids fair to be a strong competitor with Canada in the English fruit market.

very liberal and effective use made of annuals. In another park sub-tropical perennials, exclusive of Palms and such like, are in predominance, while once again we find another superintendent placing out the very tenderest of flowering and foliage plants. Of course, these are seen more or less in all of the parks, but the distinctive classes are more largely used in one park than another. Bold beds of large plants are very numerous in Battersea Park. A bed of *Nicotiana glauca* with very large, dark foliage and pink bloom heads, stands out with no little distinction in the area (almost at the west side of the park), where all the sub-tropical beds are arranged. This flower garden is just after the fashion one likes to see. The beds are all of the simplest designs, and are so placed that from any point of the encircling paths the gazer obtains a satisfactory view.

Trees and shrubs, mostly of the bright or graceful deciduous species are used for relieving the flatter

Heliotropes, the yellow *Celosia pyramidalis*, tuberous Begonias, *Dactylis glomerata variegata*, all edged with the *Lobelia* and *Alternanthera aurea*.

The dark red *Canna* called *C. Adrian Robinii*, shooting up from beneath the variegated bushy heads of *Acer Negundo variegatum*, made a bed unsurpassed by any other in its effectiveness. The edge was that of *Pelargonium Golden Flame*, blue *Lobelia* and *Gnaphalium lanatum*. The use of such plants as the variegated pot-grown Maples is a phase of the art which might be more liberally indulged in.

Then again still moving in this flower garden of Battersea Park, we get a big "fill-up" in a bed altogether on the massive scale. It is a bed filled with great bush and standard *Fuchsias*, *Plumbago capensis*, *Heliotropes*, *Iresines*, &c., with an undergrowth of Flower of Spring *Pelargonium*, edged with the great flat *Sempervivum tabulaeforme*. To save the beds from rapid drying, many of them had been carefully mulched, chiefly with cocoanut fibre.

To show how much variety, all of a like character and in keeping too, can be placed in small beds, one needs only note the following:—*Aralia Sieboldi*, *Dracaena congesta*, *D. marginata*, *Abutilon Thompsoni*, *Sansevieria javanica* or *zelanica*, various forms of *Coleuses*, *Liliago variegatum*, *Acacia lophantha* and other things, the whole being banked up with tall plants of *Monstera deliciosa* and edged with the dwarf but useful *Mesembryanthemum cordifolium* variegatum, *Brugmansias* in flower, and specimen bushes of the light blue *Plumbago capensis* just coming into bloom, together with *Fuchsias*, *Stocks* (very fragrant), *Petunias*, dark *Iresines*, and an edge of the golden tricolor bedding *Pelargonium Harry Hiover*, filled a large reniform-shaped corner bed. The variegated Maize when well grown, makes a splendid bed even when massed by itself. Such a bed may be seen at Battersea, edged with Brighton Gem *Pelargonium*, a ring of blue *Lobelia* and another of *Coprosma baueriana* variegata, a dwarf procumbent plant resembling in foliage the golden *Euonymus*. A display for the later months had not been overlooked, for though in early August the bed of *Salvia splendens* grandiflora below standard *Acer Negundo* variegatum had little to recommend it then, any visitor seeing it during September will certainly regard the scarlet mass below the green and white, as a very striking and brilliant union. The edge was arranged with *Petunias* innermost, then a line of pink *Pelargonium*, blue *Lobelia* and the *Pyrethrum* Golden Feather outermost.

There are some splendid bushes of the Golden Privet between the beds and are of course used for varying the effect. Splendid samples of Crozy's large flowering *Cannas* gave much refined richness around their particular part. This bed was indeed one of the most brilliant and charming in the park. Beds of varieties of *Cannas* in unison of colour are at all times beautiful and might surely be made more of. How about the *Canna* as a market plant? The spikes would take well on any market and need not be dear.

Neighbouring the bed of *Cannas* are two pretty little samples of carpet bedding. Diagonals and semi diagonals form the inner plan and these are raised. Such plants as *Lantana hybrida*, *Alternanthera amoena*, *A. magnifica* and other varieties of this plant are freely used. *Sempervivum grandiflorum*, *Mesembryanthemum cordifolium* variegatum, while *Saxifragas* of various kinds, *Yucca aloefolia* variegata, *Echeverias*, and an edging of *Fuchsia* meteor compose the pattern. Succulent beds are also to be seen. These have a good central plant of one sort or another, a *Yucca* or some succulent. Then the *Echeverias* are of course much used, some varieties being placed in lines, others are used as dot plants.

Gasterias, *Kleinias*, *Agaves* and *Aloes* are very much in evidence, while carpeting is got from *Herniaria*, *Antennaria tomentosa* and *Sedums*. Bananas are used as standard plants towards the backs of the flower bed area on the west side.

A typical sub-tropical bed was seen in the one where *Tradescantia tricolor* is used throughout; *Emperor William Lobelia*, *Gnaphalium lanatum* and *Fuchsia* meteor are used in lines for an edging. Then sheets of *Selaginella kraussiana*, and *Chlorophytum elatum* variegatum, spread between the specimen *Asplenium bulbiferum*, *Acalypha tricolor*, good bushy plants of *Coleus*, *Cordyline indivisa* and plants of this sort. Another bed chiefly contained plants of *Pandanus Veitchii*, *Anthericum cordifolium*, *Begonias* and edge lines of *Pyrethrum* Golden Feather, *Kleinias* and *Alternanthera*. These beds are certainly well designed, and throughout the whole of the park the perfect keeping and minute attention which all parts receive is a standing testimonial to Mr. F. J. Coppin, who superintends Battersea Park.

LILIUM TIGRINUM SPLENDENS.

THE common Tiger Lily with its reflexed orange-red petals and numerous sprinkling of black spots is one of the most beautiful and best lasting flowers we have in bloom at this time. *L. t. splendens* is bolder and better than the specific form. The flower spikes, too, are more lengthy, which certainly is a merit. None of the varieties get much, or at all, over 3 ft., at which height they are very handsome and serviceable. Although the forms of *L. tigrinum* are very hardy and can be got to succeed anywhere, yet it will be found best to give them a rich soil with enough moisture in summer.

THE FLOWER GARDEN.

TRANSPLANTING EVERGREENS.—This is the best season of all the four for transplanting evergreen shrubs. Under due precautions even very large shrubs can be quite safely transplanted. There will be cords required for tying down, or together, the branches, and a carriage for the conveying of plants will be required. Delicate barrows or carts are not safe for such work, and even if they do not altogether break down they are generally very much racked. Then a neat little pick, and a good spade and fork will be required for lifting operations. It is very desirable that the trees or shrubs to be shifted, if they be advanced at all, should have had a trench cut around them the year previously. This, of course, is well known to be beneficial so far that it promotes the growth of fibrous roots, and helps to save the trees from suffering from a check.

Where the bushes are not very large the use of strong bast-mats will be found the only thing needed to shift the plants and preserve a good ball of root and soil. This should also be borne in mind, that hardly any kind of tree, evergreen or deciduous, does at all well if its depth for rooting has been much altered. If a tree has been doing well at a certain depth, it is wise just to plant it at the exact same depth in its new site, or perhaps a little bit higher or lower according to the difference which may be in the new soil. It is a fallacy, however, to think that plants will not grow or thrive if their position of growth has been altered. I mean, if a tree has been growing nearly all to the south, and in the new site the back, or part that had formerly grown at the north side, is turned round about so as to get the most light, well, the tree does resent it somewhat for a while, but it soon rights itself if the planting has been done well.

By transplanting at this period they have time, during the warm, moist autumnal months, to make fresh young roots.

PROPAGATION of evergreens may have been done, but the operation is still in good time. Such kinds as *Acubas*, *Hollies*, *Privets*, *Portugal Laurels*, *Lauristinus*, *Phillyreas*, and various *Conifers* will strike quite freely in any warm border. They can be planted rather thickly in lines half a foot apart. In their preparation as cuttings very little trimming is required, but it should be done very cleanly.

OTHER WORK, for the moment, will be the propagating of all bedding plants, the trimming of hedges, and keeping all the ground clean and tidy.—*J. H. D.*

THE HISTORY OF THE DAHLIA.

THE ferreting out of information bearing on the early introduction and previous knowledge of the Dahlia, going back some hundreds of years, was a task of no slight proportions. But in the hands of such an able and gifted enthusiast as the late Shirley Hibberd, the result as left by him in the Vol. xiii. of the Royal Horticultural Society's transactions, reads like an extract from some beautiful story which has been filtered in a scholar's mind whereby only the clearest and most brilliant points were retained. Guided by this essay, we find that the first description of the Dahlia occurs in Francisco Hernandez's treatise on "The Plants and Animals of New Spain," published at Madrid in the year 1615. No more is heard of the plant for 130 years.

Then it turns up in 1787 in connection with an interesting event. Nicholas Joseph Thierry de Ménonville, was sent to America by the French Government of Louis XVI., to obtain a species of cochineal insect, and also to fetch the plant it subsisted upon. The expedition was successful; the cochineal was secured and in 1787 Ménonville published an account of it and added particulars of what he had seen and heard.

One of his items of interest is a description of a garden at Guaxaca where plants were seen with handsome flowers like *Asters* on stems a few feet high, and leaves like those of an Elder tree. It is evident he had seen the single Dahlias which the florists in Mexico were at that time growing.

The writings of Hernandez, Ménonville and others, aroused public curiosity among the botanists and growers in Europe. Very soon seeds were sent to Spain, a country at that time holding large power and possessions in Mexico. Then of course our own aristocracy became acquainted with the novelty,

and Lady Bute's name is known in connection with its introduction here. But within two years of its being brought over it perished. The reason lay in the fact that at that time anything "foreign" in the plant world was, upon its arrival in English gardens, coddled up in heated houses. Thus the Dahlia was suffocated and lost. By-and-by, however, better knowledge of its needs were instilled into men's minds, and from trials a nurseryman, at Sloan Square in south-west London, named John Fraser, flowered *D. coccinea* in 1804. From these flowers the first plate published in England was obtained.

Thirteen years before this, Abbé Cavanilles, the author of the genus, which he dedicated to the Swedish botanist (André Dahl), whose name is commemorated in the flower (and the proper pronunciation of Dahlia is *Dawlia*). At this time there were two species of Dahlia known and described, *D. pinnatus*, and *D. coccinea*. The first of these became the Dahlia of the garden, and from the variability belonging to it, the name of *D. variabilis* is also given to it. The name Dahlia was for a while overridden by that of *Georgina*, which a German professor, under misapprehension, had applied to it.

Cavanilles, already mentioned, was the first to be so successful in his culture as to obtain double flowers. The name *Georgina* was even used so late as 1832 in "Loudon's Gardeners' Magazine," but no further mention is on record. Every cultivator on the Continent was at this time doing his best to secure double forms among his Dahlias. Very soon the doubles were numerous and constant, thanks chiefly to M. Donkelaar, of the Botanic Garden, Louvain. The incoming of the Dahlia coincides with the first French revolution, and the establishment of double flowers with the prelude to the Battle of Waterloo.

Then from 1820 till 1850 the Dahlia steadily improved in every desirable quality; but immediately after 1850 there was a slight lack of favour for this flower, although the improvement continued. The National Dahlia Society at its foundation in 1870 gave a further impetus to all classes of the Dahlia. Since then the advance of new characters and distinct colours has steadily accumulated. Fickle fashion has for a while demanded one thing, only to change her mind for something different with the advent of a new season. The large show and fancy Dahlia had an army of supporters and admirers five or six years ago. But these have melted and dwindled most perceptibly. The single Dahlias had also a stronger hold at one time than at the immediate present. The Cactus types are really the prime favourites, and this since the advent of the perfected, revolute and twisted petals, and the brilliancy of colouring, plus, of course, other qualities. But the whole genus Dahlia is a grand one, spare it complete; deduct not a single form from the many variations it assumes for the decoration of the garden in autumn.—*G. R. D.*

The Orchid Grower's Calendar.

LIGHT.—Everyone knows the value of light in the culture of all sorts of plants. At the same time we have to break the sun's rays in the case of some plants when grown under glass. Especially is this the case with cool house Orchids, &c., for though they undoubtedly at times get more light and air than it is possible with safety to afford them here, on account of the glass in between, we must as far as we can try to imitate Nature.

Hitherto we have found one thickness of ordinary cotton shading sufficient, but this has been such an exceptional summer that we have to put some whitening on the glass as well, more to keep the temperature down than anything else, and this we are now having washed off, and the glass made as clean and clear as we can.

ODONTOGLOSSUMS do more, we think, during this month and next as regards growth, &c., than any other three put together, and, as often pointed out, they must have the best possible attention. Do not wait until they get out of sorts before touching them; do the necessary potting when they are in good condition, and you can count on keeping them in a good way.

RAISING ODonTOGLOSSUM SEEDLINGS.—After a few successes—for we have about thirty—and many failures to get them to germinate we think at last we

are on the right road, and as my employer as well as myself are anxious that others shall benefit by our experience, I may be pardoned for mentioning our treatment here.

Naturally, we have sown the seed on all kinds of pots and in all kinds of positions; on plants on the stage, and on the ones suspended near the glass, and it is on those so suspended that we now have the tiny seedlings, just discernible with the naked eye. The seeds have only been sown about four months, showing that under favourable conditions they are not long in germinating. It would seem, then, from the foregoing that seed sown on plants on the stage get too much water, and are either washed entirely away, or are washed so deep down in the compost that they cannot live.

With suspended plants the air plays about them, and they naturally dry up much quicker. The moss, too, is shorter in growth, and does not therefore smother the little seedlings.

We sincerely hope that those who have not tried their hand at raising seedlings will do so, for we have proved that it is possible to do by a little perseverance.—S. C.

NOVELTIES AND NEW STRAINS.

MESSRS. WEBB'S TRIAL GROUNDS.

Nothing can possibly be more gratifying to the senses than to be allowed to wander among the flowers in the extensive trial grounds of any of our leading seedsmen during midsummer, there to revel in the luxury of delicious odours and the lovely tints of rich and rare plant blooms. Such were my thoughts when gladly accepting an invitation to visit Kinver.

I entered the animated art museum of Messrs. Webb & Sons, the Royal Seedsmen, of Wordsley—a museum truly of horticultural rarities, many of them new creations for garden, pleasure ground, and farm alike, and so spacious as to cover a stretch of country over nearly a thousand acres, all devoted to artistic and scientific plant culture. Transformations of the most marvellous nature here take place, cereals by the agency of chemical manures being made to yield most magnificent crops, which also prove that cross-fertilisation and high selection are carefully attended to. Root and "green" crops are likewise meritorious. The Messrs. Webb have extensive chemical manure works in Lancashire, their plant foods are of a high quality, and are sold in small no less than in large quantities.

When I visited Kinver it was about the middle of July, when Sweet Peas were at their best. I shall never forget the dazzling brightness of their varied splendours as seen there. To assert that they were beautiful gives but faint idea of the impressions excited. Messrs. Webb have brought out a highly selected strain, the bloomings of which are not only magnificent but profuse in varied unfoldings of colour of every hue known. Carnations were also pre-eminently noticeable. Finer or more interesting varieties could scarcely be found than in those of Webb's New Imperial strain. The hand of the expert has been busy selecting and crossing, and there was also to be seen the latest novelty in Carnations, this being Webb's New Perpetual Bouquet. The strain is almost perpetual in blooming, and certainly highly attractive by the great variety of colours, and the remarkably fine blooms.

The Candytufts, too, were exquisitely chaste and bright. Webb's new Pink Pearl variety would be difficult to surpass anywhere. Stocks and Asters were well sustained in Webb's new May Queen and Crystal White Stocks, and Webb's new bedding and new Snowflake Asters, which were in perfection.

Ere proceeding further I would call attention to the glass department, which is of extensive dimensions. Additional houses have been recently erected to meet the increasing demands for good stocks of seed of such popular flowers as Gloxinias, Begonias, Primulas, Cinerarias, and Calceolarias. At the time of my visit the three latter named were seeding and being harvested in bulk. It is an interesting process, demanding scrupulous care. Each variety is kept true, and high selection is made, so that only the best seed is kept for supplies.

Webb's Excelsior Gloxinia occupied two or three houses, the earlier plants of which were bearing seeds. This year's seedlings were remarkably vigorous, throwing up strong, full-sized and well-shaped flowers in all their diversity of colour. The

Begonias, both double and single, were to be seen in all stages of growth, but each was strong and sturdy, having abundant foliage with flowers to correspond. The collection of this deservedly popular flower was very fine indeed.

In other houses there were Cucumbers, Melons, Tomatos, &c., all for seed purposes, and for testing new kinds before sending them out. Scrupulous attention to this latter duty, in horticulture generally, is the key-note of Messrs. Webb & Sons' success.

Too much space would be occupied by an attempt to enumerate all the productions under glass. Each season brings with it tests and trials of all bulbous plants such as Lilliums, Tuberoses, Hyacinths, &c. These in turn give place to others, including some of those enumerated above, together with a promising batch of Cyclamens, of Messrs. Webb's finest strain, which should be worth seeing when in flower. Everything appears to be done thoroughly, and in keeping with the reputation of this firm. Ere quitting the glasshouses, however, I must give a note to a few of the choicest varieties of Tomatos. I saw there Webb's Regina taking the palm, as I was prepared to find, by seeing it previously on show stands. But there were also splendid varieties in Chancellor, Sensation, and Viceroy. Webb's New Sovereign, among the golden-yellows, was also a novelty, the fruit being remarkably fine and shapely, and attractive in colour.

Returning to the open air, the new hybrid Delphiniums attracted my attention. Webb's Giant Mignonette is a well-known speciality, but the Kinver Dwarfs were more profusely in bloom on the occasion of my visit. Other floral gems which are grown there are Exhibition and Superlative Double Zinnias, the White Swan, New Favourite, and Rosette Poppies, all recently brought out. Webb's Eclipse Gaillardia appears to have become exceedingly popular.

Vegetables, created and perfected at Kinver, are worthy of study. The Main Crop Potato (Webb) was tried last year in competition with other good sorts, and none were found superior. This is a broad statement to make, considering the claims put in for several other varieties, but statements made by practical men thoroughly substantiated. The firm has always been famous for its Onions, but Kinver takes "Excelsior" for its motto, so one of the rarest specimens of the Banbury tribe has recently been crossed with Ailsa Craig with a capital result. Their Emperor Cabbage has proved a first-rate early market Cabbage, and hearts well. Mr. John Wright, of Prestonpans, a very large grower, remarked that he could sell all he grew at a much higher price in Edinburgh and Glasgow markets than any other kind grown by him.

Of Peas there are so many good sorts at Kinver that it is difficult to make a selection. For very early bearing Webb's Little Marvel, brought out this year for the first time, is likely to become exceedingly popular, while Stourbridge Marrow still holds its own as one of the best second early Peas. For the general crop Webb's new Talisman has recently been in great request, but not more so than the new Senator, a highly successful cross of Prince of Wales and Culverwell's Giant Marrow, likely to prove the Pea of the future, the haulms being marvellously covered with pods, so that scarcely any leaves can be seen. But there are still newer creations in Astronomer and Masterpiece, both equally prolific in bearing, and yielding remarkably fine pods. There are also about twenty new sorts being submitted to rigorous high selection, which, if they do not respond thoroughly to expectation, will never be brought out; but some of them are likely to be of value. Messrs. Webb have provided an admirable Turnip for table purposes in Prizewinner, which, according to its numerous winnings, appears truly named.

Of course I do not profess to give a full account of Kinver. I can only mention the novelties and newest creations. Webb's new dwarf French Bean called Harbinger, only first brought out this year, is very prolific, and yields lengthy pods of high quality, and the Kinver new Runner Bean Eclipse, appears to be a great improvement on most of its kind. In Broccoli, Mont Blanc is claimed to be a good early variety. Cauliflower also shares in the advance, and in the new variety, Peerless, we have a good thing, coming in for consumption between first early and late varieties. The New Prizewinner

Carrot is also among the novelties, and is of large size and symmetrical shape. Still, for utility there is perhaps nothing to surpass Webb's Market Favourite Carrot. Lettuces, Radishes, Leeks, Beet, Parsley, and many other kinds of kitchen vegetables are all under selection and trial. In fact, the Messrs. Webb appear to have taken them all in hand, subjecting them to the arts of cross-fertilisation and persistent high selection, so that their most valuable capabilities of excellence may become thoroughly developed.—J. D.

GARDENING MISCELLANY.

EULALIA JAPONICA ZEBRINA.

THERE is yet a need for hardy, tall, variegated Grasses. The above is a beautiful striped Eulalia, very suitable for a deep loamy soil on the edge of a cool-shaded belting of low shrubland, or by the margin of a river's bank. Messrs. Cheal & Sons had fine plants on view at the Drill Hall on August 15th.

CAMPANULA ISOPHYLLA MAYI.

ON two occasions has Mr. H. B. May shown this new variety of Campanula isophylla (that bright Blue Bellflower seen so frequently in cottage gardens) at the Drill Hall meetings. Some are of the opinion that it is identical with or may soon revert to the typical species. But the plant is perfectly distinct. The blue of the flowers is a whiter, calmer blue, and the downy foliage is far more gray than the smooth green foliage of the parent form. It is one of the finest of this year's greenhouse plants. Nice serviceable plants can be had in five or six months from the cutting stage.

LATHYRUS LATIFOLIUS WITH STRIPED FLOWERS.

FOR many years the ordinary rosy-purple form of *L. latifolius* and a white variety were well known in gardens, and appreciated by many. Last year a much larger flowered white variety made its appearance. It seems that the species is capable of a considerable amount of variation so that it is only necessary for some interested or enthusiastic cultivator to take the plant in hand in earnest to produce or raise many varieties of real merit, as has been done in the case of the Sweet Pea. The ordinary two forms of this Everlasting Pea have been growing for some years amongst the shrubbery at Falkland Park, South Norwood Hill. Many spontaneous seedlings have turned up, and most of them have white flowers more or less striped or flaked with purple. Whether these have arisen as seedling variations or by the inter-crossing of the rose and the white states it would be difficult to say. If we suppose the latter hypothesis then we are confronted with the fact that the flowers of the Sweet Pea are self-fertilising, and may be so in this case. It is possible, however, that an occasional cross in either case does take place when circumstances favour it. In any case cultivators might take the Everlasting Pea in hand.

DICENTRA EXIMIA.

For a beautiful rock plant, dwarfer and smaller than *Dielytra spectabilis*, but otherwise much resembling it in form, colour, habit, and grace, this *Dicentra* or Bleeding-heart, stands out vividly. It is one of those plants whose characters linger with one. A half shaded part of the rockery in a free root space, or for naturalising in wooded retreats, how very fine a plant it is.

EQUISETUMS.

Among native plants of grace and novelty of habit, the Horsetails take a leading place. I like to see them in big stretches, spreading upon the bog-lands or in peaty or humic hollows. When looked into closely, their beautiful structure, because of its exactitude and slenderness, makes them all the more to be regarded. For recesses in low-lying rockeries where moisture is plentiful, the giant Horsetail, *E. maximum*, should be liberally grown. For using among Sweet Peas and small flowers in vases no foliage is so adaptable. *E. sylvestris*, the wood Horsetail, can also be naturalised in shady parts.

Gleanings from the World of Science.

The Social Instinct in Protoplasts.—Sir Edward Fry still continues to advance curious facts about the Mycetozoa in *Knowledge*, and in the current issue he says:—"The life-history of all these Acrasieae presents many very curious points; it seems to bring before us the fact that separate protoplasts, without ever uniting into a plasmodium or ever becoming part of a single organism, may nevertheless acquire as it were the social instinct and live for the good not of themselves but of the whole organism, and for that purpose may submit to a division of labour; for whilst some of the protoplasts assume the function of only supporting their fellows, the others avail themselves of the support, raise themselves from the level of their original surface, and devote themselves to the function of reproduction. And, moreover, certain aberrant and sessile forms of the Dictyostelium seem to show that this elevation of a portion of the protoplasm is not necessary to reproduction, though it may well be that the greater exposure to the ripening influences of the atmosphere and the sun may render it beneficial to the organism, and so more than compensate for the withdrawing from the function of reproduction of a certain part of the protoplasm, and applying it to the purposes of support alone."

At a meeting of the Royal Horticultural Society on the 15th August, the subject of "Grafted Potatoes" was the only important subject discussed.

Grafted Potatoes.—Mr. A. W. Sutton sent up to the Royal Horticultural Society on the above date some specimens of the haulm and tubers of various Potatoes upon which he had been experimenting. Unfortunately, the Scientific Committee was not sitting, but the specimens were examined, and the following notes are placed on record. It will be remembered that Mr. Sutton, on January 31st, 1899, exhibited numerous tubers, the character of which appeared to have been modified in consequence of the plants from which they were grown having been grafted with Tomatoes, &c. The plants now exhibited show that the modifications alluded to were not confined to the tubers alone, but were noticeable in the plants generally, and that there had been no reversion to the original form. The specimens exhibited were the following:—

No. 1.—Potato "Victoria," typical plant, showing normal growth and produce.

No. 2.—Plant grown from tubers which were the result of grafting, in 1895, Tomato "Maincrop" on Potato "Victoria." Each year since 1895 a crop has been grown and tubers saved (resulting from this graft).

NOTES.—All the plants in this row are alike, but the growth is only about one-third the height of No. 1, and the tubers few and small. [Haulm much dwarfed and produce diminished, form of leaf not altered.]

No. 3.—A similar experiment to last, except that in 1895 another variety of Tomato, viz., Sutton's "Perfection," was grafted on to "Victoria" Potato.

NOTES.—All the plants in this trial are also very uniform, exactly corresponding with one another, but they are rather stronger than No. 2, and more bushy, and yet quite distinct from No. 1. N.B.—No. 3 is the produce of one set only.

No. 4.—A similar experiment to Nos. 2 and 3, but in this case, instead of a Tomato, the common garden weed, *Solanum nigrum*, which produces seed-berries so plentifully, was grafted on the Potato "Victoria," in 1895.

NOTES.—The plants in this row correspond more nearly to those in No. 1, but whereas in neither No. 1, 2, nor 3, are there any seed-bearers, in this row (No. 4) the plants produce seed-bearers abundantly.

Three plants of No. 4 are sent to show its seed-bearing tendency. N.B.—It will be seen that the tubers vary little, if at all, from those of No. 1 (this was the case also when shown in January last).—A. W. S.

[Victoria foliage unaltered; haulms bear numerous berries of the size of marbles.—ED.]

A very similar experiment was made in 1895 with another Potato, Sutton's "Supreme," the character and constitution of which appear to have been

modified by Tomato-grafts, just in the same way as Victoria Potato was.

No. 5.—Typical plant of Potato "Supreme."

No. 6.—Plant grown from tubers which were the result of grafting, in 1895, Tomato "Ham Green Favourite" on Potato "Supreme." Each year since 1895 a crop has been grown and tubers saved (resulting from this graft), as in the case of plants Nos. 2 and 3.

It will be seen that here also the plants are much dwarfed, though the tubers do not differ much [except in their smaller size].

Axillary Tubers.—No. 7.—An interesting experiment was made in 1895 as follows:—Tomato "Earliest-of-All" was grafted with Potato "Woodstock Kidney." The Potato foliage produced axillary tubers, nourished, of course, by the Tomato roots. The axillary tubers were planted, and a crop has since been grown annually. No. 7 represents the ordinary plant of Potato "Woodstock Kidney." No. 8 represents the plants grown from the axillary tubers of 1895, and successive years.

NOTES.—Perhaps No. 8 is stronger, and taller, and more upright in growth, but there is no very marked difference between the two as regards foliage; the tubers of No. 8, however, are very poor in every way, and very few in number [and the quantity of fibrous roots relatively large].—A. W. S.

SOCIETIES.

ROYAL CALEDONIAN HORTICULTURAL.—

September 13th and 14th.

MANY of the exhibits had to be omitted from our telegram of last week, and the principal ones are here given. As already stated in last week's issue, the entries for Apples were very numerous; but a large number of single dishes have again to be omitted for considerations of space. Several classes were instituted for amateurs, and these were well represented. The show, on the whole, was a very fine one, some classes being less well-filled than last year, but others were better, and the quality was admitted to be superior. With the exception of light showers during the first day, the weather was altogether propitious for the show.

PLANTS.—Tuberous Begonias were plentiful, and in many cases well flowered. The first prize for six single varieties was taken by Mr. W. Galloway, gardener to J. H. Ford Esq., Liberton. Mr. Wm. Aitken, Balerno, was second. Mr. W. Galloway again took the lead for three single Begonias. Mr. R. Ballantyne, gardener to Mrs. F. A. Mathieson, Coulter Maynes, Biggar, took the lead for three double Begonias, Mr. W. Galloway being second in this case. Mr. R. Ballantyne took several other prizes for Begonias. Vallotas were in strong force, Mr. Wm. Aitken taking the first prize in one case; and Mr. W. Gourlay, gardener to A. T. Williamson, Esq., Blairisk Hall, Loanhead, was first in another. Mr. J. Tweedie, gardener to J. B. Wingate Esq., Biggar Park, Biggar, had a first for Begonias. Mr. R. Watson, Carlisle, was first for Cockscombs. Mr. J. Macgregor, gardener to Sir T. D. Gibson Carmichael, Bart., Castlecraig, Dolphinton, took the lead for Hydrangeas. Mr. Geo. McKinnon, gardener to Sir John Usher, Bart., Norton, Ratho, was first for Petunias. Mr. G. Wood, gardener to J. Buchanan, Esq., Oswald House, Edinburgh, was first for a specimen Palm.

Mr. J. H. Pearson, gardener to P. N. Fraser, Esq., Rockville, Murrayfield, was accorded the first prize for four exotic Ferns, which were of large size. Mr. Jas. McCartney, gardener to David A. Croll, Esq., Liberton, was second; and Mr. G. Wood came in third. The first prize for four Adiantums was taken by Mr. T. Lunt, with huge specimens. Mr. J. H. Pearson was second; and Mr. G. Wood came in third. Mr. Thos. Gibb, gardener to Mrs. Edmonton, Redacre, Kilgraston Road, had the best six Lycopods. Mr. W. Sharpe, gardener to C. L. Wood, Esq., Freeland, Forgandenny, had the best four Orchids, and was followed by Mr. Francis Nicoll, gardener to T. Roy, Esq., Perth. Mr. W. Sharp had the best single specimen Orchid, and the best three, being followed in the last case by Mr. J. Mitchell, gardener to J. Wilson, Esq., Bantaskin, Falkirk. Mr. J. McLaren, gardener to D. Mitchell, Esq., Polmont, had the best Coleuses, and was

followed by Mr. D. Matheson, gardener to T. G. Rose-Innes, Esq., Kinellan, Murrayfield.

Mr. W. Anderson, gardener to Col. Sir David Davidson, K.C.B., Woodcroft, Clinton Road, showed the best nine dwarf British Ferns. Very fine was *Adiantum Capillus-Veneris imbricatum*. Mr. J. H. Pearson took the second award. Mr. J. Bethel, gardener to Mrs. Walker, Westwood, Newport, had the best four British Ferns, showing amongst others a specimen of *Polystichum angulare plumosum Grimmerii*, about 6 ft. through, and in grand form.

Mr. T. Lunt was first for Crotons, showing specimens of huge size. Mr. Jas. McCartney was a good second. Mr. G. Wood took the lead for Caladiums; and Mr. Adam Knight, gardener to Peter Wordie, Esq., Kenzie, had the best Dracaenas.

PLANTS (NURSERYMEN ONLY).—The first prize for six new plants was awarded to Mr. John Downie, Beechhill Nurseries, Murrayfield. He also took the lead for twelve table plants, which were in fine condition. The leading award for six table plants was taken by Mr. M. McIntyre, gardener to Sir Chas. Tennant, Bart., The Glen, N.B. Messrs. James Dickson & Sons, Edinburgh, took the leading award for twelve hardy Conifers, showing large specimens in tubs. Mr. John Downie was second with smaller plants. He took the lead, however, for twenty-four hardy evergreen shrubs, which were dwarf and in fine form. Messrs. James Dickson & Sons were second.

CUT FLOWERS.—Prizes were offered for table decoration, and the first prize was taken by Mrs. Martin, 28, Sciennes Road, Edinburgh, with a light and graceful arrangement. Mrs. B. J. Duncan, Fogo, Duns, was second. The first prize for eleven spikes of Hollyhocks was taken by Mr. John Forbes, Hawick, who had well-flowered specimens. Messrs. M. Campbell & Son, High Blantyre, took the second award. Mr. John Downie took the lead for eighteen bunches of single Dahlias, which were very attractive. Messrs. M. Campbell & Son were second. They came to the front for twelve Carnations. Mr. John Forbes was first for Picotees.

The first prize for thirty Gladioli was secured by Mr. George Mair, Prestwick. Mr. Alex. E. Campbell, Gourrock, and Messrs. Harkness & Sons, Bedale, followed in this order. Mr. Jas. W. Carnegie, gardener to M. Smith, Esq., Roselea, Prestwick, was first for six Gladioli, and also for twelve. Mr. Wm. Angus, gardener to Jas. Ogston, Esq., Norwood, Aberdeen, took the lead for twelve bunches of Sweet Peas, his stands being filled with very fine varieties in first-class order, including his double British Queen, certificated last year. Mr. J. Oliver, gardener to the Earl of Ravensworth, Eslington, Whittingham, was a good second. Messrs. D. & W. Croll, Dundee, took the lead for thirty-six blooms of Roses, which were very fine indeed. Messrs. Thos. Smith & Sons, Stranraer, were second. The same order was maintained for eighteen Roses and for twelve Roses. In the class for twenty-four Tea Roses Messrs. D. & W. Croll led the way, followed by Messrs. Adam & Craigmile, Fernielee, Rubislaw, Aberdeen. Messrs. D. & W. Croll were first for twelve vases of Roses, Messrs. Thos. Smith & Sons being second. This order was reversed for twelve scarlet Roses. Messrs. D. & W. Croll had the best pink Roses, followed by Messrs. W. & R. Ferguson, Dunfermline; but for white Roses they were followed by Messrs. Thos. Smith & Sons. Mr. John Smellie, Pansy Gardens, Busby, N. B., had the best eighteen bunches of Cactus Dahlias. Messrs. M. Campbell & Son were second, and Messrs. A. Lister & Son, Rothesay, third.

FRUIT.—Mr. T. Lunt had the best single bunch of Muscat of Alexandria Grape. Mr. Jas. Mattison, gardener to Messrs. Craigs, Curriehill, had the best bunch of Black Hamburgh. Messrs. D. & W. Buchanan, Forth Vineyards, Kippen, took the lead for one Alicante, and likewise for Alnwick Seedling. Mr. J. Beisart, gardener to Mrs. Armitstead, Castle Huntly, Longforgan, took the lead for one Gros Colman, which was grand in bunch and berry. Mr. Jas. Anderson, gardener to the Trustees of the late W. C. Black, Esq., Hailzie House, Peebles, had the best Lady Downs. Mr. J. Paterson, Bennochry Vineries, Kirkcaldy, was first for one bunch black, showing Cooper's Black. Mr. John Potter, gardener to W. Parkin-Moore, Esq., Whitehall, Wigton, had the best white. Mr. D. Murray, gardener to the Marquis of Ailsa, Culzean Castle, Maybole, had the finest flavoured black, Mr. T. Lunt the finest flavoured white, the black for finest bloom.

The leading award for a collection of Apples was secured by Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton, Chester, who had fine fruits of Mere de Menage, Gascoigne's Scarlet Seedling, The Queen, Allington Pippin, &c.; he was followed by Mr. R. M. Whiting, Credenhill, Hereford; and Mr. J. Dymock, gardener to B. W. Vernon, Esq., Stoke Bruerne Park, Towcester, in this order, both showing well. Mr. Jas. Wm. Carnegie, gardener to M. Smith, Esq., Roselea, Prestwick, had the best collection of Apples grown in Scotland. Mr. J. Day, gardener to the Earl of Galloway, Galloway House, Garliestown, took the second place with an even lot. Mr. D. Murray came in third. The competition in this class was severe. The leading award for a collection of six varieties of Apples was taken by Mr. Mr. J. Dymock, with beautiful samples. He was followed by Mr. John Fraser, gardener to F. L. Davis, Esq., Coldra, Caerleon, Monmouth, who also staged very evenly. Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, was a good third.

Mr. A. Rowland, gardener to the Marquis of Tweeddale, Yester Gardens, Gifford, had the best twelve Apricots. Mr. T. Lunt, showed the best twelve Nectarines. Mr. D. S. Melville, gardener to Lord Malcolm, of Poltalloch, Lochgilphead, took the lead for Peaches, with magnificent specimens. Mr. J. Billton, gardener to Major Balfour, Fernie Castle, Collesie, led the way for Figs. Mr. J. Ovens, gardener to Jas. B. Wilkie, Esq., Foulden House, Berwick-on-Tweed, had the best green-flesh and the best scarlet Melon. The best Queen Pineapple was shown by Mr. Jas. Morrison, gardener to Mrs. N. Hamilton Ogilvy, Archerfield, Drem. Mr. M. McIntyre was second.

Mr. R. Aitken, gardener to Alex. W. Inglis, Esq., Logan Bank, Milton Bridge, was first for Strawberries; Mr. W. Wilson, gardener to H. H. Almond, Esq., Koretto, for Black Currants; Mr. Jas. Mattison, for Gooseberries; Mr. John Cairns, gardener to the Earl of Home, Coldstream, the best Red Currants; Mr. D. Pitt, Kelso, for White Currants; Mr. Alex. McMillan, gardener to The Hon. the Earl of Home, Lanarkshire, for Raspberries; and Mr. J. Fraser Smith, gardener to the Dowager Countess of Seafield, Cullen House, for Cherries, which were magnificent examples.

Mr. A. Ireland, gardener to the Dowager Marchioness of Downshire, Hildenborough, Kent, took the lead for a collection of Pears, showing some fine samples. Mr. J. Paterson, gardener to J. Fletcher, Esq., Pencaitland, took the lead for a collection of Pears grown in Scotland. Mr. J. Day was a very good second; and Mr. A. S. Cole, gardener to Sir R. D. Moncrieffe, Bart., Bridge of Earn, came in third. Mr. J. Dymock had the best dish of Beurré Bosc; Mr. A. Rowland, the best Beurré d'Amanlis; Mr. J. Fraser, the best Beurré Diel, and the best Beurré Hardy; Mr. Thos. H. Cook, gardener to the Earl of Wemyss, Longniddry, the best Beurré Rance; Mr. J. Paterson, the best Beurré Superfin; Mr. John Cairns, the best Durondeau; Mr. N. F. Barnes, the best Easter Beurré, and the best Glou Morceau; Mr. W. Anderson, the best Jargonelle; Mr. J. Fraser, the best Josephine de Malines; Mr. A. Ireland, the best Louise Bonne of Jersey; Mr. J. Paterson, the best Marie Louise; Mr. J. Day, the best Pitmaston Duchess; Mr. J. Paterson, the best Williams' Bon Chrétien; Mr. N. F. Barnes, the best Winter Nelis; Mr. D. Murray, the best Catillac; and Mr. Jn. Cairns, the best six dessert Pears.

VEGETABLES.—Messrs. W. Murray & Son, Orchard Park Hall, Polmont, took the lead for Tomatos. Mr. W. Wilson was first for Brussels Sprouts. Mr. Jas. Shearer, gardener to J. Rutherford, Esq., M.P., Summerhill, Annan, led for Savoy. Mr. J. S. Ritchie, Denny, took the lead for fifty pods of Peas. Mr. J. Day had the finest Cucumbers. Mr. J. Laing, gardener to Sir Jas. C. Rattray, Blairgowrie, had the finest Cauliflower.

Mr. Adam Shakelton, gardener to Capt. The Hon. Cecil Duncombe, Nawton, Yorks., took the lead for French Beans. Onions were of huge size, and the lead was taken by Mr. J. Dymock, followed by Mr. Thos. H. Cook, gardener to the Earl of Wemyss, Gosford Gardens, Longniddry. James Paul, Esq., Drumbeg, Killian, was first for Celery; and Mr. J. Paterson, Rutherford, Roxburgh, was second. The latter took the lead for Beet and Parsnips. Mr. John Ovens was first for Carrots. Turnips (Golden Ball) were best shown by Mr. R. T. Rae, Sunlaw. Mr.

John Hood, gardener to Miss Baillie, Dryburgh House, St. Boswells, had the best Leeks in good competition. Parsley was very fine, the first prize going to Mr. Alex. McMillan. Mr. Jos. McFarlane, gardener to J. P. Grant, Esq., Kilgraston, Bridge of Earn, was first for Lettuce. Cabbages were best shown by Mr. W. Laidlow, gardener to Sir S. J. Dundas, Bart., Comrie, Perthshire.

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, London, had a table of cut flowers of single and double tuberous Begonias, set up with Maidenhair Fern, backed with Palms, &c. The double varieties were of a high order of merit, and attracted a great amount of attention. Specially fine were Miss Alice Tait, apricot; Mr. Dunhar Wood, orange; Miss Rhoda Pope, white; Prince of Wales, scarlet; Mrs. Robert Sadler, picotee-edged pink; Golden Queen of England; and Bronze Beauty, a lovely bronzy-orange.

Mr. John Pinches, 3, Crown Buildings, Crown Street, Camberwell, S.E., exhibited a stand of his well-known Acme Labels, which consist of cast iron, and have the name or number cast in the same solid piece, and then polished clear. Wright's Pot Suspenders in various sizes was also shown by him, together with a number of other specialities.

Mr. Chas. Irvine, Jedburgh, N.B., had in his exhibit a semi-double white Delphinium, said to be the only semi-double white which has yet been seen. Their strain of Pentstemons was notable for the great size and open character of the flowers. Mr. Thos. M. Whitehead, florist, Selkirk, was awarded a First-class Certificate for his Carnation Mrs. John Whitehead, a very large yellow variety with smooth petals.

ROYAL HORTICULTURAL.—September 12th.

(Concluded from p. 45.)

A collection of fruit came from C. Bayer, Esq., of Tewkesbury Lodge, Forest Hill (gardener, W. Taylor). The black and white Grapes, Plums, Pears, Peaches, Apples, and Tomatos were remarkable for even size and finish. (Silver Banksian Medal.)

Mr. George Prince, Oxford, had a splendidly decorative group of Tea, H. Tea and decorative garden Roses. The arrangement was very varied and well finished off, black velvet being used where vases and sprays were used. A central tier staged, velvet draped, and filled with Rose sprays helped the effect greatly. On either side was a pedestal filled also with Teas, Maman Cochet and Marie Van Houtte principally. The table was a feature of the show. (Silver Flora Medal.)

A collection of hush Apple trees in pots came from Messrs. Paul & Son, Waltham Cross, Herts. The trees had been well trained, bore good crops, and were healthy and clean. Small's Admirable, Cellini Pippin, Prince Albert, Belle Pontoise, Peasgood Nonsuch, and others were noted. They also had a liberal collection of Apples in dishes. (Silver Banksian Medal.)

F. Walker, Esq., Highbury Manor, Balcombe, staged a collection of Peaches, Apples, Plums, Currants, and Cherries. (Silver Banksian Medal.)

Mr. S. Mortimer, of Farnham, made an exhibit of some two dozen Melons, capital samples each of them. (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, put up a collection of twenty-seven varieties of Tomatos from the open ground. The plants had been pulled up by the root so that the habit, the height and the bearing qualities of the plants were shown in all truthness. Frogmore Selected was noted as good; Acme also was fine; Ham Green must also be classed, and so with Golden Nugget and Golden Jubilee. (Silver Knightian Medal.)

The second competition of vegetables for the Sherwood Cup only brought one exhibitor, he who showed on the previous occasion (Mr. G. Beckett, gardener to Lord Aldenham). Words, however, would fail to do justice to this collection. For quantity, evenness, cleanness, purity and good form, the whole of the vegetables put up could hardly be excelled. Carter's Extra Early Autumn Giant was white and even; Pragnell's Exhibition Beet; Green Globe Artichoke, Cocoonut Onions; Sutton's White Gem Celery; Carter's Giant Green Savoy; Moor's Cream Vegetable Marrow; Carter's Maltese Parsnip; Sutton's Best of All Runner Beans; Veitch's Wild-smith Onion; Veitch's Scarlet Model Carrot, and the new climbing Runner Bean, put out by the same

firm, were capital samples of vegetables. Potatos in the following varieties were shown:—Sutton's Satisfaction; Sutton's Windsor Castle; and Carter's Gold-finder. Mushrooms, Brussels Sprouts, Turnips, Lettuces, Green's Scorzoneria, Long Red Capsicum, Maize and Tomatos were also shown. (Gold Medal.)

Messrs. Thos. Cripps & Son, Tunbridge Wells Nurseries, Kent, sent a beautiful assortment of Maple-shoots. The palmate, serrated leaves and the beautiful colouring was much admired.

Mr. Geo. Woodward, Barham Court, Maidstone, had a small collection of Peaches, Nectarines, and Pears. (Silver Banksian Medal.)

Other and smaller exhibits of fruits came from Messrs. Geo. Bunyard, Maidstone; Messrs. Hobbins, Dereham; Lord Aldenham, Aldenham Park; Messrs. W. & J. Brown, Stamford; Captain Carstairs, Newbury; Messrs. Veitch & Sons, Exeter; Mr. J. Rutler, Wisbech; the R.H.S. Gardens, Chiswick, &c.

Salvia splendens compacta, from Mr. Hudson, grand plants and freely flowered.

GLASGOW HORTICULTURAL.—September 7th.

THE annual flower, fruit, and vegetable show held by the Glasgow and West of Scotland Horticultural Society came off on Thursday, September 7th, in St. Andrew's Hall. The exhibition was well up to past averages, and the usual three halls on the ground floor of the building were completely covered, and space had to be found for part of the exhibits in the octagon entrance. In the Grand Hall the finest produce was grouped or staged, such as tall Palms, Tree Ferns, Crotons, and many varieties of fine foliage, and other ornamental plants. Among cut flowers the different sections of Dahlia were very prominent. It is to be regretted that for a table of plants there was only one entry, that from Mr. H. Reid, gardener at Kennishead. This exhibit, however, fully merited the prize. It surely does not point to less skill among our Scottish gardeners in the culture of exotic stove plants or plants of tropical habitat this fact of failing entries. In one or two northern shows competition in this class of entry has lacked during this present year.

Fruits were not very extensively shown. Black and white Grapes were strongly in evidence, and the bunches of that seedling of Messrs. D. & W. Buchanan, Kippen, were well shown by them. Vegetables were in great plentitude, filling the whole of the Kent Hall. The chief award in this section was gained by Mr. James Brown, of Houston House, who is well known in the West of Scotland as a don at vegetables. He secured the Silver Cup presented by Messrs. Austin & McAslan. This collection was even throughout, and each sample spoke of high-class culture and care in selection. Ex-Bailie Primrose opened the show, and briefly referred to the ups and downs which the Glasgow Horticultural, like many other societies, had passed through. The managers of the show had shown themselves fully alive by their having adopted the idea of the "One and All" Company at the Crystal Palace, and introduced a photographic section for competition. In the course of the afternoon the annual dinner was held in the Grand Hotel, under the presidency of Mr. R. S. Milne. There were numerous toasts and speeches given after the chairman's address.

The judges were:—Plants—D. M'Donald, Ferguson, Paisley; James Moir, Earnock, Hamilton. Fruit—T. Hogg, Woodside, Paisley; A. Kirk, Alloa House, Alloa. Cut flowers—James Miller, Castlemilk; T. Robertson, Eastwood, Thornliebank; A. Angus, Dalzell; F. Frame, Allanshaw; G. Murray, Schoolhouse, Carnwath; W. Mason, Gryffe Castle, Bridge of Weir. Vegetables—James Heron, Pollok House, Pollokshaws; J. Methven, Blythswood, Renfrew; R. Blair, Craithie, Ayr; W. Hutcheson, Eastwood Park, Thornliebank. Photographic—John Stuart, 120, Buchanan Street; D. Dewar, Botanic Gardens, Hillhead; Archibald Watson, 36, George Street. The following represents the prizes, classes, and the names of those won awards in them:—

OPEN CLASSES.—Twelve plants for table decoration came from Mr. Hugh Miller, gardener to Mr. A. Russell, Auchendraith, Bothwell, which won for him the first prize; Mr. Wm. Landshorough came second.

The twelve sprays of Cactus Dahlias were best as shown by Messrs. Kerr Brothers, Dumfries; second, Mr. M. Campbell, High Blantyre; and third, Mr. John Smellie. For twenty-four Cactus Dahlias, Mr.

J. Smellie was first; Mr. M. Campbell, second; and the Messrs. Kerr, third.

For eight vases of pompon Dahlias, the order ran, Messrs. Kerr Bros., first; Mr. M. Campbell, second; and Mr. W. McLauchlan, Dunoon, third.

For one bride's bouquet, one shower bouquet, three ladies' sprays, and three buttonholes, Mr. John Gault beat Mr. John Hood, who stood before Mr. Wm. Parlance. Mr. J. Gault also won for one cross and a wreath. He also had the best specimen Palm. He is gardener to Morris Carswell, Esq., Murcla, Pollockshields.

NURSERYMEN ONLY.—For twenty-four spikes of Gladioli the prize went to Mr. George Muir, Prestwick.

Mr. M. Campbell won for twenty-four spikes of Dahlia blooms; Mr. John Smellie came second, followed closely by Messrs. Lister & Son, of Rothesay. For two dozen Rose blooms, Messrs. D. & W. Croll, from Dundee, were the winners. Mr. John Forbes, of Hawick, won a prize for Carnation and Picotee blooms.

In the classes confined to gardeners and amateurs, for three Orchids, Mr. Reid again won a first prize. Mr. Hugh Miller won for six Crotons. Mr. Landsborough won in the entry for three Palms and three Dracaenas. For four exotic Ferns, Mr. Miller beat Mr. Landsborough.

Mr. A. C. McBean, Coniston House, Pollock, was first for two pots of Liliums. Mr. John Lyon won for tuberous Begonias. The names of Messrs. James Miller, Bonhill; Robert Millar, Alexandria; R. C. Smith, of Howood; James Carnegie, Roselea, Prestwick; James Dunlop, of Cove, with others were those most frequently seen on the prize cards.

FRUIT.—For a collection of six dishes of fruit, the prize went to Mr. Thomas Lunt, gardener to Captain Sinclair, Keir House, Dunblane. For six dishes of hardy fruits, Mr. Geo. Watson, Renfrew, was the winner; Mr. R. Miller, second; and Mr. Archibald, gardener to the Earl of Home, third. Mr. Lunt also won for four bunches of Grapes.

Messrs. James Menzies, of Larbert; Alex. McAlpine, from Largs; Adam Knight, of Lenzie; and James Shanks, of Falkirk, were the chief winners in other classes for Grapes. Mr. James Mills, gardener to Lord Belhaven, Wishaw House, Wishaw, had the finest six Peaches. Mr. Lunt, for Nectarines. Mr. Archibald had the best Melon. Mr. C. Traill, Kilwinning, won for twelve Plums; and Mr. Angus, of Dalzell, with Pears. Mr. W. McFarlane, won for twelve baking Apples, and Mr. Carnegie with twelve dessert Apples.

And in the vegetable entries the prizes fell variously to many of those already noted in other classes, besides whom were Messrs. Loudon, Stonehouse; John Lyon, James Orr, J. Paul, and J. Hood.

BIRKENHEAD SHOW.—September 6th & 7th.

THIS annual fixture, held in connection with the Wirral Agricultural Society, was fully up to the average, whilst the entries showed a healthy increase which necessitated the use of a larger marquee. The weather unfortunately on the opening day was the reverse to favourable, but on the second day the conditions proved charming, and the show attracted visitors by the thousand.

For ten stove or greenhouse plants, five foliage and five flowering, Mr. G. Webster had the premier lot, the flowering plants including Bouvardia, Ixora, Dipladenia Statice, and Vinca. Mr. S. E. Haines, gardener to E. K. Laird, was second. For a group of foliage and flowering plants Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Wavertree, was accorded the place of honour, his "dot" plants, principally Crotons, being bright and effective. Mr. E. Bradshaw followed with a pretty group.

For three stove and greenhouse plants in bloom, Mr. S. E. Haines was to the fore with a good Bouvardia, Allamanda, &c. Messrs. Webster & Grindley second and third.

Three stove or greenhouse plants, Mr. Bracegirdle led with Croton Weismannii, Anthurium crystallinum, and Chamaerops excelsa; the same exhibitor scored for the single Palm, Kentia canterburyana, single foliage plant with Croton Queen Victoria, single fern with a grand plant of Nephrolepis davallioides furcans, and for single Tree Fern with Dicksonia antarctica.

For a single stove plant, Mr. G. Webster staged the leading exhibit. For three Ferns, Mr. Bracegirdle won with fresh specimens.

Three Begonias were best from Mr. A. G. Turpin, and for three Geraniums he also occupied first position. Table plants were well shown by Mr. T. Carling, gardener to Mrs. Cope. Mr. Bracegirdle took the lead for one, and three Orchids, winning in the former with Oncidium lanceanum, and for the three he had Cypripedium Ashhurstianae, Oncidium lanceanum, and Cattleya aurea.

The classes for cut flowers were well-filled with exhibits of good stuff.

For table decorations, Mr. J. Ennion took the lead out of seven with a pleasing combination, in which Cattleya blooms showed to advantage. Mr. J. Williams, gardener to C. J. Procter, Esq., was second; whilst for the hand bouquet and one made from flowers grown outside and three sprays, he led in each class, Mr. Moore winning for three buttonholes.

Mr. Carling had the best six Roses out of nine entries, and Mr. Thomas Webster won in the class for three.

For twelve and six Cactus Dahlias, Mr. Clement Aldred won with meritorious blooms.

Mr. J. Clarke won for twelve Asters, and also for six Hollyhocks; Mr. J. Harris for six Asters.

Mr. Carling was well ahead for twelve and six bunches of cut flowers.

For twelve bunches grown in the open, Mr. J. Harris staged the best, while Mr. S. E. Haines was to the fore for six bunches.

Fruit was well represented as regards both quality and quantity. Six different kinds, Mrs. Paterson took first honours with a well finished lot.

Six hardy kinds, Mr. J. Bracegirdle had a good lot. Mrs. Paterson won with two bunches Black Hamburgh Grapes and two bunches Muscats.

Mr. Thomas Reid, gardener to D. Wilson, Esq., had the best two bunches of any other black Grape.

Mr. W. H. Beer had the best Peaches, and Mr. A. Crisp, the leading Nectarines.

Mr. Carling won both with the scarlet and green fleshed Melons. For Apples, Mr. G. Faulkner had the pick of the dessert; Mr. J. Norris, the Lord Suffield's; and Mr. J. Smith, any other variety. Pears were well shown by Mr. T. Carling, who won for Jargonelles; Mr. J. Jefferson, for dessert.

Mr. W. J. Fletcher for Plums (Greengage); and Mr. S. Faulkner, any other kind.

VEGETABLES.—For eight distinct kinds Mr. T. Brocklebank had the best out of eleven entries; Mr. J. Williams won with twelve yellow Tomatos; Mr. T. Brocklebank with six yellows and six reds, and Mr. C. Finnagin with twelve reds.

CERTIFICATES OF MERIT were awarded:—To Mr. W. Edwards, Nottingham, for Edwardian Ware.

Messrs. John Lee & Son, Bebbington, for a collection of Apples.

Mr. Joseph Moore, Oxton, for miscellaneous plants.

Exhibits were also shown by Mr. H. Middlehurst, Liverpool, consisting of roots, seeds, and cut flowers.

Messrs. Dicksons, Ltd., Chester, had a miscellaneous collection of plants. Messrs. McHattie & Co., Chester, showed seeds, &c.

BILDERSTON HORTICULTURAL.—September 9th.

THIS society held its 34th annual show on Friday, September 9th, in Danford Park, and unlike so many small places manages to keep up its popularity, for on Friday, in spite of a rainy and cloudy morning, the gate was the largest for many years. The exhibits were also well up in the class for growers for sale, Messrs. Frewer Bros., of Stowmarket, and Mr. Cundy, of Sudbury, had a very nice lot of stove plants, Orchids, Ferns, &c. In the cut bloom section Dahlias made a fine show, Messrs. Frewer Bros. taking the first prize, and Mr. Cundy the second.

The tradesmen's and labourers' classes had some very fine specimens, both in flowers and vegetables, and reflect the highest credit upon the cultivation of cottage gardens.

The judges for the private growers and growers for sale were Mr. Musgrove, gardener to R. J. Pettwood, Esq., Finborough Hall.

The principal winners in the various classes may be taken as:—Miss Frewer, of Stowmarket, for a hand bouquet; and in classes for plants, Messrs. Cundy, Jeffrey, Lillestone, with General Storey and Col. Pilkington.

Begonias were a good show. Miss Frewer secured first; also a special given by the Ichthemic Co., Ipswich, for the best grower with their Guano; second, Mr. Jeffrey. Verbenas, Mr. Cundy, first; second, General Storey.

In fruit classes, Mr. R. J. Pettwood did well; so likewise did Rev. Mr. Sherlock, Mr. Cundy, Mr. Lillestone, and General Storey.

The Ichthemic Guano Company, Ipswich, had their usual tent with a display of Ichthemic Fertiliser in tins and glasses, &c., intermixed with Crotons, Ferns, and other plants.

NATIONAL DAHLIA.—September 19th and 20th.

THIS second show of the above society was held at the Royal Aquarium, Westminster, on the above dates. The purpose of a second show was to allow exhibitors the chance of putting up for certificate, any varieties of Dahlias which may not have been at their best when the N.D.S.'s. show was held at the Crystal Palace, on September 1st and 2nd. The occasion brought together a beautiful and very representative entry of exhibits.

Non-competitive exhibits were the chief stay of the show but everything in its way was very satisfactory.

COMPETITIVE EXHIBITS (NURSERYMEN).—In class I. for twenty-four blooms of show and fancy Dahlias, distinct varieties, Mr. John Walker, Thame, Oxon., led the way with a highly creditable stand. The collection comprised grand samples of Dr. Keynes, John Hickling, Champion Rolls, J. T. West, Dorothy (self), Buffalo Bill (self), Mrs. David Saunders, Eclipse, Goldsmith, Miss Cannell, and Victor. The second prize in this class went to Mr. Charles Turner, The Royal Nurseries, Slough, who likewise had an even and brilliant lot. Florence Tranter, Mrs. D. Saunders, Constancy, Willie Keith, and Mrs. J. Downie, were the choicest of the collection. The third place was filled by Mr. Geo. Humphries, of Kington Langley, whose stands were also well up to the standard. There were eight entries.

The first prize for twelve, ditto (amateurs), was taken by Thomas Hobbs, Esq., Easton House, St. Mark's Road, Bristol, who had a beautiful lot. Particularly fine was Harrison Wier, Warrior, and Florence Tranter. The second prize fell to F. W. Fellowes, Esq., Patteridge Grange, Luton, Beds., with a well assorted dozen, followed by Mr. R. Burgin, St. Neots, Hants.

CACTUS DAHLIAS (NURSERYMEN).—For twelve varieties of cactus Dahlias in bunches of six, Mr. James Stredwick, of Silverhill, St. Leonard's-on-Sea, won the first place. His Major Weston, Eclipse, Uncle Tom, Magnificent, Charles Woodbridge, and others of the newer novelties made a rich array. The second prize went to Messrs. Keynes, Williams & Co., who also had many of the newer introductions. Messrs. J. Burrell & Co., Cambridge, came in third with a brilliant display.

POMPONS (NURSERYMEN).—For twelve pompon varieties of single Dahlias, the first award went to Mr. M. V. Seale, Vine Nurseries, Sevenoaks. His varieties were well selected and well set up. Mr. Charles Turner, Slough, came second; and the third to Mr. Geo. Humphries, Kington Langley.

AMATEURS.—For six varieties of pompons, in bunches of six, Mr. J. F. Hudson, Gunnersbury House, Acton, came first; followed by Mr. W. C. Pagam, Weybridge; and Mr. Burgen, of St. Neots.

SINGLE DAHLIAS (AMATEURS).—For six varieties of single Dahlias in bunches, Mr. J. F. Hudson again won, with splendid samples of Jack Sheppard, Naomi Tighe, Phyllis, Jeannette, Donna Casilda, and Gulielma. Mr. E. Mawley, Berkhamstead, followed second, and Mr. W. West, third.

MISCELLANEOUS EXHIBITS.—Messrs. Dobbie & Co., Florists to the Queen, Rothesay, N.B., had a glorious arrangement which certainly proved them the best exhibitors and growers of this much loved plant. There were over 100 varieties arranged in a great space, 30 ft. by 6 ft. Of newer cactus varieties we noted Magnificent, Mary Service, Britannia, Laverstock Beauty, Exquisite, of a peculiar orange-salmon hue, very pleasant, one of this year's novelties. Then the older Beatrice, Leonora, Island Queen, were also shown beautifully. Among the pompons we find Nerissa, Phoebe, Little Duchess, and Capt. Boyton, &c., &c. All were shown above draped stages, whose two ends protruded, while the central part receded. Pampas Grass aided in the relieving effect. (Gold Medal.)

(To be continued.)

QUESTIONS AND ANSWERS

Strange Looking Beetle.—*Gamma*: The uncouth looking insect you sent is one of the longicorn beetles, more common in Scotland than in England. It is one of the timber insects. You should always say what you find the insects in or upon, as that is almost as interesting to us as the creature itself. Entomologically the beetle is variously known as *Acanthocinus Aedilis*, of Linnaeus, or *Astynomus Aedilis*, L. The specimen sent was the female, having the horns or antennae twice as long as the body; in the male they are five times as long as the body.

Rusticum vulva herba.—*Botanist*: We do not find this name in any of our books, and cannot say whether it belongs to *Scrophularia aquatica* or not. It seems to us to be an old herbalists' name, and is Latin, whoever the people may have been who applied it. It would mean "hardy herb Vulva," whatever that might mean. We thought it might apply to *Cheropodium Vulvaria*, but failed to find the name in a book over 300 years old. Possibly, also, it might be a local name, and, if so, possibly some old resident of the neighbourhood might be able to point out the plant to you.

Erica vagans in Cornwall.—*Botanist*: Babbington in his *Manual of British Botany* says it grows on heaths in the west of Cornwall. Withering says, "grows on heaths in Cornwall, abundantly." From this we conclude that it was plentiful on Cornish heaths, some years ago at least. Withering's Systematic Arrangement of British Botany, 7th edition, giving the above information was published in 1848.

Grub in Branch of Apple Tree.—*W. Harper*: The grub is that of the Wood Leopard Moth, a large white moth, with spotted wings and a long body. If there are any more in the burrow of the same or other trees, you should set about destroying them by pushing a wire into the burrow so as to crush the caterpillar; or by means of a hook on the end of the wire you may be able to drag the creature out. Some growers squirt petroleum into the burrow by means of a syringe, so as to destroy the caterpillars. Another method is to plaster clay round the mouth of the hole, leaving an opening at the top, into which some chloroform may be poured and the hole completely plugged up to keep in the vapour. As this is poisonous it must be used with caution, taking care not to inhale the volatile vapour.

Germinating Silene pendula in the Open.—*T. W.*: Your best plan will be to dig up the border, breaking the soil finely. Rake it immediately, and take out a shallow trench in which to sow the seeds. Cover up the latter; press the soil firmly, and then cover the whole with moss, straw, mats, or anything else that will prevent the moisture from evaporating. You can then give the soil a good watering over the mulch, which will prevent the soil from getting hardened or encrusted on the top, which would be the case if you were to apply the water to the surface directly. As the seeds germinate you must gradually uncover the seedlings.

Names of Plants.—*E.C.H.D.*: 1, the Common Alder (*Alnus glutinosa*); 2, *Rhamnus Frangula*.—*A.L.*: 1, *Hibiscus syriacus* var; 2, *Hypericum elatum*; 3, *Pyrus Aria*; 4, *Mentha veridis*; 5, *Origanum vulgare*.—*R.M.*: 1, *Fuchsia microphylla*; 2, *Fuchsia Riccartoni*; 3, *Clematis Flammula*; 4, *Malva moschata*.—*W.B.*: 1, *Linaria purpurea*; 2, *Linaria repens alba*; 3, *Achillea tomentosa*; 4, *Centaurea dealbata*; 5, *Physalis Alkekengi*; 6, *Veronica longifolia rosea*.—*G.H.*: 1, *Begonia manicata*; 2, *Trachelospermum jasminoides*; 3, *Lonicera sempervirens*; 4, *Gasteria verrucosa*; 5, *Ornithogalum bracteatum*; 6, *Pelargonium tomentosum*; 7, *Mentha Requienii*.—*A.R.G.*: 1, *Cattleya Aclandiae*; 2, *Oncidium Papillo* (the other has thickened joints and round stems).

Communications Received.—*Dobbie & Co.*—*Storrie & Storrie*.—*Laxton Bros.*—*Jas. Moir*.—*A.C.*—*A. McD.*—*W. A.*—*L. D.*—*H. T.*—*J. G.*—*R. F.*—*Omega.*—*Barr & Sons.*—*A. McMillan.*—*D. P. Laird.*—*(J. D.) Messrs. Webb & Sons.*—*E. Davis.*—*J. Mackinnie.*—*D. Provan* (many thanks, always interesting).—*A. R. T.*—*Thos. S. Ware, Ltd.*—*General Reader.*—*Robert Gregor.*—*Charles Nicholson.*—*J. Hudson.*—*Rev. W. Wilks.*—*A. D. Webster.*—*J. W.*—*W. Collins.*—*Geo. Brodie.*—*Veld.*—*W. Angus.*—*Solanaceae.*—*Thos. Wilson.*—For questions unanswered please consult next week's issue.

TRADE CATALOGUES RECEIVED.

ALEXANDER CROSS & SONS, LTD., 19, Hope Street (opposite Central Station, Cal. Ry.), Glasgow.—Choice Flowering Roots.
AMOS PERRY, Winchmore Hill, London, N.—Catalogue of Bulbs, &c.
HARRISON & SONS, Market Place, Leicester.—Catalogue of Bulbs.
JAMES CARTER & CO., High Holborn, London, N.—Catalogue of Bulbs.
THOMAS S. WARE, LTD., Hale Farm Nurseries, Tottenham, London.—Catalogue of Bulbs and Plants for autumn flowering.

OTTO KATZENSTEIN (Manager), Pinehurst Nursery, Moore Co., North Carolina.—Woody and Herbaceous Plants.

ALBERT F. UPSTONE, F.R.H.S., 35, Church Street, and 1, Market Street, Rotherham.—Catalogue of Bulbs.

W. J. GODFREY, The Nurseries, Exmouth, Devon.—Catalogue of Selected Perpetual, Tree or Winter-flowering Carnations.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Testimonials of the Landscape Gardening Department.

GEORGE BUNYARD & CO., Royal Nurseries, Maidstone.—Catalogue of Fruit Trees.

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The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 30th, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, October 2nd.—Sale of Dutch Bulbs (every day except Saturday) by Messrs. Protheroe and Morris, at their Auction Rooms, 67 and 68, Cheapside, E.C.
TUESDAY, October 3rd.—Loughborough Gardeners' Fruit Exhibition. Sale of Nursery Stock at Hale Farm Nurseries, Tottenham, N., by Messrs. Protheroe and Morris.

TEWKESBURY LODGE, FOREST HILL.—On the crown of Forest Hill is an estate of 32 acres almost divided in the middle by the stones marking the boundaries of Kent and Surrey. On the Kentish slope of the hill is Tewkesbury Lodge, the residence of C. Bayer, Esq. Undulated pleasure grounds, planted with trees, beds and borders of shrubbery, occupy the crest of the hill, while the Surrey slope is covered with six acres of Blackberries which have been fruiting profusely for weeks past. These are within six miles of Charing Cross, not as the crow flies, but by road. Were it not for the elevated situation, this spot would resemble a remote country district. As it

is the Brambles are in a perfect state of nature, through which a narrow, winding, grassy path picks its way. From the summit of the hill the dome of St. Paul's, the towers of Westminster, and the big wheel at Earl's Court are clearly discernible when not obscured by mist or fog. In other directions the eye wanders over Sydenham and surrounding districts to Beckenham, Chislehurst and many other villages in this plain of Kent, to a clump of trees, known as Knockoff Beeches, crowning the distant heights of Kent, where they seem to meet the horizon.

We are not at all surprised that Mr. Bayer should be delighted with his charmingly situated place, overlooking and seemingly like an outpost and watch tower of London. He is fond of fruits and flowers but more particularly with those portions of the grounds which remain in all their primitive and natural simplicity, covered as they are with great mounds or clumps of Brambles.

Our visit of inspection was primarily intended to see the houses of Tomatos and Grapes, which Mr. William Taylor, the gardener, grows so successfully. The first house entered contained four rows of Tomatos, planted out in the large central bed, and 12 ft. high or more. The house is wide and more than three-quarter span, so that the plants are well lighted, and show by the vigour of their stems and foliage that the cultural treatment they receive is of the best. The varieties grown are Sutton's Peachblow, Golden Jubilee, Frogmore Selected, Sutton's Best of All, Polegate, and Tewkesbury Dessert, a small, smooth-fruited, deep red variety with a very solid flesh. All these are smooth fruited sorts of recognised value, as a rule; but Peachblow is strangely addicted to casting its fruits at the joint of the stalk, often before maturity is reached, though it does well out of doors. Some of the racemes of fruit are over 18 in. long, and simple or branched. The plants commenced fruiting at the base, and still carry a heavy crop towards the top. The foliage is deep green without a speck of disease. The shelves or benches round the sides of this house accommodate a variety of Ferns and other plants with baskets of Ferns suspended from the roof. Amongst others we noted a beautiful form of the common Maiden-hair Fern. Large plants of Clerodendron balfourianum and Hoya carnosa are temporarily located here. Earlier in the season these benches are occupied with Tomatos in pots for the first crop.

The next house to this is a recently planted vinery, with the young Vines *in situ*, and ripening strong canes. There are ten varieties of Vines in the house, besides which there are several in pots reared from eyes by Mr. Taylor, and so strong that they are certain to carry a heavy crop next year. Good growth has been made by Chasselas Napoleon and Canon Hall. The borders of all the vineries are made inside and the bottom of the house or bed cemented to keep the roots from wandering into the plastic clay, which covers this hill top, and sometimes becomes so oozy as to cause landslips. At present the house is also utilised and occupied by Tomatos, planted in two rows on either side of the central pathway. Some of them are 20 ft. high or more, and fruited from the base to near the top. They were in prime condition two months ago, for the fruits have mostly been gathered. The plants will soon be uprooted in order to facilitate the ripening of the Vine rods. A variety of Tomato, raised from a cross between Polegate and Hackwood Park, is notable for the size of its fruits, but they are not very freely produced.

Fruit culture is decidedly a feature of Tewkesbury Lodge, for we passed through several houses entirely devoted to different kinds of trees planted out and in pots. Beurre Hardy, Doyenne du Comice, Beurre Deal and Conference Pears in pots carry some fine fruits. The next division is practically an orchard house. At the entrance is an iron arch over which Black Hamburgh Vines have been trained and carry a crop of the best coloured berries of that variety on the place. Slight shade and plenty of air would seem to account for the fine bloom on the Grapes. White Ischia and Negro Largo Figs in pots carry splendid crops which will be ripened in a warmer house presently, to make way for a large collection of Chrysanthemums grown here. Trees of Coe's Golden Drop and other Plums still carry excellent crops. What appears as a sport of this yellow Plum carries a crop of fruits heavily shaded with purple. Several trees of various kinds, including Peaches, Cherries, &c., that fruited earlier, are now standing out of doors, ripening up good wood; indeed, some of them have been out since the middle of May, and are in splendid condition. Two Peach-houses are occupied by fan-shaped trees planted out across the body of the floor, and trained to strong wire trellises. The last of the crop of Princess of Wales has just been gathered. In one of the houses Epicure and the Currant Tomato are grown, the latter being purely a decorative sort, with racemes of fruit 18 in. long and still flowering at the tips.

There are two large, span-roofed vineries, and the Grapes have always been favourites with Mr. Taylor and his predecessor, Mr. Bury, before him. Indeed, he has carried the art of viticulture to greater perfection, as has been amply proved on many an exhibition table. His employer also knows Grapes well by flavour as well as taste; and has encouraged their culture for the last eleven years or so, after taking possession of the place. The first vinery entered has Gros Maroc grown upon an iron arch over the doorway. The bunches and berries of Gros Colmar are splendid. With the intention of aiding one Vine of it a rod of Foster's Seedling was planted alongside of it and then inarched. The extra food and moisture thus secured may have caused more vigorous growth but the berries are not so well coloured as those which have received no extraneous aid. Alicante is large in bunch and berry, while the bloom is superb. A young rod of Directeur Tisserand has been grafted upon Alicante and allowed to bear two bunches of Grapes. The berries are similar to those of Alicante, and the bloom is similarly fine, but the berries are more hammered at the end. A rod of Gros Guillaume carries 16 large and showy bunches of fruit. Other Vines in this house are likewise very heavily cropped.

There are, for instance, 18 bunches on a rod of Lady Downes, both bunches and berries being magnificent, and the latter well coloured. Some of them are even inclined to be shouldered, an unusual occurrence. The large berries of Gros Maroc are splendidly coloured. The same may be said of Madresfield Court which succeeds well here, and is held in high repute on account of its rich flavour. Buckland Sweetwater carries fine bunches, or what remain of them, but the flavour is poor, being like slightly sweetened water. Black Hamburgh leaves nothing to be desired.

The other vinery is chiefly occupied with Muscat of Alexandria, a few other white sorts, and two black varieties. The long and well-formed bunches of the Muscats

constitute a most interesting sight. Each rod carries thirteen bunches. The bloom on the berries of Alnwick seedling is very rich. Trebbiano is greatly improved in flavour by being grown in a Muscat temperature; and the huge bunches it now carries would weigh about 6 lbs. or 7 lbs. each. Mrs. Pearson has always behaved very badly here, the huge bunches finishing off rusty, instead of presenting a clear skin. The Vine bears one large bunch, but at the base; for higher up the beautiful white Grape Chasselas Napoleon has been inarched upon it, though it has not yet reached the fruiting stage. Mrs. Pince was lifted two years ago on account of bad behaviour, and now carries thirteen large bunches as finely coloured as anyone could desire. There are eighteen varieties of Grapes and all grown in inside borders. The original oozy clay has been taken out and replaced by turfy loam from the top of the hill; and the magnificent results obtained from its use speak volumes for its utility and general capabilities.

Passing out of doors we noted Chrysanthemums in pots stood along the sides of several of the garden walks. A large proportion of them is grown for the production of big blooms; while others are in bush form for conservatory decoration and cut flower work. The buds of the big blooms are now well advanced. On the front wall of a vinery Sutton's Best of All Tomato is ripening a good crop. Cucumber, Every Day, grown in frames, has been affording a supply since May last. A new Grape room has just been built, the wooden walls being double and padded between. Here also we noted that two Chatsworth boilers in the stokehole supplied the heating power to all the houses, including the potting sheds and mess room for the young gardeners. A carpenter is kept constantly on the place, his shop being located with the other garden conveniences. The fruit room is well stored, chiefly with Apples, including large quantities, in fine condition, of Alfriston, Blenheim Orange, Beauty of Hants, Lord Derby, Lord Suffield, King of the Pippins, Flower of Kent, Cox's Pomona, Golden Noble, and Emperor Alexander. King of Tompkins County also does well here, and Cox's Orange is of exceptional size. It may here be stated that this variety, and a few of the others were grown under glass. Amongst Pears we noted Doyenné du Comice, Louise Bonne of Jersey, and Marie Louise, all in fine form. Fine looking Plums are Rivers' Late Orange (large yellow and covered with a fine bloom), and Primate, a purple cooking variety.

Only a few of the houses are devoted to plant growing, in one of which we noted Palms, Caladiums, and Ferns, including a large piece of Davallia elegans. Dendrobium Chrysanthum suspended in a basket is now in season. Allamanda Hendersonii is flowering freely on the roof. The conservatory, situated by the dwelling house, contains a large number of Ferns grown on brackets round the sides. Baskets of Nephrolepis and Stenochlaena scandens give a fine effect, suspended from the roof. Odontoglossum grande carries some fine flowers.

Adjoining the conservatory, and in direct connection with it, but on a northern aspect is another building containing Fuchsias, Hydrangeas, and Ricinus Sutton's Bronze King, amongst the Palms, Ferns, and other greenery. The steeply sloping lawns in front of the house are planted with Mulberries, Weeping Ashes, Willows, and various other ornamental trees, while the drive is sheltered by evergreen Conifers and various other trees and shrubs.

Ficus elastica is a native of the East Indies, and was introduced to this country nearly a century ago.

Mr. Alfred Outram.—The numerous friends of this popular horticulturist will be sorry to hear that he has been laid up for a few days with a cold. Under medical instruction he was unable to attend the Drill Hall Meeting. We hope, however, to meet him at the Crystal Palace.

Weather in London.—The past week has been cool, and frost has been registered. The storms which have spent themselves in the North did not touch London, although the meteorological conditions somewhat altered in correspondence. Showers of rain have been light but frequent. Vegetation has been fresher during the last fortnight than any time since July.

Hand Weeding.—Hand weeding as a means of clearing the land is more preferable than hoeing. Stirring the surface, of course, does a vast amount of good to the land, and the practice of hoeing is far more expeditious, but constant and timely hand weeding has much in its favour. Gravel paths which are subject to having weeds upon them, can be fairly well kept without using the Dutch hoe at all. It is better for the paths if the hoe is kept off.

Freak of a Nectarine.—Mr. Charles Nicholson, The Gardens, Wycliffe Hall, Darlington, sends us the top of a green leafy shoot of a Pitmaston Nectarine, bearing a flower of normal size, form, and colour, at the apex. The shoot in question was about 2 ft. long, and therefore rather different from the shoots that often produce the phenomenon of second or summer flowering of Pears. When Apples bloom in autumn it is usually the result of the premature expansion of the buds that should remain quiescent till spring. The summer-flowering shoots of Pears are usually short and not unlike elongated spurs.

Richmond Park, Glasgow.—The rapidity with which Glasgow has appropriated open spaces and turned them into beautiful and useful parks and gardens is a characteristic of this great city within quite recent years. Glasgow Green, in the heart of the city, is the oldest, and, perhaps, on that account, the most interesting, and probably the most frequented; but several of those more recently turned over to the public use and recreation are intrinsically more beautiful. Richmond Park, the most recent addition, was opened on the 27th inst. Till quite recently it was a mere rubbish heap, with a few rubbishy dwellings upon it, inhabited by miners. Several of these have been demolished, and others along the banks of the Clyde will rapidly follow as Mr. James Whitton, the energetic superintendent, can overtake the work, for much has yet to be accomplished before this park is completely sown down and planted. The park is named in compliment to the present Lord Provost of Glasgow.

Kew Gardens.—Since the cooler weather has again returned and now that some rain has fallen, the lawns and even the trees and shrubs at Kew have renewed their freshness. The lawns have suffered terribly during this summer. We noticed, too, how much sooner the weeds throughout the lawns, generally species of Plantago, were asserting their position and spreading out their all-smothering leaves to the suppression of the grass. It would seem that their root-stocks, tap, and fleshy roots help them to brace over a droughty time, also allowing them the advantage of a start when rain does fall. All the plant houses are superb. No more charming, natural, or artificial beauty of any kind could, we think, surpass that of the narrow span-house wherein the Cissus discolor grows. The show house is bright with splendidly flowered plants, many of them of the "common" order, according to the opinion of "refined" taste, but it would be well if gardeners and others who have to maintain a show of flowering plants all the year round, would adopt the Kew plan and grow "common," otherwise known as hardy plants, for conservatory decoration. To see a pot-grown plant, and another of the same grown out of doors, one would hardly recognise the relationship, so much are they altered, improved and developed when they come under one's special attention. The hedging at Kew is very fresh and, in a measure, original. The Roses around the Palm house are, many of them, just superb in their loveliness. The Lilliums, too, though not now so fresh, have been very fine of late.

Syndical Chamber of Belgian Horticulturists.—At the meeting of this body in conjunction with the Royal Horticultural and Botanical Society, in the Casino, Ghent, on the 2nd, inst., Certificates of Merit were awarded to a seedling *Dracaena*, presented by M. G. de Cock (by acclamation); to two plants of *Dracaena Toeffarti*, shown by M. A. Toeffart (by acclamation); and *Anthurium scherzerianum* var. *amabilis*, presented by M. L. De Smet-Duvivier (with unanimity). Certificates of Merit for culture were granted to *Astragalus Wallichii*, shown by M. G. Gyselinck; *Aralia leptophylla*, and *Asparagus Sprengeri* (with unanimity), shown by M. Carels. Certificates of Merit for flowering were awarded to cut flowers of *Hydrangea paniculata grandiflora*, presented by M. L. De Smet-Duvivier; to a collection of cut flowers of *Cactus Dahlia* (with unanimity) shown by M. F. Burvenich père; collection of cut flowers of Double Begonias and a similar one for Single Begonias, staged by MM. De Groot frères; and to *Lilium auratum platyphyllum*, shown by M. L. Botelberghe. Honourable Mentions were accorded to cut flowers of *Lilium speciosum rubrum*, and varieties of *Gladioli*, presented by M. G. De Saegher.

Banquet to the Messrs. Webb, of Stourbridge.—A large and representative company of gentlemen assembled at the Talbot Assembly Rooms, Stourbridge, on Wednesday evening, September 13th, to do honour to Lieutenant-Colonel W. G. Webb and Mr. Edward Webb, the senior partners of the firm of Messrs. Webb & Sons, Nurserymen, &c., Stourbridge. The Messrs. Webb are so widely respected and have done so much for the residents in and around Stourbridge, Kinver, and Wordsley, that the proposal to invite them to a complimentary dinner was acquiesced in with cordiality by all those in a position to enlist their personality. Various loyal toasts were moved after dinner had been partaken of, and then came the toast of the evening, proposed by Mr. W. Corbett. In his speech, among other things he remarked that the Messrs. Webbs' liberality was not confined to Stourbridge, for only recently they had given £1,000 towards the endowment fund of Birmingham University. The business had been almost entirely built up by the two brothers who are head of the firm to-day, and he hoped that the sons, who had recently been received into the business, would continue the energetic work of their fathers. The toast was received with great enthusiasm, and with musical honours, together with the time-honoured "three times three." Both Colonel and Mr. E. Webb suitably responded. Other toasts, speeches, and musical selections completed a happy evening.

Annual Report of Edinburgh Working Men's Flower Show.—We have just received the thirty-fourth annual report of the above show, together with the schedule of prizes offered at this year's exhibition held on August 12th. Along with these came a reprint of the society's first prize list issued in March, 1865. It seems a good while to look back upon, and many of those who inaugurated the first show and supported it too, have long ago crumbled in the moulds. The show was at its commencement under the presidency of the then Lord Provost, the Right Hon. Charles Lawson, and its exhibition came off on July 29, 1865. There was something less than fifty classes at that time and the prizes amounted to just over £13. This year's prize list offered 400 prizes and of course the value is just proportionately as large. The shows are held in the substantial Corn Exchange, Grass Market, Edinburgh, which the Lord Provost, Magistrates, and Council kindly lend for the society's use. The society has £155 on Deposit Receipt, together with £6 os. 11d. on current account, besides a Mackenzie fund of £100 in the Edinburgh Savings Bank, the interest upon which is used, plus an addition from the general fund, as prize money in class vi. of the schedule. The prizes run from a sixpence in some of the small entries (third prize), to so much as 15s. for the larger competitions first prize. The usual enumeration of plants and flowers as found at most of the amateurs' shows, are likewise seen at the Edinburgh working men's show. We hope it may thrive in spite of athleticism and all the other counter attractions found in Edinburgh; for after all, nothing can really take the place of the garden treasures in our working men's homes.

LILIUM BATEMANNIAE.

In reference to the inquiry concerning this handsome Lily made by Mr. J. Mayne, p. 55, it may be said that its origin, that is, its parentage is somewhat obscure, though the history of its introduction is clear enough. Mrs. Bateman, a well-known Liliophile, obtained bulbs of it from Japan, and some small specimens flowered for the first time in 1875, with Dr. Wallace, of Colchester, who was surprised, and delighted with it, and named it after Mrs. Bateman, to whom also he dedicated the second edition of his book, "Notes on Lilies" from which we cull these remarks. This book is a mine of information about Lilies, and as the second edition has been reduced from 5s. 6d. (by post) to 2s. 9d., it is easily procurable from Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester. The Lily is closely allied to *Lilium Leichtlinii*, and Dr. Wallace was strongly of opinion that it was a hybrid between *L. excelsum*, that is, *L. testaceum* and *L. Leichtlinii* (to which the bulb is similar) or *L. thunbergianum venustum*. He grew it 3½ ft. to 4 ft. high, and expected it might ultimately "attain at least 6 ft." There is no mention of it in the *Index Kewensis*, so that it has evidently been regarded as a garden hybrid by the compilers of that work.

"LESSONS FROM THE GREAT DROUGHT OF 1898."

At the meeting held by the Royal Horticultural Society in the Drill Hall, Westminster, on September 12th, E. Mawley, Esq., Rosebank, Berkhamstead, read a paper under the above title. The paper was anticipated with interest, and though, as Mr. Mawley had said, the subject was a "dry" one, it seemed to create an interest, and hold it. Mr. George Bunyard occupied the chair.

Mr. Mawley made a brief reference to his own garden ground. It was composed, he said, of disintegrated clay which only went to a depth of 9 in. where it rested on a chalk bottom. It also was largely composed of flints, which, numerous though they were, had not yet the power to keep the ground from becoming like a roadway under severe droughts. Indeed, so hard did his land become that to use a spade defied him, and the hoe had just to lie in his tool-shed. Sometimes a fork could be made service of, but not at all times.

In his connection with meteorological statistics, Mr. Mawley is well known. He had a number of diagrams which showed in a clear and forcible manner how much rain had fallen, and how much should have fallen, but did not, during last year's drought in the different counties. England gets the name of being a moist country; and so it may be in winter, but observations prove that we get none too much during our average summer. Relating to last year's drought, as might be expected, the north and western parts of Scotland suffered last. Ireland, too, had a moderate rainfall. The other parts of Scotland suffered a good deal, having one gallon less per sq. yd. per week. The midland parts of England had to go on with 1½ gallons per sq. yd. per week less. While in the south there was 1½ gallons of a deficit. The mean weekly amount all over Britain was less than two gallons per sq. yd. per week, which, to any thinking person, will be deemed very small. (It may here be stated that from experiments made, it was proved that a Sunflower plant 3½ ft. high, weighing 3 lbs., and with a surface of 5.616 sq. in., exhaled one pint of water per day. Thus one plant occupying a small space uses one-third of the supply to itself.)

Mr. Mawley also explained that thunderstorms with their dashing heavy rains raise the mean total rainfall, while their influence is not half so beneficial as soft steady rains, even only to the same amount. The season of the year at which the droughts take place also accounts for much. Spring droughts are very hurtful, and so are the summer droughts, while an autumn drought does not bring about the same detrimental results.

Droughts are usually reckoned in periods of days. The severe autumn drought of 1898 lasted for sixty-eight days, during which time there was less than half a gallon per square yard per week in many southern parts. During the present year in February-March there was a drought of twenty-nine days with only half a gallon per square yard per week. Then again from July 25th till August 27th—a period of thirty-three days—we had only a

quarter of a gallon per square yard per week. But enough has been written to show how things have gone. The chief injury lies in a succession of droughts, for then vegetation never properly recuperates itself.

Summing up, the lecturer threw out a few hints for counteracting the effects of prolonged dryness. These were (1) deep trenching; (2) hoeing; (3) mulching; (4) watering; but this operation should be thorough and only at intervals, not a constant dribble; (5) incorporating large quantities of humus and farmyard manure in the land; (6) selection of crops which, by possessing a habit of deep rooting and by having a vigorous constitution are enabled to carry themselves through a trying time.

He thought the practice of leaving stones around the base of plants a good one. This hint was corroborated by Mr. Bunyard. The stones, however, should be flints or some non-porous kind. The chairman also stated that at his Maidstone nurseries he employed kainit and, of course, farmyard dung with good results. Both contained salt, which was one of the best helpers he knew of. Salt is often used for counteracting drought.

GREEN CROPS *versus* RIDGED GROUND.

ONE of the lecturers on horticulture for this county is reported as advising cultivators to practise continual cultivation of their garden ground, that is, by sowing Turnips, Rye, or some other green crop, and digging in this crop in the spring for manure. Another authority advocates ridging and constant moving of the soil, exposing it as much as possible to sun and frost.

Will you kindly, in a small note, reconcile these two plans, because they seem to me to be diametrically opposed to one another? Take my own garden, for instance. The soil is not heavy clay nor light sand, but fairly strong, adhesive, light-coloured soil. If turned up now the clods would be as big as a half peck measure, and they would remain clods for some time if exposed to the weather.

I use horse manure at planting time, and various artificial fertilisers during growth. I crop as closely as I can to produce flowers and vegetables fit for exhibition.

Take one plot lately occupied by Potatoes. If I sow it with Turnips the ground will remain flat and fairly wet all the winter, and the Turnips might serve as manure for early Peas next year; but the ground would require some working even if I got the Turnips to grow and to rot before I wanted to sow the Peas. On the other hand, if I dig it roughly now, leaving the clods till spring they will then fall away like flour. I then put in my horse manure and secure a good seed bed.

For years I have worked on the plan of constantly moving the soil in winter and summer, whenever I was able and I am never troubled with weeds. I never have used green manure (Turnips, Rye, &c.), but at the same time I should like to know if the best authorities endorse the lecturer's statement, because I have quite an open mind. The lecturer did not qualify his advice by referring in any way to the nature of the soil. Possibly on light land these green crops dug in would prove beneficial.—*Veld.*

[Any one plan of treatment would not suit all kinds of soil; and the lecturer in question (if correctly reported) should have qualified his statement about the green manure, as hinted by our correspondent. Turnips, Rye, Rape, Mustard, Vetches, and similar things constitute a useful method of accumulating humus in soils of a sandy, gravelly or chalky nature. They form as it were a catch crop during the autumn when moisture is plentiful enabling growth to be made. These crops are sometimes fed off by sheep, but may be ploughed or dug in during winter. In gardens these light soils should be utilised as much as possible for early crops while the moisture lasts. Green manures help to make the soil more retentive of moisture, hence their use. Heavy clay soils on the other hand should be trenched or dug in the autumn and ridged or laid up as roughly as possible so as to take advantage of the pulverising effects of air and frost. Rank or undecayed stable manure (from horses, if obtainable) should be used as liberally as possible every year when trenching or digging, with a view to render it less adhesive and more porous for the free admission of air, rain, &c.—*ED.*]

HINTS FOR AMATEURS.

Desirable Characteristics of a Garden.—New gardens are always being made. Old ones are often renewed. The best planned gardens cannot say they are complete. Where planning and alterations are contemplated or desirable now is the time to begin. It may be only a small suburban garden of one or two acres. Whichever area, the same characteristics hold good. Security is the first consideration. Where would be the policy in making a rich garden into which any knavish rogue could wander? More than this, we wish to be private. We do not like folks to disturb our dwellings. They are the sanatoriums for peace and love, where we join in family ties, wife and family, to make a circle of trust. Why, then, should the outdoor domain not be likewise all our own? Such ideas may be selfish, and yet from my point of view I cannot quite see that they are. I take it, then, that privacy is one consideration. We lock our doors. Why? Because there is sin in the world; we cannot trust those not known to us. It is not pleasant to think so, but that's the case as it stands.

Then healthfulness. This, indeed, should have been put in the first position. What is beauty, variety, pleasantries, and riches without health? Why, health is the sum of all these. Therefore, look to the soil, subsoil, elevation, and environment. A dry soil is safe. A well raised position and freedom around one are other two items. If the soil is damp or inclined that way, drain it. Shelter also preserves heat. Hedges are a means toward this. So also are walls, &c. It should always be looked to that the north and east winds are warded off. By having an elevated site the air is purer and drier. Most of our human complaints originate from chills and from colds. It will thus be seen that to guard our breathing organs—the lungs and throat—we are probably averting trouble. We are told that "Fate is fate," and "What's for us won't go past us." All the same, do not tempt fate. Uphold the maxim of "Man, mind thyself." In this case you do not break an opposing law.

Beauty and utility combat for the third and fourth places in significance. According to one's circumstances will the one or other take precedence. Both, however, have to be considered. The effect of beauty on our minds and principles should not be forgotten. The perfection of beauty when looked upon makes one mentally beautiful for the time being, at least I think so. Beauty is of various sorts, but it all tends toward refinement. "As a man eats, so is he," has often been quoted. We might quite as truly say (in the present sense) "As a man sees, so is he." Shirley Hibberd long ago wrote in *The Family Friend* on how to unite utility with beauty, and *vice versa*. He advocated that even our kitchen gardens and their crops could be made quite like a pleasure garden, where flowers and shrubs alone are grown. This, though, is not easily upheld.

We must also have variety if we would properly and lastingly enjoy our gardens. Where the surrounding scenery is varied less attention need be given to this point. Yet if we are secluded we must have eternal variations. The words which our Editor applied when writing of Orchids in one of his leaders some time ago may well be applied broadly to the garden at large. He asked "What was there more enjoyable than those collections which contain the greatest variety in a given space?" "Half the delight in flower culture consists in the freshness and novelty with which the plants appeal to the owner as they come into bloom year after year, and this can only be secured by the presence of many species and varieties." So with variety of trees, shrubs, and plants, as well as garden conformation.

Autumn Growth.—To continue to stimulate plants in any unnecessary way after this time of year means the reduction of energy during next spring. Many people seem to think that the longer they can keep their plants growing on, the better. It stands something like this. During the proper season the leaves, shoots, and all else are growing, accumulating and building up all for a purpose and with good results. The leaves and roots glean nourishment and the latter elaborate it. This goes to build up structure and make a strong plant. But go further. Growth after the middle of September, what does it amount to? This, that a certain quantity of foliage

(of deciduous plants more especially) must be made and at the expense of existing matter in the older leaves, and before this fresh foliage can have gained sufficient strength to work for the general benefit of the plant, frost may come and destroy it, and at any rate the growth becomes quiescent and these leaves have to fall without having made any return. To avoid such losses we have to resort to pinching. The point of a shoot is taken away. The leaves still continue to do their work with the result that the portion of the shoot which we left becomes plump, firm and ripe. By lack of pinching or from continuing to stimulate at an advanced period the deposited matter in the stems has not the same chance to produce its changes. Heaths, Epacris, Acacias and fruit trees are particularly benefited from the pinching practice. It has been also thought that the autumn growth promotes the increased extension of young roots; but this is not so. Given a warm soil the roots will grow quite independently of the leaves. Of course, the falling of the leaf by its having returned all its store of nutriment, does increase or give a stimulus to the production of young rootlets. Dutch bulbs, however, are good examples of the power which plants of that nature possess for making roots without the presence of foliage.

Stoking.—Since the weather has changed and become colder, the fires are once more in active operation. Clean, bright fires will keep up a force of heat quite as effectively as a large body of live fire. The regulating of the dampers demands constant attention. Start the fire in the morning by giving it a thorough rake out and allow a full flow of draught. Once the "roar" of fuel being consumed is evidenced, the dampers can be let down to a proper extent, so that the fire or fires burn freely while yet economising the heat. Gas coke or anthracite coal are capital kinds of heating materials.

Edgings.—A garden with patchy or irregular edgings to its walks is not half so pleasant or comfortable as one with margins well cared for. How much handsomer and more complete-like, is a kitchen garden, for instance, in spring-time after the edges of all the alleys have been squared off and neatly trimmed. So with all the other parts. Live edgings are probably the best from a "garden" point of view. They are all the same apt to die out in places, and do not stand much rough usage. An edge of grass 1 ft. broad, if neatly kept and attended to otherwise, is suitable for flat, wide, open gardens. Box edges are not always a success. Whether it is the fault of the planter or of soil or position, or the variety used, cannot always satisfactorily be explained. Where Box has been doing well and needs to be renewed, the operation can be done throughout the present and next month, or in March. Pieces of the old plants, with a few roots attached, may be broken off and planted. The tops and sides of these should be trimmed evenly. When planting, let the ground be deeply dug, but it need not be enriched unless it is very poor. Then having made the surface even and straight, stretch a line in position and make a straight down clean cut, to form a trench 4 in. or 6 in. deep. Place the plants closely and evenly straight against the back of this little trench, pushing in enough of the soil during the operation to keep them at their proper height and distance. Then fill in all the soil later on, and make it very firm. If the ground is of a heavy nature, it will assist the production of new roots from the plants if you spread along a quantity of prepared light soil for giving direct root-hold to the plants.

Euonymus radicans variegatus may also be used for rougher and broader edgings. The dwarf blue Periwinkle (*Vinca minor*) is another suitable plant for rough edging purposes, while for kitchen garden herbs, we can use Parsley and many of the dwarf herbs. These, however, are only temporary. For kitchen gardens and as a margin for all borders running by walls and dwellings (where lawns do not come into consideration), tiles, stones or bricks are far the best. It stands to reason that where wheel-harrows are much used, or where pedestrianism is frequent, the edges to walks should be solid.

Present Work.—Now that vegetation has stopped growth, or nearly so, the work resolves itself into cleaning up, sweeping, preparing odd corners for digging or planting, and so on. Plans will have to be laid for any alterations in the gardens, and these should be properly thought out. One cannot be too careful with these things, because the result is in a way permanent, and alterations, if at all extensive,

are costly. The housing of plants is work which now demands some time. Where much stock is out and only a limited space is at command, it becomes a matter of thought how to arrange the plants as effectively and with as little waste of space as need be.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Destruction of Ants.—*A. Mottram, Manchester*: We have sometimes found these to become so numerous that depopulating was a necessity. Wash your plants, and the pots they are growing in, and make the surroundings clean. You will find slight syringings with Richard's XL ALL liquid insecticide a capital and sure exterminator. Soft soap and paraffin in weak quantities, properly mixed and applied is also a very certain remedy.

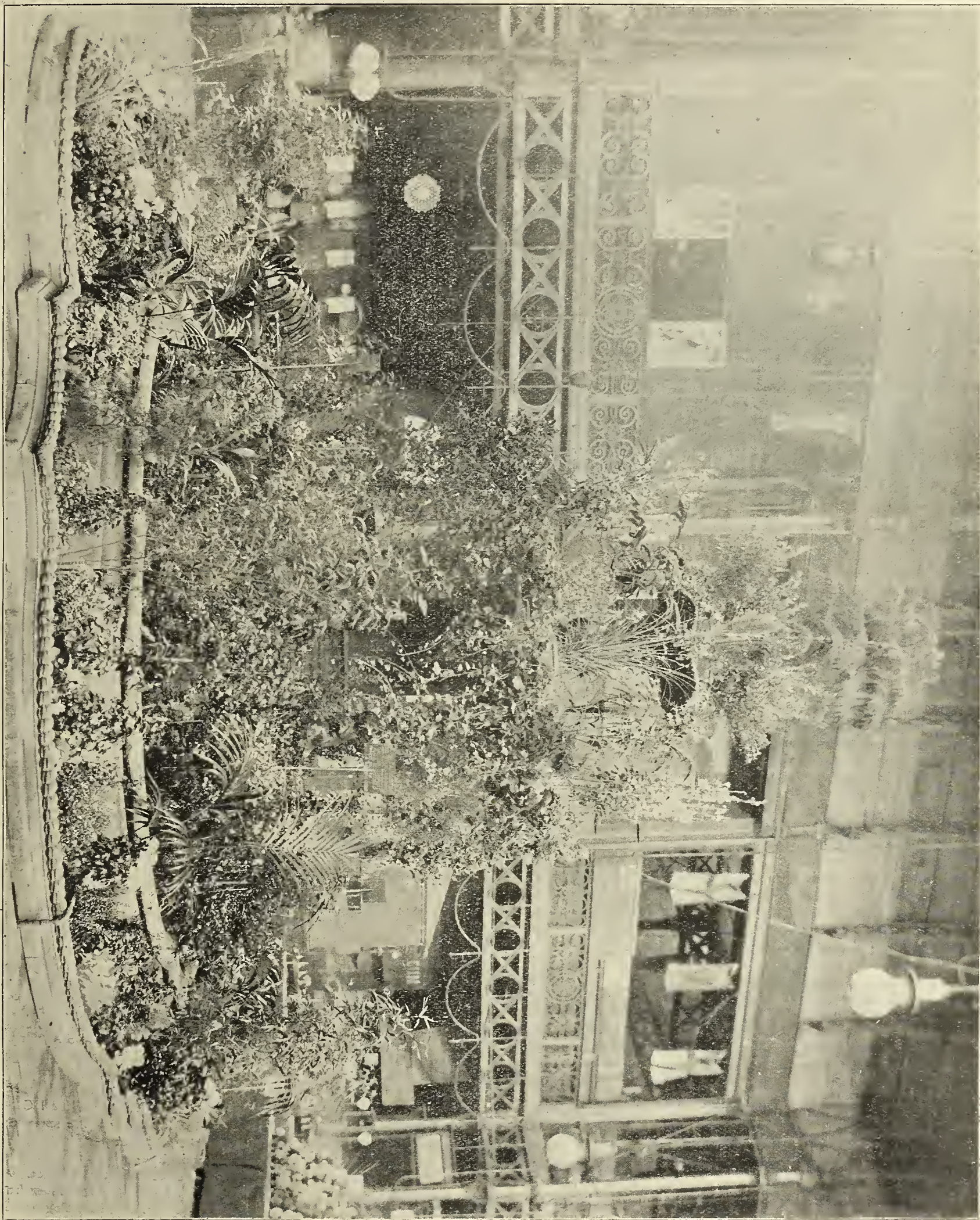
"What is the Calyx?"—*Reader*: It may be defined as the outermost circle of sepals, sometimes termed "petals" or "cup," surrounding the petals. In the Poppy family the calyx may be seen splitting from the base and being thrown off as the petals begin to expand. Again in the Fuchsia the outer circle of sepals, usually regarded, of course, as petals, because they are coloured, is the calyx. In the Winter Cherry (*Physalis Alkekengi*) the calyx is accrescent, that is, it continues to grow after the petals wither, and it forms a striking feature of the plant. In many of the composites (Dandelion, Thistle, &c.), the sepals forming the calyx are abnormally prolonged, and form what are termed a pappus or hairy parachute. Indeed, the calyx is quite a study, and is a very important item in the structural botany. Its chief uses are to protect the inner "essential" organs, and to give strength and steadiness to the flower.

Seed Sowing.—*R.*: The seeds of *Antirrhineums* are not too late if sown at once. Choose the warmest border you have. If your land is not very light or is apt to become cold and remain so, then leave off sowing until springtime.

Culture of Freesias.—*George Wallace, Stow*: Get good strong bulbs, or we presume you have them already, and pot up some half a dozen or eight into a 5-in. pot. Use a rich, light compost, one composed of two parts of fibry loam, one and a-half of dry cow manure and the rest of leaf mould and sand. Mix these thoroughly, and after cracking the pot well, half fill them with the soil, then place in the bulbs. Cover these over and make the soil fairly firm. Put them in a frame and plunge or bury them in cocoanut fibre leaving them there till they shoot out. They are much benefited by feeding although some writers say no. Give them cool or fairly cool conditions. Do not give too much liquid manure else there is a danger of making the soil sour.

Ficus elastica.—*Nemo*: You can shorten your plant by taking off a few leaves around the point where you would have the roots to be. Then make a horizontal cut half through at a joint, and upwards for $\frac{1}{2}$ in. or $\frac{3}{4}$ in. Then either place a moderately firm layer of moss around this notched part (always making sure that the notch is kept open, for which purpose a small chip of wood will suit), binding it on and keeping it damp. Or the better (because safer) plan would be to place two equal sides of a split 4-in. pot around the stem, and press within the pot a sufficiency of light soil. The pot should be kept in position by stakes which must be pressed down on either side. The part of the stem which is notched should be firm, but not too woody.

Showy Spring Plants.—*Decorator*: The following list of clothing planting, that is, plants which hang or spread over rockwork and walls, are: *Aubrietia graeca*, *A. Leichtlini*, *A. deltoidea*, *Arahis alpinus*, *Viola cornuta*, Pinks, dwarf or Alpine Phloxes, *Alyssum saxatile*, *Iberis sempervirens*, *Adonis vernalis*, and other things. Most of these flower during the period you mention.



MESRS. LAING & SONS' GROUP AT THE ROYAL AQUARIUM. (See p. 77)

CHINA ASTERS AT READING.

SOME years ago we examined an extensive trial of China Asters at the Portland Road Nursery, of Messrs. Sutton & Sons, Reading. This year the trial has been conducted at the Trial Grounds or Seed Farm between London Road and the Great Western Railway. Some idea of the extensive nature of the plantation may be gleaned from the fact that there are close upon 500 trials. The varieties of China Asters are all derived from the old *Callistephus hortensis*, a dark, purple-flowered annual from China, and the commerce involved in its cultivation and dissemination broadcast over the land, constitute a remarkable history attaching to a single flower, or species. The different garden types of China Aster favour their classification into sections, many of which are adapted for particular purposes.

Of the dwarf bouquet Asters there are several varieties distinguished by such colours as white, rose, light blue and dark blue; and all are suitable for small beds owing to their dwarf habit. There are six varieties of dwarf *Chrysanthemum* Aster, and a similar set of a dwarf German strain, which differs from the former in the dwarfer habit of the plants and the different quality of the flowers. Carmine, blue and red colours as well as the above are included in these strains. Little Gem Aster is taller and more bushy, the varieties being grown separate and in mixture. The deep crimson of Sutton's Fire King is unique, and conspicuous as far as the eye can detect it. Sutton's Triumph comes nearest to it, but is not so good. Sutton's Superb Bedding is a *Chrysanthemum* strain of Asters, notable for the way in which the side branches overtop the central flower, all being of large size and very showy. There are white, delicate rose, bright rose, scarlet, blue and lilac varieties, all suitable for bedding. Another useful bedding type is Snowball, about 6 in. high this season, and producing large white heads in a mass. Dwarf Border is a strain of Asters notable for their dwarf spreading habit, suitable for borders, and including several colours.

Several of the sections are universally popular in gardens, and deservedly so on account of their general utility for garden decoration or any other purpose to which Asters may be put. Of dwarf *Chrysanthemum*-flowered there are twelve varieties, all free blooming, dwarf, showy, and deservedly popular. Purple-Violet is a peculiar colour, and Brown-Violet is a dark, rich, violet-purple; both may be described as extreme and unusual developments in colour, the rest constituting the usual run of the genus. Side by side with the above, on the occasion of our visit, was the extensive plantation of Victoria and Dwarf Victoria Asters, the former extending to 100 trials, and the latter to 50, that is, 150 trials in the aggregate. No other statistics are necessary to prove the importance of these grand strains, which find their way into every garden. Of the first-named there are eight varieties in bright and handsome colours, ranging from snow-white to the deepest purple. The plants stood about 12 in. high, notwithstanding the heat and drought; and the large flowers and decisive colours sufficiently explained their popularity.

A delicate colour is Salmon Queen, pale on first expanding, but developing to creamy-salmon. The most delicate shade in the whole collection was Flesh Colour, occurring amongst the Dwarf Victoria strain. The flowers are white on first expansion, but develop to flesh colour of a most delicate shade as they reach perfection. Lady in White is a strain with compact flower heads and imbricated white florets. The habit is also compact, and the plants dwarfer than the well-known Paeony-flowered strain, of which there are four varieties, ranging from 12 in. to 18 in. in height. The Comet strain bears the same relation to other China Asters as Japanese *Chrysanthemums* bear to the other sections. Of the Comet Aster there are dwarf and tall races, the latter being very fine, with white, pink, red, and blue varieties, having the florets edged with white in the case of the coloured ones. Scarlet, lilac, light and dark blue may also be added. The long, recurving florets are very graceful.

Reading Beauty Aster is a strain in four varieties, namely, white, rose, dark blue, and white, with a crimson centre, all being quilled. They grow about 18 in. high and are branching and floriferous. The Jewel is the best strain of incurved Asters, and already includes five colours. The quilled Victoria Asters constitute a well-known type, useful in vari-

ous ways, and well adapted for exhibition. A new strain, named Long-quilled Aster, is now to be offered in different colours. A beautiful colour is presented by Sutton's Meteor, a carmine-rose variety tinted with salmon. Sutton's Silver Cloud is seen to best advantage when the sun is not shining upon it, for it is a very delicate colour, describable as pearly-blue.

The Giant French Paeony-flowered Asters from 18 in. to 20 in. in height, form branching specimens. The Cockade or Crown Aster constitutes another very special strain of quilled flowers in different colours, each having a white centre. In other words this is a beautiful bicolor strain. Sutton's Quilled Yellow represents the deepest shade of yellow yet evolved amongst the China Asters. Exhibition Globe is one of the tallest and latest types of the genus *Callistephus*.

The above notes were made on a burning hot day in August, after a long spell of the same trying weather; yet notwithstanding that and the dry, sandy soil at Reading the display was excellent. Every strain was remarkably true to type both in the colour of the flowers and the habit of the plants. The whole race is indeed a standing testimony to the art of gardening in evolving such a variety of types and number of different colours from one original. The fixation of colour and character by persistent selection is no less.

OTHER ANNUALS.

Most of the annuals grown at the Trial Grounds were past their best, and many had indeed been gathered for seed, so that the notes we made refer to the few still in bloom. The Marigolds, being natives of dry climates, are wonderfully resistant of drought. Amongst these *Tagetes pumila* was flowering profusely. The same may be said of Sutton's Diadem French Marigold, a dwarf, single variety, with velvety-crimson flowers, edged or laced with golden yellow. Legion of Honour has a much broader golden border to the florets, and is always a useful edging plant. Queen of Dwarfs is a double Marigold of compact habit, with velvety-brown of the colour of Wallflower, laced with yellow. The orange and lemon varieties of African Marigold were also in fine form. Helichrysums were represented by Silver Glohe, Golden Globe and Fireball, very handsome in the dried state as everlasting flowers (*immortelles*). *Xeranthemum annuum superbissimum* has deep purple flowers, which are very graceful for vases in the cut state. Rudbeckia Sutton's Golden Sunset has a long brown disc and a crimson base to the rays. *Brachycome iberidifolia*, like a small blue Cineraria, kept on flowering from the beginning of July to the end of August.

Some choice perennials raised from seed were also noted. Echinops Ritro, sown last May twelvemonth, had kept in bloom for six weeks. Eryngium planum is another popular blue-flowered subject. The Sand Verbena (*Abronia umbellata*) was flowering freely, and apparently delighted with the dry weather. The salmon-coloured Papaver pilosum was flowering for the second time this season.

LILIUM CANDIDUM.

It is now over three centuries since the Madonna Lily was brought to England from its home along the southern stretches of Europe. It does not lack popular and beautiful names, for besides the above two it is known as St. Joseph's Lily, the White Lily and the Bourbon Lily. Its very redundancy of names proves its approval by flower lovers at large. And these delightful names, void of all hard ring and scientific composition, are more persistent in the mind, and also are more lovingly cherished because of the mysticism embodied in them. This especially to the unlearned. But really the common White Lily, which is the purest flower of the June array, is worth all the notice given it. It cheers us in the garden. The bride carries it to the holy altar or we lay it upon the shrouds surrounding the lost forms who have departed this life. It is also the motto of purity among some eastern peoples; while the protestants in the North of Ireland are said all to have this White Lily in their gardens as a distinction from Roman Catholics, who favour the Orange Lily (*L. croceum*).

L. candidum belongs to the funnel-shaped class. It does remarkably well on moist, rich, sandy soil, or among Rhododendrons, and dwarf hushes at the front of a shrubbery. It has often been asked

whether the bulbs should or should not be taken out of the soil after the stems have died down. It is urged that the young bulbs which appear upon the top of the old ones, become exposed if the soil is light and yielding. Heavy soils again do not suit bulbs. I never have had any difficulty with the lifting or replanting, even of this on a very light soil. The position they succeed best in is one which is shaded. If planting is to be done, then do so at once, preparing a good bed for the bulbs, and placing them not less than 4 in. deep. Replant every third or fourth year, and keep plenty of nourishment about them. Staking and keeping the foliage clean are points to bear in mind during their growth. With *L. longiflorum eximium* (syn. *L. Harrisii*) at hand, no one would trouble to pot this lovely plant whose proper place is a free flower border.—J. H. D.

NOTICES OF BOOKS.

WAVE-WAY THOUGHTS: A Restful Hour at Kilkee, Co. Clare, July, 1897. By Wm. Baylor Hartland, Cork. Cork: Guy and Company, Limited, 70, Patrick Street. 1899. Price 1s.

IN 1894, Mr. Hartland gave us a booklet on "Way-side Ireland," in which he discussed or commented upon what he saw while making a "Trip from Cork; through Connemara, Achill Island, &c." On this occasion he records his observations in blank verse, illustrated occasionally by quotations from several of the poets. There are also several beautiful bits of scenery reproduced from photographs taken by Guy in the district visited. The pamphlet is a small one, running only to sixteen pages, which are wide enough for a double column of text. The good service the previous publication effected in the districts visited is the author's excuse for the present one, which he describes as a "restful idle hour's recreation at Look-out Point, Kilkee." The description seems a contradiction in terms, but we suppose the body was rested while the mind was exercised upon a theme distinct from the ordinary cares of tending a nursery business. The author desires to help in making the natural beauty of the place known to the English and Scotch tourists.

The visit to Kilkee is made after an interval of nearly sixty years, and the author describes some of the changes that have taken place, while earth, sea, and various aspects of Nature remain much about the same. While musing over a great variety of themes and old time memories the author notes the flowers at his feet in these terms:—

Here turf a' foot, and soft as Tyrian carpet—
Ambrosial, rich, of maritime herbage,
Glaucous grit-loving stonecrops,
Creeping pimpernel, mauve-blue Asters,
Honey-scented scabious, pink of centaury,
Golden yellow of cinquefoil!
Cushioned and banked, with thrift and wild
thyme;
Innumerable studies for artist, poet, and
hotanist,
With trowel, book, box, brush and pen,
From the wind-scattered seeds of ages.

TABULATED LIST OF ORCHARD "INSECT PESTS," affected by Spraying, with date of appearance of Egg, Larvae, &c., and the advisable washes and time for application. By F. V. Theobald, M.A., F.E.S., &c. Headley Brothers, Printers and Publishers, London and Ashford. Price 1s.

THE title page of this pamphlet of nineteen pages constitutes a good index of the contents. Mr. Theobald, who is the author of several other works, is geologist for the S. E. Agricultural College, Wye. He states in his preface that the spraying or washing of orchards for insect pests is steadily increasing in England, though we are yet far behind the United States and our colonies in this respect. All the insect pests of any importance that infest fruit trees in this country are recorded, including some that are quite rare, except locally, and which have proved sufficiently destructive in isolated places to be recorded as pests. In the case of these rare insects, he quotes the advice given in the "Entomologist," namely, to invite some collectors into the orchard! The idea is an excellent one, and the pity is that it should be so little effective in the case of weeds that prove pests. The identification of the particular pest affecting an orchard is insisted upon as all important, and the list in question is intended to assist gardeners and fruit growers to get upon the track of the particular pest attacking his trees or

bushes, and to apply the proper or best known remedy, or to take steps for the prevention of the spread of the insects.

The tabulated matter runs across two pages in five columns, the first of which contains the English and entomological names, with a reference to the work in which further details may be found. The second column indicates the period at which the eggs are laid, and the part of the bush or tree on which they are deposited. The average date of appearance of the larvae is recorded in the third column; while the particular wash necessary for the destruction of the pest comes into the fourth column. The time to apply the remedy comes into the fifth column. Insects that attack the Apple, either the leaves, fruit, or bark are the most numerous, but the enemies of the Cherry, Pear, Quince, Raspberry, Strawberry, and Walnut all have their enemies, and are here recorded. The method of preparing the various insecticides and insectifuges is dealt with in the second part of this useful and carefully prepared list.

PEAR MARGUERITE MARILLAT.

THE number of Pears in cultivation is very great, yet highly meritorious varieties continue to be raised by enthusiastic growers on the Continent. Certain it is, also, that a good sort, no matter where it is raised, sooner or later finds its way here. That under notice has been with us for some years, and is evidently destined to stay as a valuable, early or second early Pear, either for the dessert or the exhibition table. It is in perfection during the latter part of August and the early part of September: but for exhibition purposes it keeps good to the end of the latter month at least; and the Royal Horticultural Society schedules a class for it annually, at the Crystal Palace Fruit Show. The fruit is of large size, much the widest above the middle, and of handsome appearance, though never highly coloured. The flesh is richly juicy, and its luscious sweetness is accompanied by a pleasant aroma. The tree is sturdy, hardy, and proves well adapted for culture on the Quince as a dwarfing stock for cordons, espaliers or pyramidal specimens. The variety is of French origin. The shape of an average specimen is well portrayed in the accompanying illustration, for which we are indebted to Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea.

HARDY FRUIT GARDEN.

ALL transplanting of fruit and other trees, with root pruning where this has to be done, commences at this time. Where the foliage has assumed a yellowish or quite matured stage the trees may with the best results be operated with or shifted. Many growers require or at least would like to have a few new varieties of different fruit trees. These should now be made out in list and ordered from a good fruit nursery firm. The aim with growers should be to make a selection of varieties to last over a period and also of those kinds which are successfully grown in the particular district in which the grower resides. Of course this does not restrict one from trying new varieties of merit. I would also point out that old trees are not always to be depended on. They may fruit freely or they may not. If they do all is well. If they do not then there is a loss and something else has to be reckoned on. When trees become of gigantic size, especially if they are early varieties and have to be used at once, there becomes a glut of fruit at one time and unless the requirements are likewise extensive much fruit will not be appreciated. Cordon-trained fruits, especially Gooseberries and Currants seem to be more and more grown. These, if properly treated can be roped with fruits, and they have the advantage of being adapted for filling small spaces and many odd corners. Their treatment so far as pruning, pinching and regulating is concerned is also of the simplest.

CURRANTS are all wholesome fruits and may be put to many uses. For tarts or for jam and jelly great quantities are used. They can be grown beneath other fruit trees such as standard Pears, Apples or Plums, with advantage to the owner's purse. Black Currants do fairly well in the shade, better, perhaps, than Red or White Currants. They

are all ornamental enough for wall decoration and with the fact of their giving a fruit return as well one wonders that fruit trees of various kinds should not be more frequently employed. Gooseberries do well on trellises and heavy returns may be got from those so grown.

in case such are required. To keep up a constant supply frequent sowings should be made, say once a fortnight or every three weeks according to the requirements of the establishment. As it will take from eight to ten weeks (or even longer in the dull months) from the time of sowing till the Beans are



PEAR MARGUERITE MARILLAT.

RASPBERRIES we have had until the present time in some abnormal seasons. They last over a long period, however, and are worthy of extended culture. From a small space it is wonderful how large a quantity can be got from them. The Cooks are never at a loss to know what to do with them. Raspberries always do best in the shady side of a fruit garden and they prefer a heavy, moist, rich soil. Young suckers can now be taken and planted. Sewage should be used around both Gooseberries and Raspberries. In the old days growers used even to go so far as to bury the whole dead oxen or smaller animals close to the roots of their Gooseberries. In pruning, which will soon commence, either Gooseberries, Currants, or anything else the question of what implement is best, must arise to one. For quick work and in careful hands I prefer a pruning knife. Others again would rather have the shears or secateurs. One is always sure of making a clean and sloping cut by using a knife, but with the shears if the shoots happen to be at all soft or flabby and the shears in poor condition—they soon get out of order too—the shoots are apt to break or twist off, leaving snags. Leave a moderate supply of young wood on the Gooseberries; close prune the Currants (Red and White), though there must be extension wood provided for; take out the old wood on Raspberry plantations; leave the strongest and youngest shoots on the Black Currants and mulch as much as there is manure for. Raspberries are generally seen to in this respect. Apples and Pears will soon be ready for the pruning knife too, for in a week or two the leaves will be off the branches.—J.H.D.

Kitchen Garden Calendar.

SINCE writing my last notes we have been visited with a sharp frost or two, which in many places has cut down French Beans, Marrows, and other tender vegetables that were left uncovered. The supply in such has therefore been somewhat reduced, unless others are had in reserve in cold frames or pits, where the gardener must now look for his supplies of the choicer kinds.

FRENCH BEANS will not make much progress after the next month until the days begin to lengthen; it will therefore be necessary to have a greater reserve

ready to gather, this will necessitate having four or five lots at different stages of growth to keep up a supply; and, as such will require a lot of space to accommodate them, it will be well to utilise this to the best advantage. Where pits are at command these are the most serviceable for the production of this crop as a more uniform moisture can be maintained in the soil with less labour. To save time with successional crops the seeds may be sown in 4 in. pots about the time gathering is commenced on the first sowing. The plants will then be sufficiently advanced for planting out when all have been picked. Two seeds should be put in a pot and these ought to be stood on a shelf near the glass where a temperature of about 65° can be maintained. If planted on a gentle hot bed growth will be both robust and rapid. There are numerous varieties suitable for forcing, but those having the most fleshy pods, quick in growth and free setters are the most desirable. One of the best we have tried is named Earliest of All. This is of the climbing type but does not grow more than two feet high. The pods are of good flavour and set freely. Oshorn's Negro, Syon House and many others are all suitable for forcing, and may be relied on to give satisfaction.

PEAS that were sown on borders with a view of having temporary lights put over them, ought now to be afforded such protection, otherwise they are liable to be cut down by the first frost. These late sowings often prove very serviceable, as sometimes the weather is mild till far on in October, when good well filled pods may be gathered. I have seen splendid green rows as late as the middle of that month in the Peak district, where one would scarcely expect to find such so late in the season.

At this time of the year all places look somewhat untidy. The decaying leaves of vegetables, those falling from trees together with a luxuriant growth of weeds all add to the labour of keeping the place tidy. In many instances it is lost labour to be so particular about these fallen leaves, as in the course of a few hours the place is as untidy as ever again. The case, however, is different amongst growing crops, particularly small seedlings of Lettuce, Endive, Onions, Cabbage, Cauliflower, and the like, as these should be allowed all the light and air possible to keep them sturdy; and this cannot be so long as dead leaves are hanging about them. For this reason all such quarters should be looked over daily and any

leaves that may have accumulated be removed. A word of caution may also not be out of place by reminding your readers of the necessity of being prepared by pushing on all work in this department as quickly as possible; for, after such a long spell of dry weather, we may have a heavy fall of rain which will retard progress.—*Kitchen Gardener.*

LONDON PARKS AND GARDENS.

II.—HYDE PARK.

(Concluded from p. 39.)

A fine mixture was that of Pelargonium Wellingtoni (bright scarlet) and Begonia Emperor, along the front with Ivy-leaved Pelargonium, Mrs. Crousse, Heliotropiums, Streptosolen Jamesoni, (blooming quite freely here in the open); Standard Fuchsias and Iresines not mixed in a conglomerate mass, but planned with the object of definite beauty. Of great interest is a central round bed showered over with well flowered Fuchsias of the Mrs. Marshall variety, and plants of Plumbago capensis here and there, the whole being edged with Fuchsia Meteor. Arundinaria Simoni reaching in hushy tiers to 10 ft. or more high, may be seen in the central broad grass stretch.

What do you think of this for grace and sweetness—a round bed of Francoa racemosa (the Bride's Wreath); Pelargonium Christine, deep pink; and an edging of Lohelia Crystal Palace compacta; purple Violas being used all over as a ground work? All the beds of the pink flowered Ivy-leaved Pelargonium Mrs. Crousse, are exceedingly pretty. The plants are very healthy and so well flowered and cared for, that alone they would look well.

Dwarf, free-flowered scarlet Begonias, below plants of Grevillea robusta, with an edge of blue Lobelia and yellow Lysimachia throughout, tastefully filled another little bed. The massive proportions of a large circular bed, grouped with such flowering sub-tropical plants as Arundinaria (Bambusa) Simoni, Kentia helmoreana, K. fosteriana, Chamaerops, Phoenix and other species of Palms, with many Aspidistras in the opening beneath them, made with a white broad edging of Cineraria maritima, a show, massive, and handsome, if not bright.

Coreopsis in varieties are not scorned, and their gracefulness over a bed of pink Pelargoniums edged with blue, was amply proved. The idea of using annuals thus, is worth the catching up.

Campanula pyramidalis in white and blue varieties is seen at its best in a bed with Fuchsia splendens, dwarf yellow pompon Chrysanthemums and yellow edge of F. Meteor, a dwarf-growing yellow-leaved variety. It answers well as an edging plant for large beds, and is used in other of the London parks.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 12th inst.

Orchid Committee.

CATTLEYA LUDDMANNIANA (SPECIOSISSIMA) ALBA.—A remarkably strong flower of great purity and graceful build. The sepals and petals are long, the latter broad to foot, and of good substance. The lip follows the luddmanniana type, and is pure white except for a soft sweet yellow lining in the throat. It is certainly a splendid variety and deserved the First-class Certificate it received. W. Duckworth, Esq., Shaw Hall, Flixton, Manchester.

CATTLEYA KIENASTIANA VAR. AUREA.—A cross between C. luddmanniana and C. dowiana aurea. The sepals and petals are a soft rose colour, while the crimped lip is richly toned with maroon and lined a beautiful deep yellow. (Award of Merit.) C. L. N. Ingram, Esq., Elstead House, Godalming (gardener, Mr. T. W. Bond).

CRYPTOPHORANTHUS HYPODISCUS, Rolfe (MADEVALLIA HYPODISCA, Reich).—The flowers of this extraordinary little Orchid are greenish-buff, very small, resembling a hawk's head, with openings or "windows" on the upper parts of the sealed sepals. (Botanical Certificate.) Consul F. C. Lehmann.

LAELIO-CATTLEYA CALLISTOGLOSSA, LEON'S VARIETY.—The lip here is of a velvety texture and of a rich crimson colour. The sepals and petals are bright lilac-rose. Altogether a good addition.

(Award of Merit.) H. S. Leon, Esq., Bletchley Park (gardener, Mr. Hislop).

Floral Committee.

THE following Cactus varieties we have already described upon their recognition at the show held by the N.D.S.:—

INNOVATION, EMPEROR, and MRS. J. J. CROWE J. West) from Messrs. Keynes, Williams & Co., Nurserymen, Salishury. (Award of Merit.)

RED ROVER AND GREEN'S WHITE, from Mr. John Green, Norfolk Nurseries, Dereham. (Award of Merit.)

MAJOR TUPPENNY, MAJOR WESTON, AND UNCLE TOM, from Mr. James Stredwick, St. Leonards-on-Sea. (Award of Merit.)

LOADSTONE.—A well formed Cactus variety of a deep orange-red, from Messrs. Keynes, Williams & Co., Salishury. (Award of Merit.)

PROGENITOR.—A rich crimson Cactus form with peculiarly fringed petals. Messrs. Keynes, Williams & Co. (Award of Merit.)

MAURICE T. WALSH.—This Cactus variety has a deep buff base and a clear yellow centre. The petals are beautifully revolute. Mr. Stredwick. (Award of Merit.)

FANCY DAHLIA, EMPRESS.—This is really a fine Cactus variety with a pale ground suffused with lavender and barred with crimson. Mr. G. St. Pierre Harris, Orpington. (Award of Merit.)

POMPON DAHLIA, CHEERFULNESS.—A pretty variety having a base colour of crimson tipped with rosy-crimson, from Messrs. Keynes, Williams & Co. (Award of Merit.)

DAHLIA FLAME (Single).—F.C.C. at Crystal Palace. Award of Merit from R.H.S. Sent by Messrs. J. Cheal & Sons, Crawley.

DAHLIA EDIE OBLEIN.—A mixture of heliotrope and buff hues; a very fine single variety. Mr. M. V. Seale, Vine Nursery, Sevenoaks. (Award of Merit.)

DAHLIA VERONICA.—A fine scarlet and single variety speckled with orange and yellow. Messrs. J. Cheal & Sons, Crawley. (Award of Merit.)

DAHLIA DAISY.—Single, cheerful, and neat, of a rosy tone and white suffusion. Messrs. J. Cheal & Sons. (Award of Merit.)

DAHLIA NELLIE NICOLSON.—A white bloom with a rosy edge. Mr. M. V. Seale. Award of Merit.)

BEGONIA MRS. LEOPOLD DE ROTHSCHILD.—This was shown side by side with the parent form, B. Gloire de Lorraine, from which it is a sport. The sport is of larger dimensions than the parent, the flowers flatter and of a lighter pink. It is a handsome addition, but not sweeter than deep-hued Gloire de Lorraine. (Award of Merit.) Mr. James Hudson, Gunnersbury House, Acton.

ROSE CORALLINA.—This is a new bedding Rose which enrolls the qualities of graceful form and firm build, fragrance, and a sweet colour, to wit, coral-peach. From samples seen, it appears to be vigorous and free flowering as well. (Award of Merit.) Messrs. Paul & Son, Waltham Cross, Herts.

RETINOSPORA OBTUSA AUREA CRIPPSII. This deserves the name of aurea far more fully than many Conifers likewise titled with this description. The variety is very free, and has indeed a feathery, lax, or pendent plume-like appearance. The cheery hue is retained during all seasons. It is one of the finest of recent coniferous introductions. (First-class Certificate.) Messrs. Cripps & Son, Tunbridge Wells, Kent.

EUPHARIS BURFORDIENSIS.—This has resulted from the parents E. Mastersi and E. Sanderi. It is remarkably free in flowering, and the blooms are beautifully funnel-shaped and very strong. (First-class Certificate.) Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (gardener, Mr. Bain).

Fruit and Vegetable Committee.

APPLE VENUS PIPPIN.—An early dessert variety with soft flesh. It is just over medium size and of a pale lemon-yellow colour. (Award of Merit.) Mr. W. J. Godfrey, Exmouth, Devon.

APPLE T. A. KNIGHT.—The result of a cross between Peasgood's Nonsuch and Cox's Orange Pippin. Between these two it falls, so that we have here a splendid new variety. (Award of Merit.) Mr. Ross, Welford Park Gardens, Newbury.

APPLE BEN'S RED.—A rosy dessert variety, a seedling from Devonshire Quarrenden. The flesh is firm, and it has good cropping qualities. (Award of Merit.) Messrs. Geo. Bunyard & Co., Maidstone.

CUCUMBER ACHIEVEMENT.—The fruits are even, deeply coloured, of average length and, slightly prickly. (Award of Merit.) Mr. E. Beckett, The Gardens, Aldenham House, Elstree.

PEACH PRINCESS OF WALES.—For a collection of this variety of Peach, a Cultural Commendation was awarded to Lord Foley, Ruxley Lodge, Esher (gardener, Mr. W. Miller).

THE following Dahlias received First-class Certificates at the National Dahlia Society's show, held on September 19th and 20th, at the Royal Aquarium, Westminster, S.W.

MRS. CARTER-PAGE (Cactus).—A rich variety, a clear vermilion-crimson hue, of large size and good form. Messrs. Keynes, Williams & Co., Salishury.

SYLPH (Cactus).—A cheery bright ochre-coloured variety. Messrs. G. Burrell & Co., Cambridge.

MADAME MEDORA HENSON.—A capital Cactus variety of a bright crimson. Messrs. T. S. Ware, Ltd., Tottenham.

MAURICE T. WALSH (Cactus); EMPRESS (fancy); EDIE OBLEIN (single), are all described in the Royal Horticultural Society's awards.

DAHLIA, GEORGE HOBBS (show).—A dark crimson variety. Mr. T. Hobbs, Bristol.

CLARIBEL (Single).—The flowers have yellow centres tipped with rosy-pink. E. Mawley, Esq., Rosebank, Berkhamstead.

HILDA (Single).—A white flower of great attractiveness. Each petal has a yellow inner margin while the tips are tinged with pink. Miss Girdlestone, Sunningdale.

VERA (Pompon).—A neat little canary-coloured variety. Messrs. Keynes, Williams & Co.

SOCIETIES.

NATIONAL DAHLIA.—September 19th and 20th.

(Concluded from p. 62.)

Messrs. John Laing & Sons, of Forest Hill, S.E., made a capital transformation of the fountain at the east end of the hall. In the top basin and crowning all they had placed an Araucaria excelsa, rounded by a circle of Golden Elder. Then in the second basin plants of Pampas Grass in flower, and Campanula pyramidalis were arranged, together with pot Conifers and variegated shrubs, fringed with long trails of Ivy. Bamboos, Ivies, Chrysanthemums, and Crataegus Pyracantha, clustered with scarlet fruit, suitably occupied the basement parts. The Royal Aquarium Company were so pleased with the fine effect of this group, of which the fountain is the centre piece, that they arranged with Messrs. Laing & Sons to leave it there for a fortnight. An idea of its appearance may be gleaned from the photograph of the same, which we reproduce on p. 73. (Gold Medal.)

Messrs. Cannell & Sons, Swanley, Kent, sent a very large collection of Cactus Dahlias, occupying a considerable space. The general plan was got by banking back to back a tier of staging. The hunches were arranged in blooms of about half a dozen, and represented the cream of present varieties. Firebrand, Beatrice, Lorely, Oporto Tait, The Clown, Jessie, Austin Cannell, and many others, were well shown. The effect was aided by sprays of Gypsophila, and a top ridge of Eulalia macrantha in vases. (Silver Medal.)

They also grouped a large semi-circular collection of pot Cannas in bloom. The blooms and spikes were individually and collectively superb.

Mr. John Green, of Norfolk Nurseries, Dereham, was strong again with blooms of the Cactus section. Besides the newer Red Rover, Green's White, &c., there were Dr. Nansen, Clio, Zephyr, John Halifax, Eclair, and others. (Silver Medal.)

Messrs. John Peed & Son, Roupell Park Nurseries, Norwood Road, S.E., had a varied collection of hardy herbaceous cut blooms and a host of Dahlias in all sections. Very fine were the pompon varieties named Catherine, Jessica, Leila, German Favourite, Phoebe, and others. Aster Amellus, Pyrethrums, Eryngiums, Tritomas, and the new white Aster Mrs. W. Peters, just sent out by them, were all shown in much profusion. (Silver Medal.)

Messrs. Keynes, Williams & Co., Salisbury, made a capital representation with their handsome Cactus varieties, which were evidently well selected and very pure in colour; form, too, was of the best. Some of the newer and better of these were Mr.

Carter Page (vermillion-crimson), Emperor, of a mauvey hue; Innovation, well shown, with crimson centre and white tips, &c. (Silver Medal.)

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, had a varied and meritorious group of Dahlias in the pompon and Cactus sections. The staging was exemplary, and the quality of the blooms was such as proved a capital stock. Of Cactus varieties, Wallace, Firebrand, African, Starfish, and Primrose Dame were of first merit. Pompons were well shown in Eurydice, Mabel, Fashion, &c. (Silver Gilt Medal.)

Messrs. J. Burrell & Co., Cambridge, set up a long table of Gladioli of the Gandavensis, nancianus and other strains, and each were capital spikes. The colour harmony was varied, and had been studied for effective staging. (Silver Medal.)

Messrs. John Peed & Son had also a table of their new Aster Mrs. W. Peters.

Mr. J. T. West, Brentwood, tabled a large array of all the choice Cactus, pompon, and show varieties. The group was well set up.

Messrs. Carter, Page & Co., 52 and 53, London Wall, E.C., made a close banking of pompon and Cactus varieties, in both old and new favourites. They also had sample tins of their "Stimulus" fertiliser. (Silver Medal.)

The Devon Chrysanthemum Nursery, Teignmouth, made a bright display with cut Cactus Dahlia blooms, and we noted Britannia, E. J. Deal, Col. Wilson, Mary Service, Night, Laverstock Beauty, Countess of Lonsdale, among the choicer of those staged. (Bronze Medal.)

Mr. J. Williams, 4A, Oxford Road, Ealing, had a beautiful table showing the value of his patent table decorations when dressed with any sort of cut flowers. (Bronze Medal.)

Messrs. Lawes' Chemical Manure Co., had a large collection of their sample manure tins, and also a quantity of cut blooms, showing the value of these in the growth of plants.

Messrs. D. Howell & Son, Ravensworth Avenue, Hammersmith, W., had a large miscellaneous collection of garden requisites, including garden pots, pans, labels, pruning knives, peat, loam, manures, &c.

The Ichthemio Guano Co., Ipswich, had one of their well known conical tiered stages, draped with a purple cloth whereon their sample tins of Gnano in sizes to suit all buyers were prominently placed. Plants and cut blooms were arranged for brightening effect.

NOTTS CHRYSANTHEMUM.—

September 22nd and 23rd.

THE early show of the Nottingham and Notts Chrysanthemum Society was held in the Mechanics' Lecture Hall, Nottingham, on Friday and Saturday, the 22nd and 23rd of September. The committee of the society, which is a well known and widely influential one, have somewhat extended the schedule and features of this year's preliminary exhibition. The executing of the arrangements fell chiefly upon Mr. E. Hummel, the secretary, and Mr. T. Hugh, who is treasurer and chairman. Among those present at the opening ceremony were:—Ald. J. Bright, J.P., president of the society, and Mrs. Bright, Sir Samuel and Lady Johnson, Mr. H. J. Jones, Lewisham, Kent; Mr. Merryweather, of Southwell, the latter two being judges; and Mrs. E. Hummel, Miss Hummel, Mr. and Mrs. Peacock (Newark), Mrs. Jones, Messrs. Staton, G. and T. Bartle, S. G. Ward, S. Thacker, J. Cumberland, and others. The chairman, Ald. J. Bright, in his opening remarks, said the show was one of the finest they had had, and he hoped that the attendance during the two days would be equal to their most sanguine expectation. In the opinion of Mr. H. J. Jones, the show was one of the best he had seen, and he complimented the Executive on the manner of their staging and other arrangements. Mr. Merryweather urged that all interested in the growing of fruits should attend the lectures on practical pruning which are to be held in the University College. Presentations to a few of the ladies and votes of thanks to the judges were accorded. The more important classes were as follows. Division A.—In Class I. the competition was for a collection of summer flowering Chrysanthemums, the first prize in this case falling to Mr. T. Simpson, followed by Mr. A. Staton, and Mr. G. Wright. For another collection of early varieties, Mr. J. Huntback, beat Mr. G. Bartle and Mr. J. Freestone in this

order. For six early varieties the prizes went to Messrs. T. Simpson, G. Wright and G. Bartle in this array; while for three of the same, Messrs. G. Wright, J. Freestone, and C. Sandy were awarded. For six distinct trusses of summer flowering Chrysanthemums, Mr. A. Staton won. Mr. T. Bartle held first place for three ditto, and also for three trusses of pompons.

The vases filled with Chrysanthemum flowers on long shoots with their own foliage were very fine, Mr. Simpson winning in this entry.

For an epergne or vase, the prizes fell to Mr. T. Simpson and Mr. T. Bartle.

DIVISION B.—Mr. T. Simpson again came first, this time for four specimen plants in distinct varieties. Mr. A. P. Wood followed second.

Mr. Simpson likewise won for two specimen plants, but came third only for a single specimen. Mr. A. P. Wood and Mr. C. Sandy were first and second in this case.

DIVISION C.—The fruit, though not in any great quantity, was still appreciable. For a collection of not less than twelve kinds, Mr. E. Parry came in first; Mr. A. Staton was second; and Mr. G. Wright third.

For a collection of vegetables the result fell, first to Mr. S. G. Ward; second, to Mr. E. Dabell, Junr.; third, to Mr. W. Whitehead, and fourth, to Mr. E. Dabell, Senr.

ROYAL HORTICULTURAL.—September 26th.

THE meeting on Tuesday last was of moderate dimensions, the fact of its coming so close to the fruit show evidently limiting its usual scope. Orchids were in fair plenty. Other groups included Crotons, Ferns, Bamboos, Dahlias, Statice, fruit and vegetables, the latter being shown in grand form.

Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nurseries, King's Road, Chelsea, exhibited a large group of Orchids, amongst which Cattleyas, Laelias, and their hybrids were conspicuous. Dendrobium formosum was conspicuous, as were Houlletia brocklehurstiana, Odontoglossum grande, Zygopetalum maxillare, Oncidium phymatochilum, Angraecum articulatum, Dendrobium superbiens, and D. Dearei. They also had fine pans of Cypripedium spicerianum, C. Charlesworthii, and C. oenanthum superbum. (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, set up a pretty group of Orchids, including well-flowered pieces of Vanda caerulea, Oncidium marshallianum, O. incurvum, Odontoglossum grande, Cattleya velutina, &c. (Silver Banksian Medal.)

C. H. Feiling, Esq., Southgate House, Southgate (gardener, Mr. Canon), staged a group of Orchids, set up with Palms, Ferns, Aralias, Asparagus, &c. Varieties of Cattleya labiata and Dendrobium Phalaenopsis schroderianum were the two principal features of the group. The Dendrobium was shown in many varieties. (Silver Banksian Medal.)

Some well-flowered plants of Dendrobium formosum giganteum were shown by Messrs. F. Sander & Co., St. Albans. R. I. Measures, Esq. (gardener, H. J. Chapman), Cambridge Lodge, Flodden Road, S.E., exhibited Cypripedium Lachmee. T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, staged the hybrid Cypripedium fowlerianum Haywood's var. Major Joicey (gardener, Mr. J. Thorne), Sunningdale Park, Sunningdale, exhibited Dendrobium taurinum amboinense. H. Little, Esq., Baronshalt, Twickenham, staged Laelia elegans littleianum and Cypripedium sanderianum. Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells, showed Odontoglossum crispum basano and Cattleya hardyana Cobb's var. W. M. Appleton, Esq. (gardener, Mr. J. H. Brooks), Tyn-y-Coed, Weston-super-Mare, staged Cypripedium enfieldense and C. Julia. T. W. Thornton, Esq., Brockhall, Weedon, staged Cattleya weedonensis, a hybrid. The Rev. F. Paynter (gardener, Mr. Cooke), Stoke Hill, Guildford, had a beautiful yellow variety of Odontoglossum grande, from which all the brown has disappeared.

Messrs. Barr & Sons, King Street, Covent Garden, set up one of the best tables of herbaceous cut flowers which we have seen from them this year. The cool weather and the rain have revived the out-door plants. Particularly fine were the Tritomas and Liliums. Early flowering Chrysanthemums were also in goodly array. Aster Amellus, A. Lynosyris, Lilium lancifolium album, Chrysan-

themum Toreador and many other things which everybody admitted and should grow.

Messrs. J. Hill & Son, Barrowfield Nurseries, Lower Edmonton, arranged a very large stock of Asplenium Nidus in various sizes of development. Adiantums and Selaginella Willdenovii and Cocos weddelliana in a space occupying some hundreds of square feet. The health and cleanliness of the whole stock was remarked oftener than once and was creditable to the Messrs. Hill. (Silver Flora Medal.)

Messrs. Sander & Co., St. Albans, again brought together a quantity of stove plants of the style which everybody admires, together with Dendrobium formosum giganteum which were remarkably well flowered; also Dracaena Sanderi, Acalypha hispida (Syn. A. Sanderi) and various small plants of Kentia Sanderiana, a graceful and very pleasing new form of Palm.

Messrs. James Veitch & Sons, Chelsea, sent baskets of specimen Hydrangea hortensis Mariesii, Nandina domestica, and Caryopteris Mastacanthus.

Mr. Thos. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, London, staged chiefly cut Dahlias and Asters. Of Pompon Dahlias, Ariel, Stanley Ford, Jessie, Nerissa, were very sweet. Single Dahlias were well seen in Nance, Kate, Fashion, Eclipse, and others. Cactus Dahlia Magnificent, Night, Sylvia and Ruby were each good blooms of first-rate varieties. Enlalia japonica gracefully arching over the bank relieved the flatness.

Mr. S. Mortimer, Rowledge, Farnham, Sussex, brought some splendid show and fancy blooms and Cactus varieties of Dahlias. The well-known Starfish was seen in capital form, Annie Turner, Harmony, Gloriosa, Princess Ena, Regulus, and others of the Cactus varieties were particularly good; so were each of the ten dozen show and fancy blooms. (Silver Flora Medal.)

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, sent a collection of beautifully grown and serviceable little Crotons, amounting to sixty varieties. Of the broad-leaved sorts, Sunset, Thomsonii, Majesticus, Reidii, and others were in grand style. Of the narrow-leaved varieties, C. superbus, Mrs. Dorman, Ruberrimus, C. imperialis aureus, and Flambeau were charming both in form and colour. The whole table made a very effective show. (Silver Gilt Banksian.)

A group of foliage plants came from Sir Henry Tate, Bart. (gardener, Mr. Howe). The plants were capital specimens of their kind, and very artistically arranged. Single stemmed Crotons, bushy Dracaenas, Eulalias, Asparagus Sprengeri, a magnificent piece in an 8-in. pot, occupying a central position, and numerous Ferns, Bamboos, &c. (Silver Gilt Banksian.)

The Dowager Lady Freake, Fulwell Park, Twickenham, sent a beautiful table of cut Canna spikes in a great variety of varieties.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, set up a table of Statice profusa in varieties. The plants were well grown and profusely flowered, clean and vigorous.

Mr. James Stredwick, Silver Hill, St. Leonards-on-Sea, exhibited a small collection of Cactus Dahlia blooms remarkable for their great purity of colour and refined appearance. The varieties included many of the newest introductions. (Bronze Banksian Medal.)

The Earl of Galloway, K.G., Galloway House, Garlieston, Wigtonshire (gardener, Mr. James Day), sent a collection of thirty-six dishes of Apples. Of these Lady Sudeley, Lady Kinlock, a Scotch raised Apple introduced to cultivation in 1887, and a good culinary variety, Duchess of Oldenburg, James Grieve, Yorkshire Beauty, Domino, The Queen, Blenheim Orange, and others were particularly well coloured and of good size. (Silver Knightian Medal.)

Lord Aldenham, Elstree (gardener, E. Beckett), again sent a collection of vegetables in the Sherwood Cup Competition, in all respects similar to the collection he sent at the last meeting. Every sample was a perfect object or standard of perfection of its kind. Mr. Beckett wins the Cup.

Gladiolus Sport.—In an American gardening paper there is a block and description of a "sport" in a Gladiolus. The photo shows a spike with double blooms at its base, semi-double blooms in the centre part, and single flowers towards the top. It is of the Gandavensis strain.

QUESTIONS AND ANSWERS.

Black Fly on Chrysanthemums.—*Omega*: You will notice that green fly infests the plants in spring, and often in summer, while black fly is more prevalent during the autumn months. In either of these cases the fly confines itself chiefly to the buds and the young leaves immediately below the same. The safest and easiest remedy is to dust these parts with tobacco powder. This may be done in the morning when the leaves are moist with dew, or they may be syringed on purpose to make the powder adhere and prevent its being blown off by the wind. You should make a point of getting rid of the fly before the flower buds get in any way injured by it. The brown powder will gradually disappear or become unnoticeable. You can distribute the powder by taking a pinch between the finger and thumb, and get over a considerable number of plants in an hour after a little experience.

India Rubber Plant Unhealthy.—*E. Scales*: It would have been a considerable guide to us in determining what is the matter with your plant if you had sent us one of the leaves that are patched or blotched with gray. The bottom leaves which turned yellow and dropped off are no sign of an unhealthy condition. A number of them ripen and drop naturally every year, more or fewer, according to the size and age of the plant. The same happens with all evergreen plants. We think it probable that the plant is suffering at the roots owing to a sodden and water-logged condition of the soil, or that water is allowed to stand too long in the saucer in which the plant may be standing. The soil should be quite firm and sufficiently dry during the greater part of each day to allow air to get freely to the roots in order to keep them in a healthy working condition. We offer these suggestions in the absence of information. On the other hand, the plant must get plenty of light by being placed close to the window when grown indoors. India Rubber Plants like a firm soil, with plenty of water during the summer months, and plenty of light; but the saucers should be emptied soon after the plants have been watered. There should be no difficulty in keeping plants in a dwelling room all the winter, when they have been accustomed to the place in summer. Take the plants away from the window at nights during frosty weather.

Arrangement for a Circular Bed.—*J. W.*: We think that one season is scarcely sufficient time to test the merits of China Roses and Clematis Jackmanni for bedding purposes. Both require time to get established, but particularly the Clematis. If the soil is bad it could be taken out to the depth of 18 in. or 2 ft., and replaced by better material, after properly draining the bed if necessary. Clematis Jackmanni is just now flowering magnificently much further north than your district. As you are partial to herbaceous plants and shrubs there are many others you might try in this particular bed. Aster Amellus, with large blue flowers, grows about 15 in. to 18 in. high, and flowers during August and September. Montbretias in variety also make a fine display in September in well drained soil. A bed of Fuchsias would be very handsome. For instance, you might plant *F. Riccartoni* in the centre, placing *F. gracilis* or *F. g. variegata* in front of it. *F. Dunrobin* Bedder is only about 1 ft. high, and could form a single or double line in front. *F. gracilis* and *F. Dunrobin* Bedder might prove perfectly hardy, but could be housed in pots during winter, and planted out in spring. A very pretty bed could be made with shrubs having variegated or coloured foliage. For instance, you could plant *Prunus Pissardi* and *Acer Negundo* variegatum alternately in the centre. The latter is somewhat tender in some districts. The Purple Beech, Purple Hazel, and Purple-leaved Barberry are quite hardy. Darker subjects are *Cornus mas variegata*, Golden Privet (*Ligustrum ovalifolium aureum*), *Cornus Spathii*, and various others that you could plant in mixture. You could always keep them dwarf by pruning them hard back in March or April.

The Celery Fly (Tephritis Onopordinis).—*D. C.*: The blistered Celery leaves you sent us were in a bad way and the grubs have now changed to the pupa or resting state in which they pass the winter, buried in the upper two or three inches of soil. The grub is variously known as the Celery Fly, Parsnip Fly or Celery Leaf-miner. The female flies lay their eggs upon the leaves when the Celery has been planted out or even while yet in the frames. You might watch for the fly about that time, and dust the leaves with soot. This might be repeated in the course of a week or so, dusting the leaves and soil. The earlier this is done the better, as the plants suffer most when small, with few leaves, especially in dry weather. Plenty of water about that time enables the plants to grow more freely and get beyond the critical stage. The grubs troubling you now are those of the late brood, whose pupae will rest in the ground during winter, and commence the trouble again in spring. You should set boys to pick the blistered leaves and burn them. Many of the pupae will be found in the soil about the plants, and generally near the surface. A few inches of the soil might be shovelled up and burnt in a heap. Another and a better plan would be to trench the soil deeply after the Celery has been lifted. Place the top spit

in the bottom of the trench and place a layer of gas-lime over the spit. The soil from the bottom should be placed on the top. By this process the pupae resting in the soil will be buried too deeply to get to the surface in spring. The same plan should be pursued with your Parsnip ground, otherwise the evil will be renewed from thence. The gas-lime should be a month old from the works; or if not, then nothing must be sown or planted in the soil for a space of six weeks. Trenching early would meet the case. Some of the gas-lime might be put over the second spit.

Treatment of Begonias.—*Begonia*: Two, at least, of the varieties you mention are tuberous Begonias, namely, *B. worthiana* and *B. phosphorens*, and the other, probably, belongs to the same race. By and bye the foliage and stems will die down, after which it is only necessary to keep the pots containing them on the dry side and safe from severe frost. As the temperature rises in spring and the Begonias begin to shoot, repot the tubers and give a little water if necessary, to maintain the soil in a moist condition, increasing the supply as growth advances. To increase them in spring, you should make cuttings of the side shoots, rooting them in very sandy soil, with a little bottom heat. This process may be carried on all the summer, taking side shoots as they are produced. When the weather becomes warm enough, no artificial heat will be necessary to root the cuttings. Merely dibble them into very sandy soil, or sand altogether, keeping the same moist with a rosed watering pot.

Nectarine Fruit Splitting.—*Robert Crichton*: If, as you say, the roots have no access to bad soil owing to the bottom of the border being concreted, then the cracking may be due to the opposite extreme, provided the border is also well drained by an outlet or outlets being provided for the superfluous moisture. Seeing that the bottom consists of concrete, moisture cannot ascend in the usual way by capillary attraction to supply the loss by evaporation, and absorption by the roots. Under such conditions a border soon gets dry during warm summer weather. We can only imagine that during the growing or swelling period of the fruits you have allowed the roots to get dry by too long an interval between the waterings. The dry hot weather you had in summer must have hardened or stiffened the skin of the fruits, so that when you next applied water, the roots took up more than was advantageous to the fruits; the pulp then swelled too rapidly for the skin, and the result was the rupturing or splitting of the same. Provided all superfluous moisture can flow away rapidly by the presence of good drainage, either natural or artificial, then you must keep the borders supplied with water at regular and frequent intervals till the fruit is ripe. Even in winter the borders should not be allowed to get dust dry, because it is unnatural for the trees and the buds drop in spring.

Names of Plants.—*A. R. T.*: 1, *Hellanthus rigidus* var.; 2, *Erigeron speciosus*; 3, *Scabiosa Gramuntia*; 4, *Erica vagans*; 5, *Davallia bullata*.—*General Reader, North Cornwall*: 1, Golden Saxifraga (*Chrysosplenium oppositifolium*); 2, Devil's Bit Scabious (*Scabiosa succisa*); 3, Golden Rod (*Solidago Virgaurea*); 4, Wood Loosestrife (*Lysimachia nemorum*).—*E. C. H. D.*: 1, *Populus balsamifera canadensis* (it is not British, but a native of Asia and temperate America); 2, *Molinia caerulea*; 3, *Chrysanthemum segetum*; 4 and 5, *Hypochaeris radicata*; 6, *Impatiens Roylei* (a pale variety).—*E. C. H. D.*: (Earlier consignment than the above), 1, *Cuscuta Epithymum* (it attacks a great variety of plants); 2, *Mentha piperita*; 3, *Hypochaeris radicata*; 4, *Salix alba vitellina*; 5, *Hypericum calycinum*; 6, *Santolina Chamaecyparissus* (the variety *S. C. incana* is more hoary or white, but the difference is not great); 7, *Crepis virens*.—*A. C.*: *Geranium robertianum* or Stinking Herb Robert. It may have been used for medicinal purposes in olden times, but it has no reputation in that respect now.

Names of Fruits.—*Salem*: Pears, 1, *Emile d'Heyst*; 2, *Vicar of Winkfield*; 3, *Souvenir du Congrès*; 4, *Hessel*; 5, not recognised. Peach Walherton Admirable Apple a worthless variety not worth growing.—*J. Mack*: 1, Claygate Pearmain; 2 and 3, Warner's King; 4, Probably Duchess of Oldenburg; 5, Nonsuch; 6, Hawthornden.—*A. R. T.*: Apples, 1, Egg or White Paradise; 2, Crimson Queening; 3, Tyler's Kernel; 4, Fearn's Pippin; 5, Dumelow's Seedling; 7, Gravenstein; 8, Beachamwell; 9, Baxter's Pearmain. Pears, 1, Chaumontelle; 2, *Emile d'Heyst*; 3, *Marie Louise d'Uccle*; 4, *Bergamote d'Esperen*; 5, *Beurré d'Amanlis*; 6, Old Colmar; 7, *Beurré Bachelier*.—**Communications Received**—*C. Muir*:—*Omega*.—*M. M'Laren*.—*Ed. Webb & Sons*.—*J. Mayne*.—*Edwin Ballard*.—*F. G. Brewer*.—*Geo. Russell*.—*H. Jekyll*.—*J. W. B.*.—*R. A.*.—*J. H.*.—*R. M.*.—*W. B.*

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The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, OCTOBER 7th, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, October 9th.—Sale of Dutch Bulbs (every day except Saturday) by Messrs. Protheroe and Morris, at their Auction Rooms, 67 and 69, Cheapside, E.C.

TUESDAY, October 10th.—R.H.S. meeting at Drill Hall.

RECOLLECTIONS OF THE FRUIT SHOW.—

After all that has been said and done and seen in connection with the great annual show of British grown fruit at the Crystal Palace, the most lasting impressions will be those produced by the Apples. This applies to the general public, and to the gardeners who came to exhibit or merely to see the show, but particularly to those who have witnessed this exhibition for the first time. Big fruits there were of Pears in considerable quantity, considering the general scarcity of Pears this year; and in a lesser degree fine samples of Melons, Peaches, Nectarines, Plums, and Grapes were shown; but after all the colour of the Apples more than anything else is the feature for which the show of '99 will be remembered. We have seen this show when Pears were particularly noticeable on account of their size, and the quantities in which they appeared on the exhibition tables; but that was a year when the fates settled the Apple crop while yet in blossom,

and the Pears by another stroke of our fickle climate escaped the scathing finger of late frosts. The state of the weather during the critical period of any given crop, that is, when in blossom, is the ruling factor that determines whether the crop will be a success or failure. Extreme heat and drought afterwards or the extreme cold and wet to which this island may be subjected in summer, are matters of secondary and minor importance to spring frost in determining the quality and quantity of any given crop for that season.

Much wet is favourable to the swelling of the fruits, even if it retards maturity; but drought may to a large extent be counteracted by the skill of careful and enthusiastic cultivators. When Pears constitute the principal crop of a season, whether that is a wet or a dry one, the autumn show is bound to be a green one. Apples under either condition make a more attractive show although it is the general belief that a fair amount of rain greatly increases the colour of the fruits. There are, however, many conditions and "ifs" that we cannot depend upon rain alone, nor to soil, nor any given locality, to fully account for the coloration of Apples. There is a much greater rainfall in the north of England and in Scotland generally than in the south of England, yet we never get either size or colour in the north that can hold their own when placed alongside of the best of the southern or south-western productions. Latitude and the length of the season would appear to be strong factors in developing Apples and Pears of the largest size. Similar reasoning applied to those fruits in Britain generally would seem to point to the conclusion that heat and moisture are both equally necessary for the production of the finest samples we see at exhibitions. Some emigrants from the old country wrote back to their friends that Oregon was a country of rain and red Apples, from which one would readily conclude that heat and moisture were necessary to the production of highly coloured Apples. Oregon lies between the same latitudes as the southern half of France, whereas the latitudes which bound the British Isles, correspond to those in which the southern half of Canada lies.

The British public appears to be imbued with the idea that what is good to look at is also good to eat; and is ready to pay a higher price for highly coloured fruits, than colourless ones. Cox's Orange Pippin and Ribston Pippin, the best flavoured of British Apples, are amongst the least attractive. Both were shown in fine form at the Crystal Palace, yet we fear they attracted very little attention except from those who are conversant with their merits. Lady Sudeley, The Duchess, Tyler's Kernel, Hollandbury, Hoary Morning, Peasgood's Nonsuch, Cox's Pomona, Wealthy, King of Tomkin's County, Mère de Ménage, Worcester Pearmain, Gascoyne's Scarlet, Beitigheimer, Bismarck, and many others that could be named were simply magnificent. Lady Sudeley in one case at least was unusually highly coloured, but to what this is precisely due it would be difficult to say. That variety and Gascoyne's Scarlet are amongst the most showy of British Apples, when the colour is developed to its highest capabilities, or as it was on this occasion. As a bright yellow Apple none surpass Queen Caroline, even when Golden Noble and Yellow Ingestre are reckoned with. Gravenstein is a variable Apple as to colour, and many came into the same category, but some of the samples at the Palace were so highly coloured as to be scarcely recognisable by those whose fruits were less highly favoured. Taking a cursory glance at the show it seemed to us that the best coloured

productions came from Kent, Sussex, Devon, Hereford and Monmouth.

On the whole the Apples were generally reckoned to be smaller than last year owing to the great drought, which prevented the free swelling of the fruits just prior to their completion of growth. Many of the above named samples were large of their kind, and amongst others we noted amongst the green varieties grand samples of Warner's King, Bramley's Seedling, Alfriston, Lord Derby, Dumelow's Seedling, Withington Fillbasket, and many others, chiefly culinary varieties. The past season has much to answer for as well as local irregularities due to thunderstorms accompanied by hail. Some of the largest fruits of previous years came from a garden in Kent, where the crop was partly demolished and the rest so bruised or indented as to be unfit to appear in public. This storm seems to have passed other gardens and orchards, not far off, quite unscathed.

Notwithstanding the general deficiency in the Pear crop, the exhibits that turned up were calculated to give the uninitiated the impression that Pears were plentiful and good. On the other hand the very deficiency must have contributed to the size of the remainder. As in the case of Apples the largest Pears as a rule were to be met with in the single dish classes, where keen competition makes the exhibitor stage his best. Some of the largest and finest fruits included Uvedale's St. Germain, Catillac (otherwise known as Belle de Jersey and Pound Pear), Doyenné du Comice, Grosse Calebasse, Pitmaston Duchess, Williams' Bon Chrétien, Doyenné Boussoch, Beurré de Mortillet, Marguerite Marrilat, Souvenir du Congrès, King Edward, and others. From Jersey came some big Pears as usual, including Doyenné du Comice, a fruit of which weighed $17\frac{1}{2}$ ozs., and 26 weighed 22 lbs.; 25 of Catillac weighed 35 lbs.; and 24 of the favourite Chaumontel weighed 19 lbs. A heap of Belle de Jersey resembled a mound of small Swedes. Of other fruits the most notable were Barbarosa, Alicante and Muscat of Alexandria Grapes; and The Nectarine and Sea Eagle Peaches.

Mr. Thomas Sharpe, for the past five years in the Gardens, Cullen House, Cullen, N.B., the last three of those years as outside foreman, has been appointed head gardener to R. M. Lamb, Esq., Cleadon House, near Sunderland.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, October 10th, in the Drill Hall, James Street, Westminster, 1-5 p.m. At 3 o'clock a lecture on "The Injurious Scale Insects of the British Isles" will be given by Mr. R. Newstead, F.E.S.

Jamaica Produce and Transport Association.—This is a Glasgow promotion, having for its object the establishment of a produce and fruit business, and the formation of a mail and fruit line between the United Kingdom and Jamaica. The capital is £320,000 in £1 shares, of which 20,000 are deferred shares, and the balance of 300,000 shares are offered to the public. The Association have entered into agreement with the Agents for the Colonies on behalf of Her Majesty's Government for the carrying of Her Majesty's mails, and for the purchase and transport of fruit and other purposes, for which they will receive a subsidy. The company shall have to establish a business and will have to compete with other importers of Bananas in order to secure a portion of the trade. It is proposed to construct four steamers at a cost of £220,000, and to expend £80,000 in constructing wharves and hotels, and in making loans to cultivators. (£80,000 won't go far.) The directors include some well-known commercial men in Scotland, but the majority of them have no great interests in Jamaica. The prospectus, says *Commerce*, is not very assuring or satisfactory.

For ornamental effects in laying out shrubberies a good combination of low growing plants consists of golden Willow, Dog-wood, the double Cherry, the Laburnum, and the Service-tree.

Queen Marguerita of Italy has a passion for flowers and her taste is not erratic. Her favourites are the ever popular red Roses, Carnations, and Lily of the Valley. King Humbert is put about if in a morning his study is not bright with floral beauties, for his Queen makes it a point to cull flowers for this purpose.

The Duke of Westminster enjoys his leisure at his palatial residence and estate of Eaton Hall. He goes about with a pruning knife and clad in the plainest attire. So homely does he appear, that instead of being the owner of this magnificent place one might rather regard him as a dutiful gardener.

Royal Horticultural Society of Ireland.—A meeting of the council of this society was held some short while ago at 6r, Dawson Street, Surgeon-General Beaumont, M.D., in the chair. The secretary submitted a report of the autumn show held at Merrion Square, on August 22nd. Accounts and prizes to the amount of £145 were passed for payment. C. C. Sanderson, Esq., Lincluden, Clontarf, was elected a member of the society. Judges were nominated to act at the show to be held at Ball's Bridge in November.

Trees in Brussels.—In a certain avenue of trees at Brussels, that of the Avenue Louise, the seemingly peculiar phenomenon of the trees at the sides next to the tram lines losing their leaves much earlier than the outer sides, has been the matter for much speculation among the residents of that quarter. Some think that the roots on the tramway side are injured by the electrical current from the trams. Other opinions have it that the cobble stones paving the roadway prevents the rain from descending. Probably the real cause or reason is that the lines of the trams act in the same way as an intentionally well-laid drain, and thus conduct off the needed moisture. Some of the Planes on the High Road, Chiswick, nearly collapsed during the past summer owing to the overdraining of the soil, and the exposure of roots. That was before the wires for the electrical current were laid.

Emigrants' Information.—The Emigrants' Information Office, 31, Broadway, Westminster, S.W., has sent out its quarterly report on the prospects for emigrants. It is now too late for the ordinary emigrant to go to Canada, unless he has friends to go to or money to keep him through the winter. Competent dairymen and farm labourers can generally find employment in the country districts of New South Wales. In Victoria there are excellent openings for farmers, dairymen and fruit growers, if they have a little capital and some experience of the country. In Queensland, farm servants are still in demand. The same cry comes from Western Australia, and free homesteads of 160 acres are being offered to settlers. Intending emigrants are seriously warned against going to the Cape. The cities and the Colony all over are fully supplied and in parts there is congestion even.

Bristol and District Gardeners' Mutual Improvement Association.—The monthly meeting of the society was held on Thursday last at St. John's Parish Room, Redland. Mr. C. Lock presided over a good attendance. The subject for discussion was "Salads," and it was opened in a thoughtful and interesting manner by Mr. E. Binfield, gardener to Francis Tagart, Esq., Old Sneed Park. The aim of the paper was to show how a supply of the principal salads could be maintained during the greater part of the year. To this end Mr. Binfield dealt with the culture of Lettuce, Endive, Beet, Celery, and Cucumbers. He gave in each case his opinion as to the times most suitable for sowing to obtain a succession of crops, the soil best fitted for the several varieties, method of after culture, and insects to which they were most liable. The paper, which was full of useful information on the important subject, was much appreciated, and at the close Mr. Binfield was heartily thanked. A short discussion, chiefly on the culture of Beet, and best means to clear the Celery Fly, followed the paper. Certificates of Merit were awarded Mr. Shaddock for a dish of fine Peaches; Mr. White, for Pitcher Plant; and Mr. McCulloch, a specimen of *Odontoglossum grande*.

Mr. E. Rodigas, director of the School of Horticulture of the State, Ghent, has been promoted to the quality of officer of the "Order of Leopold."

Forestry in the United States.—The Secretary of Agriculture is preparing for distribution at the Paris exhibition a publication which is to contain a *résumé* of the achievements of the United States in every branch of science as related to agriculture in the Nineteenth Century.

Death of M. Ferdinand Bergman.—This noted horticulturist died at Raincy (Seine et Oise), France, recently at the age of seventy-three. He was born at Dammarie-les-Lys, near Melun, and at the age of twelve engaged as apprentice gardener with Baron James Rothschild, at Boulogne-sur-Seine. He afterwards worked with the Duke of Devonshire, Messrs. Lee & Paxton and the Duke of Buccleuch, in this country; in Austria, with Baron Hugel, he took charge of the parks and greenhouses of Suresnes; then at Boulogne-sur-Seine, and at last at Ferrière-en-Brie, to which he was appointed in 1864. M. Bergman raised many new varieties of Coleus, Dracaena, Croton (C. Baron James de Rothschild), Anthurium, Pineapple Charlotte de Rothschild, and other things. In the way of literature he leaves the *Revue Horticole*, a souvenir of a meritorious practitioner. He was much liked and respected, being well known to many even in this country, where some of his Crotons and Anthuriums are still reckoned among the best of their kind.

Devon and Exeter Gardeners' Association.—The annual business meeting of the above association was held in the Council Chamber of the Guildhall, Exeter, on Wednesday evening, October 4th, at eight o'clock. The Right Worshipful the Mayor occupied the chair. The secretary and treasurer's report for the past year showed the funds in good condition. The balance brought forward from last year was £13 11s. 3d.; at present the balance at the bank and in the treasurer's hands amounts to £16 11s. 9d., an increase of £3 0s. 6d., so that after a good year's work done the totals come out satisfactorily. The syllabus for the opening session, 1899-1900, includes papers from Mr. Fletcher, gardener to Colonel Halford Thompson, J.P., on "Dahlias"; Mr. G. Stiles, gardener at The Grove, Teignmouth, on "A Practical Lesson on Dressing Chrysanthemum Blooms for the Exhibition Table"; Mr. W. Charley, Wonford House Gardens, on "Garden Walks and Drives"; Mr. W. Mackay, Royal Nurseries, on "Cut Flowers and their Arrangement"; Mr. J. Reynolds, gardener to Sir Charles D. Cave, Bart., Sidbury Manor, on "Winter Flowering Plants—the Cyclamen, the Carnation, and the Euphorbia"; Mr. F. W. E. Shrivell, F.L.S., Thompson's Farm, Tonbridge, Kent, on "Further Experiments with Chemical Manures in Kitchen and Market Gardening."

Horticulturists at Balruddery House.—Saturday last, September 30th, was the occasion of a visit by the Dundee Horticultural Society to the estate of J. Martin White, Esq., at Balruddery House, Forfarshire. The party presented a Fir tree (*Abies pungens glauca*) and planted it in a prominent part of the grounds in commemoration of, and as a testimony of appreciation for invaluable services rendered by Mr. Martin White to the society in his capacity as a patron. Mr. David Croll delivered the presentation speech, in which he enumerated the numerous instances of kindness which Mr. Martin White had shown to their society. He hoped the tree they had planted would flourish, and further, that the family tree of Balruddery would flourish and send forth many olive branches, which in passing years would cheer the hearts of the lord and lady of the manor. In returning thanks Mr. Martin White complimented the society on having allied itself with the Technical Institute, and he hoped other associations would follow the lead, and by their union make the institute a powerful educational centre. In their tour round the world, Mr. and Mrs. White had been convinced that Scotland was not now foremost in the matter of technical education. He also promised to present the society with copies of several horticultural works he had secured in Japan, and from them they would see what was being done in that country, which he regarded as the most artistic in the world. Mr. R. Cairns, the energetic and courteous gardener at Balruddery, escorted the party throughout the gardens, and a very pleasant afternoon was spent.

Changing the Water in Flower Vases.—A common carelessness or want of knowledge on the part of those who use cut flowers for their dwelling room decoration, is that of allowing the water in the vases to become impure. So much is this the case that at times it stinks. Nothing sooner invites malaria, and lays the footing for typhoid and other dangerous fevers. The water should be changed daily, and a part of the flower stems should at the same time be cut off. This operation also helps to retain the flowers fresh for a longer period.

Planting Ornamental Shrubs.—To get the best results in planting ornamental trees and shrubs, it is important to give them good soil to begin with, and if that in which they are to be planted is not of high quality it will repay the planter to get some, but no manure should be used about the roots in any case. Trees and shrubs from 1 ft. to 2 ft. in height are at the best size for planting. At this height they plant easier, and with much greater success than when they are older. Give the roots perfect freedom of stretch all around, but avoid planting the trees too deeply. Great care should be taken not to allow the roots to become dry. Planting may be done either in autumn or spring. It is a disputed point which is the best time to do so, but we favour autumn planting. The surface of the soil should either be mulched with short dung or be kept constantly hoed through the summer.

Plants to grow under Trees.—In *Gardening* (American) Mr. Joseph Meehan names a list of plants which he finds to succeed beneath Pine trees even in dry districts of the United States. He states that in Pine woods one seldom or never observes any growth beneath the trees. On the other hand, under forests of Oak, or Elm, &c., we do find vegetation. There must be something injurious in the Pine needles to cause such an effect, and their dark, thick heads have also a detrimental influence. To get plants to grow beneath them one must first rake off the needles from the ground. Then some of the lower branches of the Pines must be trimmed off. He recommends bulbs for a start, Hyacinths, Tulips and the like. After planting them place a good layer of manure over them and if the bulbs were as they ought to be, this will bring them along all right. Hypericums in several varieties will also succeed. So will *Euonymus japonicus*, Privet in several sorts; some *Viburnums*, and *Yuccas*. If the only object be to have some green covering on the ground plant Ivy, Honeysuckles, *Euonymus radicans* and English Ivy. It is imperative that strong rooting varieties of plants should be chosen for places like this. Plants with long roots will have a better chance of living than those with short slender ones.

The Production of Rubber in the Amazons—Much of the rubber-bearing area in the Amazon region is situated on the islands of the river Amazon. There is altogether an area of 2,500 square miles. The upper and lower regions of the Amazon produce the same kind of rubber, but that coming from the upper river obtains slightly higher prices, being drier by the time it reaches the port of shipment. The collecting season in the lower Amazons begins about April, after the waters have subsided, and ends in January or February. The collectors employed are principally Brazilians or Portuguese, or half castes. The pure South American Indian is of very little use as a labourer. There are many thousands of collectors in the rubber field, yet the number does not supply the demand. Among the tools used in the Indian rubber industry is a clay funnel very like an ordinary water jug without a bottom or handle. Everyone engaged in the forest carries a knife. One of its uses is to cut down fuel for the preparation of rubber. It is necessary to chip a smooth surface on the bark before attaching a cup to the tree. This is done to prevent impurities from mixing with the sap. These cups are stuck into the bark or trunk of the tree, and a gash made just above the cup so as to let the sap flow out freely. A tapper can manage from 75 to 150 trees a day; all depends upon the distance they are apart. From 7 lbs. to 21 lbs. of liquid can be obtained in one day. After a sufficiently quantity has been collected the workers start to coagulate it. Various implements and processes are used or gone through, until by fire and so on, a cake of some height has been formed. The process of curing and forming the rubber is very injurious to the eyes.

Trees forced into faster growth by a milder climate than that of their natural habitat—when brought away from the same—produce wood generally of far less value. The Scots Pine (*Pinus sylvestris*) makes a white wood, soft, and much inferior when grown in the South of England than those of its kind away in the North of Scotland, whose wood is firm, red, and resinous.

There are at times misunderstandings and back-brugging between the gardener, coachman or other servants on a gentleman's place as to what is their own work and what their neighbours'. Private gardeners have to be diplomatic and must also remember that the gardener is kept for the place, not the place for the gardener, and it is necessary to accommodate himself to circumstances.

Do Woodbines injure other Plants?—A correspondent in an American paper asks whether Woodbines growing near Roses will harm them by impoverishing the soil. An answer is given by Joseph Meehan, of Philadelphia, who says: "Woodbines are not to be feared about large trees, but to allow them to flourish around Roses or such like plants, is certainly unwise. Rampant Woodbines kill shrubs by absorbing moisture which their neighbours want, and by taking all the food for themselves. Further than this, if their shoots become entwined with those of other plants that grow near, their greater rapidity of growth smothers the under vegetation." We suggest planting the Woodbine to clamber over hedges—where these are not likely to be injured by so doing—or beside strong and deep rooting shrubs and trees.

The Colouring of Fruits.—The great beauty and intensity of colour seen in a very large percentage of the fruit exhibits at the recent Crystal Palace show has been the subject of meditation for not a few. A well-known grower of hardy fruits and plants visited our offices recently, and in a discursive conversation he broached the subject of fruit colouration. Many opinions and experiments to prove this or that belief or theory have been made by many interested persons all over the country, but after all there has been no summary report or analytical draft made out from the various writings. In our own experience we have proved that hot dry summers will never give us highly-coloured fruits, unless the roots of the fruit trees are abundantly supplied with nourishment as well as overhead moisture. Tests were made at a famous fruit garden in Yorkshire, and in a sentence it was found that given nourishment, mulchings, watering and dressings of various chemical manures in a warm summer the fruits were as rosy or deeply tinged and streaked according to the variety, as anyone could wish them to be. The Devon, Kent, Monmouth, and Herefordshire Apples as seen at the Crystal Palace, were superior to any other in colour. Now, how is this? Situation has not all the effect in colour elaboration. Our friend mentioned a case in Cambridgeshire where the best coloured and cleanest fruits always came from trees growing in the grass. Plums, for instance, are sometimes spotted, and just a trifle rough-skinned under some conditions, but in the instance cited pure and smooth fruits could be relied upon from trees on grass. Is there greater vigour in surface-tilled fruit tree plantations, and is the roughness due to this? In Hereford the rainfall is generally slightly larger than in the south-eastern counties, and the fact of the red sandstone formation protruding over the area of that county may also have its effect. With two very large Kent fruit growers, the method whereby they secure fine skins and brilliant colour is to grow young trees for exhibition fruits under glass for a period, until the young fruits have swollen to a certain size and then they are taken outdoors to finish off. Even here they are protected from cutting or forceful winds, birds, &c., by a wire-netting cover. Then we might ask what is the colouring matter, is it a pigment and what is its purpose? Black people have a pigment just beneath the cuticle, we are told, and its use is a physiological one so far that it prevents their skins from blistering or peeling as a white man's would do under a tropical sun. In fact, our "sun burning" is not scorched skin, but rather a protective layer of matter or change of skin growth to suit requirements; and so again, we ask, Why is fruit coloured and what really helps colouration? There is need for a thorough scientific and practical explanation.

Fatal Feast of Acorns.—The Blackburn county police report the remarkable death of a boy named Robert Catterall, aged six, son of a fire-beater, of Livesey, near Blackburn. The boy returned home on Sunday complaining of headache, and it afterwards transpired that he had had a feast of Acorns and Blackberries. He became convulsed and died from acute inflammation of the bowels.

How Fruit Growers are Handicapped.—As evidence of the extent to which British fruit growers are handicapped by the "preferential" railway rates charged for foreign produce on its way to the English markets, we may cite the following. It costs 6s. to transport a ton of Potatoes from Germany to London, while from Bexley, in Kent, which is only twelve miles from the market, the cost amounts to 10s. Fruit from the Continent, landed at Dover, is carried to London at 1s. 8d. per ton, while English fruit is charged 12s. 3d. per ton, and not only this, but the foreign produce is sent on by the fastest trains, while English has to take the slow train which is shunted into a station to let the fast train pass carrying foreign produce. Of course if the foreign fruit did not have express service it would be of no use when it reached the market. Moreover, the railway companies would lose a certain proportion of this foreign fruit traffic if they raised the carriage dues. They also know that the British grower must use the railway and also that he has to get rid of his produce, so that they have the working of this entirely in their own hands.

Gleanings from the World of Science.

An Ornithological Cavalcade.—Mr. Harry F. Witherby, in the October issue of *Knowledge*, presents us with a further instalment of his lively adventures in Spain in quest of rare or otherwise interesting specimens of the feathered members of the animal kingdom. "We are fortunate," says Mr. Witherby, "in having as headquarters a large rambling old house, from which we set out accompanied by two keepers and a boy, all on horseback—an imposing cavalcade, surely, for a bird-nesting expedition. But to have a smaller escort in Spain would be considered *infra dig*, while to walk when there are horses to ride would be altogether out of the question. We were loth to depart from the customs of the country, and, therefore, consented to this arrangement. As we rode in single file along narrow pathways, through a growth of Tamarisk, Gorse and other plants as high as our horses' heads, and, in many places, quite impenetrable, or as we spread out in different directions to search for birds' nests, we began to understand the advantage of the Spanish system of bird-nesting. From horseback we could see over the high cover, and so guide our way to the most likely looking spots. On a horse, too, one can cover more ground in a day than on foot, which is a great advantage in a big country, with a burning sun; and, again, one feels more comfortable on a horse when suddenly confronted by a fierce-looking sow with her litter—at all events, such was our experience. . . . We were riding home after a hard day's work, when we spied a large black bird sitting near the top of a cork tree some distance off. The keepers proclaimed it a *cuerbo* or raven, but a glance through our binoculars told us it was something better. Accordingly, we made a wide circuit until we had placed the tree between ourselves and the bird. Then we dismounted and crept as quietly as possible through the cover until we were under the tree. Here an unforeseen difficulty presented itself. The tree was so thick that we could not at first see the bird. At length we caught sight of it sitting all unconscious above our heads. We fired, and down it dropped, not to the ground but into a great nest which we had not seen just below it. It did not take us many seconds to reach that nest. It was just a flat platform, some 6 ft. across, and was made of green boughs. In it was the great bird we had shot lying stone dead—a Spanish Imperial eagle—while near the old bird were two young ones clad in soft white down, and a little distance from them a great round dirty-white egg. There was room in the nest for a couple of sheep, but the eagle's lair contained nothing more than a few rabbits and the legs of a goat."

NATURAL PROPAGATION FROM A LEAF.

I AM sending you what I think is a rather interesting subject, a leaf of *Gymnostachyum giganteum*. It had been broken off the parent plant and had fallen on a *Dendrobium* pot, rich in sphagnum, and when my eye caught it was nicely rooted, so I stuck it in again to see if it would form an eye, which to my surprise it has done, and is forming a plant as you may see. While nearly any plant will root by the leaf it is only a certain section that is capable of forming a bud, such as *Begonias*, *Gloxinias*, &c. I have tried *Crotons* frequently and rooted the leaves (without bud attachment) and kept them fresh for a year, but never yet have got them to grow a bud, no matter how long I kept them. I have two plants just now that have taken all the patience I have at command, viz., *Tillandsia regeliana*. As they were three years and six months before rooting, I wonder how many times they were turned out of the pots during that time to see if roots would ever form.—*Geo. Russell, The Gardens, Redlands, Glasgow.*

[The accepted botanical name of the leaf sent by our correspondent is *Fittonia gigantea*, a sub-shrubby, but dwarf stove plant, with carmine-red veins to the leaves, and grown as a fine foliaged subject. The leaf sent, or rather the basal half of a leaf, was swollen at the very base of the midrib or on the top of the stalk, and from the protuberance, three short leaf-bearing shoots had arisen, each capable of being removed with roots attached and ready to be grown into plants. The plant used to be well known in gardens under the name of *Gymnostachyum giganteum*.—ED.]

WINTER PRESERVATION OF ARTICHOKE SUCKERS.

ABOUT the month of November, in the Paris climate chiefly, the Artichoke bunches are hilled up and covered with litter or leaves. But in spite of this, the plants during severe or wet winters are frozen, or decay on account of too much or protracted humidity. To form a new plant either seed must be employed or suckers purchased when any can be found, because growers or gardeners are often in the same predicament and cannot sell.

Sowing in February or March on a hot-bed evidently avoids this accident; the plants shoot up rapidly and if care is taken to replant them in pots good plants are obtained for the April-May planting. These young plants generally produce the same year in September-October. The evil then would be partially remedied if the seed did not give a large proportion of worthless plants, which are very spiny, quite similar to the wild species, and can only be distinguished when the heads appear. The majority of these heads are very spiny, and their leaves instead of being fleshy are very narrow and very coriaceous. The plant itself is very spiny, but this characteristic is only manifested late. Consequently this method is not always favourable and cannot be recommended.

Propagation of suckers presents very appreciable advantages compared with sowing. This mode of reproduction is more rapid, and surely and faithfully produces the characteristic of the plants from which the suckers are obtained. Suckering for winter preservation of young plants is operated at the end of October and the beginning of November. For this purpose the plants which have given the best and purest products are marked in advance, and at the time specified they are laid bare to the roots by aid of a wooden spatula or with the hand. All the suckers are broken off, or what is much better, cut with a knife, except two or three which are left on the stock. These suckers are then sorted, only those being kept which have five to eight leaves, of average size, furnished with a rhizome or root-stem and some roots. The others are set aside as too weak because they do not always give a guarantee of growth and generally fructify too late.

The wounds produced on the suckers by breaking are trimmed with the pruning knife, so that they can at once callus. This need not be done when they are cut and the roots are preserved intact. The faded leaves are then removed and the healthy leaves shortened to two-thirds of their length. Thus prepared they are placed one by one in pots $3\frac{1}{2}$ in. to $4\frac{1}{2}$ in. in diameter, containing a mixture of sand, dung com-

post, and garden soil in equal parts; the pots must be well drained and the soil properly compressed. Copious watering completes the operation. The pots are then placed by the side of each other in a box, and plunged in soil contained in the box, and then covered with a frame, which is left closed for some days, in order to facilitate emission of new roots.

From time to time a little air is given the plants by opening the frame when the weather permits. When, on the other hand, the nights are cold, straw mats are placed over, and the box is surrounded with litter or leaves; but these mats must be taken away in the daytime.

Thus treated these plants are very vigorous, and can be put into place during the month of March. They fructify at the same time as the Artichokes planted the previous year. But an early crop can be grown by working as follows:—Towards the end of February the strongest plants are sorted from the preserved plants, and replanted in very fertile soil in pots 5 in. or 6 in. in diameter. The pots are then replaced under the frame and aired as previously. The roots grow in the new soil and the young Artichokes attain a stronger growth, especially when regularly watered and left under frame until the middle of April, giving them a daily airing to produce firm growth. By working in this manner a crop is obtained fifteen to twenty days earlier than with old plants and the other suckers likewise kept in frames during winter. These suckers may be repotted to obtain stronger plants, and placed back again as though they had not been repotted.

This is an excellent method to prolong the crop, by which growers and amateurs can profit. This wintering under frames is not at all expensive, because the frames employed are unoccupied at this season.

For planting, after manuring and digging the soil deeply, lines are drawn lengthwise at a distance from each other of 32 in. to 39 in., and Artichokes planted therein at the same distance and as much apart in the row. To aid growth, some spadefuls of dung compost or other similar materials should be mixed with the soil.

The Artichokes are then planted by aid of a trowel, taking care to remove them from the pots gently, so as not to break the clod; press down lightly and make a rather deep hollow to distribute the water. Finally, give them a first watering.

It is excellent to mulch the plants around with short dung, which maintains coolness and aids growth. The work, until the crop appears, consists in frequent waterings, second tillage, and partial earthing up of the plants.

I shall mention, by way of note, the method of preserving matured plants which can be utilised by those who have a vegetable conservatory or orangery. Matured plants are placed in large pots or boxes. Their products are, however, not in advance of those obtained by the above method. One can easily understand the advantage of this method, as yet little known, which, together with assuring the crop, also enables one to obtain it earlier; whereas that grown from spring suckering is often uncertain, admitting that the plants to supply suckers have not perished during the winter.—*A. Maumene.*

PEOPLE WE HAVE MET.

MR. WILLIAM YEATES BAKER.

It is with great pleasure that we take the opportunity of presenting our readers with a portrait of this gentleman, the president at the 13th annual dinner of the United Horticultural Benefit and Provident Society.

For nearly fifty years Mr. Baker has been connected with, and is now proprietor of the Thames Bank Iron Company, of Upper Ground Street, Blackfriars, S.E., and in this connection he has supplied hot water boilers, &c., to many and many of "the Stately Homes of England," thereby becoming well known in the horticultural world.

He is a prominent Freemason, having been Treasurer of the Hortus Lodge from its commencement.

Far and wide, not only in his business circle, but in his private environment, Mr. Baker's kindly and genial nature has won the respect and esteem of all with whom he has come into contact.

As a practical supporter and earnest sympathiser

in the work of the horticultural charities, Mr. Baker is heartily appreciated. He is chairman of the management committee of the Gardeners' Royal Benevolent Institution, and has always evinced the warmest possible interest in its welfare and increasing usefulness.

We have also heard of him as a supporter of the



MR. WILLIAM YEATES BAKER

Royal Gardeners' Orphan fund, and now we trust that the kindly effort he is making on behalf of the Benefit and Provident Society will enable us in our next issue to give a most satisfactory account of a successful function.

GARDEN TOOLS.

MAY I as an amateur gardener say a few words on tools? A good set greatly conduces to the comfort of the amateur gardener.

I have at present a vegetable garden of about 40 square yards. I dig this over at least four times a year, therefore I much appreciate good, handy tools well suited to their work. There is no doubt that a fork works more easy than a spade for general digging.

I have just got from Messrs. A. and F. Parkes, Birmingham, a specially made flat prong fork (marked M.B.), which works most satisfactorily, and the fit is especially correct. I can strongly recommend amateurs and others to try it; any tool agent will get it.

I think that one of the four diggings, the spring, should be done with a spade, as I notice the weeds do not grow so fast after the spade. I suppose it cuts them up more than the fork. That being so one must put up with a little extra labour as its use is beneficial to the ground, or hire a man to do it, I never have any help in my own garden.

The D handle suits the amateur hand best; but these handles are generally made very short, giving the amateur the backache to no purpose.

A handle of 2 ft. 9 in. high suits me best, but I can rarely find one of the length. I notice some makers affirm that their spades are perfect in every way. I should very much like to find a spade used only in the garden that would clean itself in use and keep bright. Of course much depends on the soil, clay or sand; mine is clay.

Now I have only to add I should much like to discover a spade of the Scotch garden type, embracing the above virtues, and fitted with a 2 ft. 9 in. handle. Such a spade would be a comfort to amateurs and those wanting a handy spade. I have been an amateur gardener for twenty years, but have not yet come upon such a tool. If any of your other readers have they should not hide their lights in their gardens, but publish them for the benefit of less fortunate gardeners. I certainly will when I find the tool.—*C. Mullins.*

IN MEMORY OF MR. JAMES MARTIN, READING.

THE flower-loving public have lost a worthy son in the death of our old friend. He was a prominent figure at many of the leading shows, as a representative of the Messrs. Sutton & Sons, Reading. A man of great attainments as a floriculturist, and this was readily seen when visiting the Messrs. Sutton's Nursery, where florists' flowers have so important a place. I have had the pleasure of knowing him for nearly twenty years, and have been interested with him at our firesides as he displayed his close observation in the book of Nature. This I am apt to think has been one of his greatest helps as a hybridist—a study for which he was known. Only quite recently I spent an evening with him and gained some light on thumb and pin-eyed Primulas. It was through this class of plants I first became acquainted with him.

He was a true lover of Nature as was seen at a glance by walking with him in a country lane. Last April when walking through the nursery with him, he pointed out to me some of the offspring of his labour and no doubt he has left a stock to perpetuate his memory.

As a genial and true friend, those who knew him could not fail to recognise him; and there are not a few young men he has given advice to which has proved helpful too. Doubtless there are many who will regret his early decease and oh! so suddenly.—*J. C., F., Chard.*

THE FRUIT CROP IN DEVON.

A FEW remarks anent the above may not be out of place in your widely circulated journal; and the writer having had excellent crops to gather, with the exception of Strawberries, is only too delighted to lavish all the praise possible on dame Nature in giving us (with some assistance) such excellent results.

We will dilate first upon the Strawberry, as it is the first ripe fruit that we can gather out of doors in the year. Mostly all the varieties we have flowered abundantly, and we were building upon such an enormous crop, but alas, the cold east winds and frosty nights set in and played havoc amongst them while in bloom; consequently, only about half a crop was given us and Royal Sovereign yielded the greatest weight; hence the advantage, this year at least, in having stouter and more foliage than other varieties, but condemned by many a grower solely on that account. This extra amount of foliage protected the flowers to a very great extent, and though the crop proved lighter than some seasons the fruit was much finer, and easily fetched sixpence per quart while they lasted, those being retailed at ninepence in the neighbouring seaside resorts.

Gooseberries have been plentiful, and Red and Black Currants in abundance, swelling to a good size in spite of the continued drought; but oh those birds! those birds! They have been the worry of my life the past few months. You may net and net again, and then they will get through in spite of all your efforts to keep them at bay; and I have called them everything I can think of (except friends). One does not mind them enjoying a few small fruits, but when they peck choice Apples and Pears one has watched and admired almost day and night, then I say Job, with all his patience, would have kicked over the traces had he been a gardener and the feathered tribe so numerous as now.

We never had better crops of Raspberries though the drought was much against this fruit. Superlative does the best with us and I think holds the field up to the present, though I see reports of a yellow fruit soon to be distributed, which will be an acquisition if it comes up to the one mentioned, as predicted.

Stone fruits in every instance have carried heavy crops. Apricots finished well and are a most acceptable crop, coming in before other stone fruits except Cherries, which were plentiful and good, on an east wall as well as Peaches and Nectarines in the same position. These have had grand crops, and some of the fruits coloured up beautifully, notably Violette Hative, one of the best; Diamond, hard to beat; Barrington, Prince of Wales, Royal Ascot and Grosse Mignonne; while in Nectarines, Rivers' Early, a fine fruit; Pitmaston Orange, Stanwick Elruge and Humboldt left little to be

desired. The trees have kept remarkably free from redspider though it has been a favourable year for this pest, if ever there was one; but then the trees were thoroughly engined twice a week, with no lack of water at the root, no not even during the winter and early spring. Mr. Peter Veitch, of Exeter Nursery, is a great advocate for this, and the excellent crops he pointed out to me on his high wall about the middle of August quite justified this treatment. I may say our Peach wall has a movable glass coping and we always put a double thickness of $\frac{1}{2}$ -in. or $\frac{3}{4}$ -in. netting in front of trees while in bloom. This also applies to the Apricot wall, though I doubt whether the latter is really necessary as this fruit is certainly not so tender as the Peach when in bloom. Our Apricots were in full bloom this spring when we registered 14° of frost, which quite browned the petals, yet we never had a fuller crop. This reminds me that at the present time there is a discussion in one of your contemporaries as to whether Peach protection is necessary or not, some saying good crops have been taken from trees quite unprotected. This may be so, but I consider locality, position and soil must determine this, to a great extent, especially the two former.

Plums, another most useful fruit, and one that well repays any little extra attention given them, have been most abundant with us; and I am now gathering grand fruits of Coe's Golden Drop, Reine Claude de Bavay, and Belle de Septembre. All the varieties we have have been loaded, and include such as Early Orleans, Czar, Early Favourite, Washington, a fine dessert kind which I hope to increase this planting season; old Greengage, Transparent and Bryanston Gage, Jefferson's, Kirk's, Diamond, Magaum Bonum (white), Victoria, Pond's Seedling, etc.

And now we come to Apples and Pears, and will take the former first, as they are of the greatest use to the nation. In and around this locality good crops are general, the trees looking much cleaner than most years. In the gardens espaliers and pyramids alike have heavy crops in the varieties given below:—Lady Sudeley, Kerry Pippin, King of the Pippins, Ribston Pippin, Cox's Orange, Margil, American Mother, Scarlet Nonpareil, Benoni, Early Nonpareil, Sturmer Pippin, Newton Wonder, Lane's Prince Alfred, Lord Grosvenor, Ecklinville (Warner's King and Peasgood's Nonsuch enormous crops of immense size), Cellini, Cox's Pomona, Beauty of Kent, Rymer, Tower of Glamis, Frogmore Prolific, Potts's Seedling, Bismarck, Emperor Alexander, Sandringham, Gloria Mundi (medium crop), Duchess of Oldenburgh (which never fails), Winter Hawthornden, Bramley's Seedling, Alfriston, Baumann's Red Reinette, Northern Spy (crop for a change), Wyken Pippin, and Annie Elizabeth.

In Pears, Jargonelle Hessel, Louise Bonne of Jersey, Marie Louise, Beurré Bosc, B. d'Amanlis, B. Diel, B. Easter, B. Hardy, and B. Superfin, Bon Chrétien, Doyenné Boussoch, D. Du Comice, Marie Louise d'Uccle, Pitmaston Duchess, Souvenir du Congrès, and Thompson's have an average crop respectively; but as I could not well net or bag each fruit (though the choicest are secure), those winged enemies I spoke of earlier in these notes have spoilt a lot of fruit for me by boring holes close to the stem, which is the case usually, though I notice several that are damaged near the top.—*J. M., Bilton.*

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned hereunder were made by the Royal Horticultural Society at the Drill Hall on the 26th ult. :—

Orchid Committee.

CATTLEYA WEEDONENSIS.—This hybrid was raised by crossing *C. Mendelii* (female) with *C. granulosa schofieldiana*. The sepals are pale, greenish-pink, but the large, elliptic petals are of a much darker and clearer shade of pink. The lamina of the lip is transverse, undulated, crisped, rich crimson-purple, and paler towards the margin, the colour intensifying where it runs down the broad claw and in the tube, where it forms a narrow band. The tube of the lip is white, and the side lobes yellowish or creamy. (Award of Merit.) T. W. Thornton, Esq., Brockhall, Weedon.

ODONTOGLOSSUM CRISPUM BASANO.—The peduncle

of this beautiful variety carried ten large, white flowers, with a large, reniform, dark chestnut blotch on the middle of the lip, and several small spots on either side of the crest. The sepals are ovate, and the petals triangular, all being well imbricated. (Award of Merit.) Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells.

Floral Committee.

DAHLIA MME. MEDORA HENSON (Cactus).—The blooms are of large size, and rich crimson-red, with long, pointed, slender, and incurved florets. (Award of Merit.) Messrs. T. S. Ware, Tottenham.

DAHLIA AUGUSTUS HARE (Cactus).—The long, slenderly-pointed florets are strongly incurved, and orange, with a maroon crimson edge. Some blooms sport to a maroon-crimson edge. The typical flowers of two colours have a glowing appearance. (Award of Merit.) Mr. James Stredwick, Silverhill Park, St. Leonards.

Fruit and Vegetable Committee.

PEAR TRIOMPHE DE VIENNE.—The fruits of this Pear are large, pyriform, and terminate in a shallow cavity at the base, into which the stalk is inserted. The skin is greenish-yellow, mottled with russet, and the flesh of fine quality. (Award of Merit.) Roger Leigh, Esq. (gardener, Mr. G. Woodward), Barham Court, Maidstone.

POTATO THE SIRDAR.—The tubers of this variety are roughly oblong, sometimes round, and white. A few pale blue eyes may often be noted round the apex of the tubers. It has been tried at Chiswick, where it proved a very heavy cropper, and when boiled it turned out to be of excellent quality. (Award of Merit.) Messrs. Hurst & Son, Houndsditch, London.

The Orchid Grower's Calendar.

STOKING.—I am very much afraid that stoking is looked upon by a great many young gardeners as work beneath their study, yet how much depends upon the proper carrying out of these duties. A good stoker, to my mind, is the gardener's right hand, for he can with such a man at the wheel retire to rest, feeling certain that temperatures in the various departments will be to his liking.

What constitutes a good stoker? may be asked. A man up to his work will always have the flues and fire bars clean. The fires, too, will be well in hand, so that any fluctuations in the outside temperature can be dealt with quickly.

FUEL.—Just a word in favour of Anthracite. We have used this now for the past four or five years, and find it so much in advance of coke in keeping up an even temperature that we shall not be likely to use anything else in the future. We use Anthracite cobbles, which cost a little more at first, but you save it in labour, as they do not require any breaking, consequently there is no dust either.

INSECTS.—The past summer has been very favourable to the pests that trouble gardeners and amateurs. Thrips especially have made great strides, increasing their stock to an alarming degree where left to their own resources for a short time. The use of the XL ALL Vaporiser for a few evenings will soon dispel them, however, for which most of us are thankful.

LAELIA JONGHEANA.—We have been growing this Laelia in the Odontoglossum house all through the summer months, and I am pleased to say that they have done excellently. The time, however, has arrived when it would be unwise to let them remain longer in such a position. We shall, therefore, transfer them to the intermediate house where they will be given a position near the roof glass.

SYRINGING.—The spraying overhead of most plants should now be discontinued, excepting, perhaps, the Odontoglossums, and these should only be done in the mornings so as to give the water that lodges in the partially made-up growths, time to evaporate before the evening. This obviates having recourse to much fire heat, which is bad for them at any time, so that it is quite as well to do without it as long as possible, not but that it is necessary to just warm the pipes at night, whilst the prevailing weather at present lasts.—*S. C.*

"Success would lose its sweetness were it not for the difficulties overcome."

HINTS FOR AMATEURS.

Rockeries and Walls for Plants.—This is the busy planting season for lovers of evergreens, fruit trees, or hardy plants. The brightness of summer has now left us. The evenings and the mornings are cool; the latter open with everything bathed in a dew; while the evenings may be either damp or frosty. The glory of summer has departed, and we cannot think of it without regret, for summer is synonymous with brightness, health, and gladness. The autumn brings the representation of death, or decay at least; and yet we are under a promise that so long as life lasts, "winter and summer, day and night, cold and heat, shall not cease." Therefore, while the earth is warm from the heat of summer, we busy ourselves in planting stock to gladden us in the new summer, which we by and bye expect. Rock-plants soon lay hold of their quarters if they are put in at this time. The earth above may be cool, cold even, but it maintains an evenness or medium temperature beneath, for some period longer; and it is during this time that we should make good use of all favourable weather.

There are many places where one could wish to have some sort of rock-work or rugged wall suitable for planting with trailing, or dwarf subjects. Miss Jekyll, in her book, "Wood and Garden," describes the making of one of loose retaining walls which act in the double or triple capacity of a shelter screen, a dividing line, and a garden ornamental feature. On abrupt slopes, a retaining wall, though not absolutely necessary, can yet be introduced with all propriety. For alpine plants the best position for such loose walls or very steep rockeries, is probably that of a north or east aspect. Such a position, however, need not be anxiously contrived for all the same, for alpine plants enjoy a light, as well as a cool position. In the making of a wall for alpine plants the same rules apply to its construction as for a proper rockery. There must be pockets and enough of soil between the stones to sustain plants with long roots and great suctional capacity, and it must be secure. The earth should be solidly trodden and rammed behind the stones of each course and throughout the whole structure. Any local stone material will answer the purpose, for it is intended that the stones will in a short while be completely hidden. Allowing a breadth of 4 ft. or 5 ft. for the base of the wall, it may narrow to any limit of contraction, but the general surface of the wall should be only at such a slope as shall allow of the retention of moisture when rain falls. A point worth the watching is to make the pockets or chinks in such a way that they will hold rain, dew, and other means whereby moisture is secured. For this purpose it is often advisable to use rough stones. The strongest growing plants, it may be shrubs, should be planted on the top of the wall, for then their roots will find a body of soil in which to penetrate and establish themselves. Ferns may also be used for clothing the wall and such kinds as Hartstongue, Polypodiums, Aspleniums and others would do very well, remaining in a green state, at least some of them, throughout the winter. Berberis, Scotch Briers, Junipers, Privets, Mahonias, and Olearias would form a varied selection for decking the rougher parts. Numerous Saxifragas, Sedums, Campanulas, dwarf Phloxes, Primroses, Aubrietias, Rock and Sun Roses, Ramondia pyrenaica, and a host of dwarf plants could be used for close growing and groundwork purposes. The Globe-flowers, Orobis vernus, Ononis rotundifolia, Bergamot, Lychnises, and a large selection of annuals would be suitable where slightly taller plants are desired.

Rockeries should be overhauled at this time, and the new plants which may be ordered should be planted for the sake of giving them a start in the warm soil. It means a great deal to a plant if it can establish itself before very cold weather sets in. Frost loosens the soil and raises the plants up, but this evil is overcome if one simply starts the work early, instead of delaying it until a later period.

Dahlias.—At the first sharp frost, these plants will be blackened and fall limp. We hope for many reasons that the season of frosts, and snow, and bitter cold winds which seem to cringe us to half our normal size, will keep away for a time yet. However, a note on the storing of the roots, or tubers rather, may as well be given now as at another

time. In the first place try to have the tubers as large and strong as possible by nourishing them well now, and during the time they are growing. When the blooming strength of the plants begins to wane this may be taken as the time to stop feeding in any way. If frost nips down the plants, the stems should be cut across about two feet from the base. Loosen the tubers carefully from the outside reach of where they may be expected to extend to, using a fork for this work. Clean the soil from off them and take them to a cool but thoroughly dry shed or loft. Hang them up in bunches by the stems, and label them, either the name and the colour of the flowers so as to be sure of how to arrange the plants effectively when planting them afresh next year.

Carnations.—Young plants of these from layers this year should be carefully watched. Do not be in any great hurry to have them shifted from the layer bed, for nothing will throw the plants into a bad way or give them a check as injured roots or disturbance when only a portion of roots has been formed. The best place for plants which really are rooted and which have started to grow briskly, is a sunny border and a soil which is dry and porous. Into beds they can be put, and the same rule of early planting, and for the same reasons as already stated, holds good here.

The ground may in some cases have to be specially prepared. No one should hesitate to do this, however, for surely Carnations are worth all the care we can bestow on their culture. Add manure of a kind suitable to the soil, light warm stable manure of a dry nature on land which is heavy; then for warm, dry, light borders, farmyard manure which has become thoroughly decomposed is the best quality of stuff to employ.

Grevillea robusta.—The seeds of this very handsome greenhouse shrub take a long time to germinate, so long indeed, that unless the pots or pans are carefully crocked and the operation of watering is gone about in a thoughtful manner, the soil will almost certainly become sour. In its native country (New South Wales) it is commonly known as the Australian Oak, because there it attains to noble proportions. As a greenhouse plant or for use as a decorator in one or two capacities, it is equal to Aralia Sieboldii and Ficus elastica, both of which are indispensable. Make a sowing now, or indeed, anywhere for that matter, but an autumn sowing gives us nice plants for next year. Four-inch pots are usually employed, and these should be filled with rather a firm soil. The pans should be three parts filled with a good compost and then raised another eighth-part with finer soil, whence the seeds should be sown and a light dressing scattered over them. The seedlings never appear regularly, so that those which come up first ought to be potted first and singly into the smallest sized pots. A suitable compost for this first potting is one with $2\frac{1}{2}$ parts of friable loam, one of leaf mould and a liberal addition of sand. Water then after this first potting and place them for some time in a close moist pit or frame with a temperature of about 65°. Once they are established in the thumb pots it is well not to let them suffer, but to keep potting on. The coolest house possible will answer them after they have attained a height of 4 inches. A strong point to watch is to see that they get plenty of water, not saturation, but in quantity enough to save the leaves from dropping off, for this happens after a severe drying up.

Floral Decorations.—Amateurs do not generally stand in need of many hints on this subject, for as a rule their wealth of cut blooms is not great. Yet the subject is worth considering. All of us have an occasional party, and we like to be able to economise the flowers at command, and at the same time to make a good show. As a rule flowers are costly to buy, and when bought they do not always class together well. It should be the aim of the mistress of the house, for she it is who has this work under her consideration, either when buying, or when culling flowers in the garden, to choose those with forms and colours which will arrange best together. A great deal, of course, depends on what the flowers are to be used for, or how. We may have bouquets, wreaths, vases, dishes of flowers in drawing-rooms, hanging-baskets, epergnes, and various other appliances, some of them comparatively new and very useful for their purpose. Colours that go well together are, rose with a little blue; white with mauve or lilac, and sometimes with shades of pale yellow, or primrose; dark blue and bright scarlet; bright

deep yellow and pale blue; and blue with a shade of white and rose, which are always distinct and charming. With these colours however, it is best not to use large or heavy masses. Geranium and Rose-buds, sprays of Heats and Lilacs answer much better than full-blown Camellias, Roses, and Carnations. In arranging vases the object should be to have a complement of gracefulness. For this end one requires erect grassy shoots arching over when they reach a dignified height, and Ferns of various kinds both for greenery and choice of form. Draping shoots of Smilax or other suitable trailer, or climber, may be used in different ways. Dishes of flowers can be effectively arranged when one has a choice both of large and small flowers and suitable foliage. Moss or sand can be used to imbed the stalks and to steady the same. For personal decorations many things have to be considered, such as colour and fixture of the hair, the complexion, the wearing apparel and the size and sex of the persons.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Roses Straggling.—*Elphin*: You will hardly find the Rose shoots to snap. They are supple enough to bend and lash and twist with the wind without breaking. We would wait a week or two longer; then for safety from snow, storm, &c., we advise you to reduce the longest shoots by a third. In November mulch all around them with sappy stable and cow shed manure.

Climbers for Dead Shrubs.—*J. M. Berry*: Woodbine (Convolvulus); Clematis Jackmani, and other sorts, more especially C. Vitalba, called Old Man's Beard or Traveller's Joy; Tropaeolum speciosum or Flame Flower; Honeysuckles of sorts; climbing Roses as Crimson Rambler, and others of the polyantha section; Ivies, Ampelopsis, and other things.

"Fences."—*J. Drew, Maidenhead*: Neat and light made iron or metal fencing would be preferable for a barrier. For this purpose you will find the most effective kind of fence to be that in which the rails are about 4 in. apart, strong and straight, rising to about 7 ft. at the least. There should also be no cross-bar for a considerable distance from the bottom. For training espalier trees to you will find a wire trellis sufficient.

Striking Violas.—*Novice*: The general plan for all bedding plants which are propagated annually is this: Secure stout firm shoots of whatever plant you wish to increase or perpetuate. For Pelargoniums, strip off three or four leaves at the base, and make a clean even cut just beneath a joint. For Violas, Calceolarias, and plants of a dwarf and soft-wooded nature, the same advice applies; take off or rather make the stem clear for 1 in., at least, from the base upwards. The cutting is then ready. All cuttings like sandy soil for rooting in. Then prepare a bed of light soil in a frame. Take a smooth narrow "pointer" or dibbler, and make a hole in the firm soil for the insertion of the cuttings. Violas are deep enough if placed 1 in. down. Make them firm either with the dibbler or with four fingers, allowing about 3 in. or 4 in. between each. Water, shade, and keep the frames close for a few days when they will have plucked up again.

Asparagus: How to Cultivate.—*J. S. Stirling*: Secure good crowns, and put them not deeply in a rich light compost consisting of two parts sandy loam, one part vegetable or leaf mould, and a quantity of dry sheep dung if you can procure it. Add a dash of coarse sand. Grow the plants in a warm light greenhouse. Be careful not to give them too much water, and do not syringe the fronds. Train the shoots to wire or cords.

Red Hot Pokers.—*S. Finny, Deal*: There must have been some hurtful cause else the Tritomas or Kniphofias would never have died off. We have always found them to do well in any good garden border. In the northern parts growers have to cover the crowns with a layer of leaf mould. This

is not specially needful, but they think it best to make "safety doubly sure." Plant now, adding some light rich soil.

Statice latifolia.—*J. Samuels, Thirsk*: *Statice latifolia* is broad-leaved. The flower heads or panicles are more or less of an everlasting nature. It flowers at various times from June onwards, and is largely sold in bunches at 6d. apiece for room decoration. It can be propagated by seeds in spring-time. Messrs. Barr & Sons or any other seedsmen will supply you.

Grubs in Soil.—*S. Harding, D.*: When the land is rich and not well worked these will always be found. Decaying vegetables, weeds, and foul material generally greatly tend to produce an infestation. We would advise you to clear the ground, draw up all the old vegetable roots, and if you care

RED CURRANT THE COMET.

ON July 28, 1896, an exhibit of this variety was brought before the Royal Horticultural Society by Mr. H. Becker, F.R.H.S., the well-known nurseryman, of Jersey, and received an Award of Merit. It gets the credit of being the largest Red Currant in cultivation, and when first placed before the public, on the above mentioned occasion, it certainly presented a handsome appearance. The variety would appear to have originated in Jersey, where it was grown without any special attention being given it, till Mr. Becker recognised its merits, took it in hand, and put it into commerce with the above commendation of the Royal Horticultural Society in addition to its own intrinsic merits. The accompanying illustration, lent us by Mr. Becker, shows a young bush carrying a heavy load of fruit, both the berries and racemes giving some idea of the size which characterises them. The berries are of a

MILLBANK HOUSE, EDINBURGH.

FEW indeed amongst horticulturists have not heard of Millbank in its palmy days when specimen Heaths, Azaleas and other plants were grown to perfection. Time makes many changes, and Millbank has changed hands some years ago, likewise the veteran grower has departed to new scenes of labour, and the plants have found new homes in different parts of the country. The present proprietor is William Currie, Esq., who has already got all the glass departments well stocked.

The first house we entered was filled with some well-grown Pelargoniums, Fuchsias and Begonias, the roof being beautifully draped with *Cobaea scandens variegata*. *Swainsonia galegifolia alba* had been a mass of bloom. *Lapageria alba* with its pendulous blooms of pearly-white looked happy. A nice span-house contained a splendid example of *Wistaria*, planted out in one end of the house, and



RED CURRANT THE COMET.

to scrape the surface do so. Gas-lime, however, may be spread on the land right away, at the rate of $\frac{1}{2}$ cwt. per rod (30 $\frac{1}{4}$ sq. yds.), where it should remain for six weeks or two months. It will then have lost much of the hurtful properties, and can be pointed into the land. If you cannot apply it until the spring then only use half the quantity, and let it lie not less than three weeks exposed. Salt, at the rate of 7 lbs. per rod is also a good ingredient for use against grubs, wireworms included.

Ivies.—*R. S.*: Ask any trader in these plants to supply you with what you want. There are plenty of different varieties (from 40 to 50) suitable for all kinds of purposes. They can be planted any time during the year if due precautions are taken, but you will find the present a very good time to plant. You will find a number of varieties mentioned in this week's report of Messrs. John Russell's and Cutbush's groups of Ivies put up at the fruit show, Crystal Palace, last week.

rich red, with a glossy, sub-transparent skin, that heightens the effect considerably. The juice is almost without acidity, soft to the palate and likely to be highly acceptable to the palate of those who object to the tartness of other varieties in cultivation. The racemes or strings are 6 in. to 8 in. long, and carry from twelve to twenty-six berries each. The large size of the racemes and berries, together with the bright colour of the latter, makes the variety highly suitable for exhibition purposes. All these recommendations should certainly pave the way for the addition of this handsome variety to the collections in private gardens. Many people are fond of Red and White Currants for dessert purposes, and the latter being the less acid is often given the preference. The new variety should fulfil such a requirement admirably.

The total acreage of Orchards in England in 1898 was 220,220 acres.

must have been very fine when in flower. Many more greenhouse plants found a home here.

We next entered a vinery, in two divisions. No. 1 contained some good young Vines, which promised well for another year, the wood being finely ripened and the buds nice and plump. In No. 2 vinery the crop had been cut, but the Vines were all free from insects, considering the tropical summer gone past. Double Pelargoniums covered the back walls of both vineries, and are of considerable value when in bloom for cutting. Another house contained Palms and Ferns. Another close at hand is a span-house in two divisions, one for Melons and the other for Tomatos. The crop of Melons had just been cleared and the house filled with useful varieties of Ferns.

The Tomato crop in the next division had been very fine and what was left bore convincing evidence of that by the fine fruits of Laird's Supreme, and Stirling Castle, a model fruit. Monarch and Golden Eagle are highly spoken of here.

Another vinery in full bearing contained some well finished bunches of Muscat Hamburgh, Muscat of Alexandria, Mrs. Pince, and others. A Peach house of considerable length next drew our attention. Many of the trees had been relieved of their crops; others still bore heavy crops of fine fruit. All the best kinds are grown here and the trees are healthy and exceptionally well done. Another house contained more young Peach trees. The back wall of this house contained good plants of the best climbing Roses.

Again we find ourselves outside and get a splendid view of the Blackford Hill in front. The ribbon borders are well arranged and planted, certainly a credit to any gardener.

Herbaceous plants are grown in many places and positions. Michaelmas Daisies were flowering freely, and the old Aster Linosyris (Goldilocks) lent a nice tone of colour to the blues so prominent in other flowering Asters.

Carnations are rapidly increasing here, and the few late blooms I noticed were good standard kinds such as Raby Castle, Mrs. Mulr, Lady N. Balfour, Duchess of Fife, Dundas Scarlet, and many more useful kinds. Roses are largely grown, and they seem to do well by the finely balanced growths they have made this year.

Sweet Peas are grown in two long lines and not too crowded. Sadie Burpee is unquestionably a splendid white. Duke of Westminster, Duke of Sutherland, Othello, Mars, and Mrs. Dugdale are champions amongst Sweet Peas.

Apples are a heavy crop and do well at Millbank. Loaded trees are the order of the day, and one in particular was visibly asking for a crutch. Lord Suffield, Stirling Castle, Warner's King, and King of Pippins, stood out conspicuously. An interesting fence covered with Brambles was fine, a great quantity of fruit having been gathered. Vegetables are well grown and much attention paid to growing crops.

The place is extremely well kept, everything trim and highly creditable to the gardener, Mr. Girvan, who ably manages the place.—*W. Angus, Aberdeen, September 18th, 1899.*

LONDON PARKS AND GARDENS.

IV.—REGENT'S PARK.

It was a splendid morning when I set out on a visit to Regent's Park, specially to see how Mr. Jordan, the superintendent, had arranged his bedding for summer, 1899, and for the purpose of gleaned a few hints of what was likely to prove of good effect in its height. Without more ado, I will proceed to point out those combinations of their kind which seemed most pleasing, for that is the aim and object of all bedding.

One of the very largest beds, a corner one—and there are some monsters in Regent's Park—was being filled with a new array of plants, meant to carry the season to a close. The superintendent at Regent's Park does not content himself with one planting—at least, so far as a few "pet" beds are concerned—but keeps up the fullest brilliance and freshness from early in the year till frost puts an effectual stop to further work this way. The large corner bed, which he was busy adding to at this time, was chiefly filled in the central parts with tall Palms, such as *Phoenix rupicola*, huge *Dracaena australis*, and specimen *Araucaria excelsa*. The corners were gorgeous with *Celosia pyramidalis* and splendidly flowered *Hydrangea paniculata grandiflora*. *Francoa ramosa* was dispersed in a slightly backward position, not in the shade, of course, but in the shadier parts, from which its long racemes arched forth. Different Cockscombs, the yellow and the crimson forms of *C. cristata*, as well as *C. pyramidalis* were also in batches or interspersed here and there, each plant being a perfect model of good culture. Plants of *Acalypha tricolor* were also in masses, so with tuberous *Begonias*, *Chlorophytum elatum variegatum*, (Syn. *Anthericum variegatum*), variegated Maize, &c., with *Cineraria maritima* and *Mesembryanthemum cordifolium variegatum* as an edging. But great beds of this description are never, or very seldom, attempted in private gardens. The effect is very fine and not a few paragraphs appeared in the daily Press upon this and a few others of the more prominent. I think I never saw such well-flowered *Agapanthus umbellatus* as they have placed out in tuhs on the lawns. These are specially fine

things for this purpose, because in all respects they are beautiful decorative subjects. Plants of *Bambusa Simonsii* are likewise effectively placed about. *Gaura Lindheimeri*, a plant somewhat like a large flowered *Anthericum Liliago*, was also used in parts where flowing effects and gracefulness are wanted.

The great bed, or rather a semicircular bank, sloping to the front where the path runs, which had a furnishing of *Begonia Corbeille de Feu*, a dark purplish variety of the *semperflorens* type, in the back parts of which were some bright yellow Privets. It was most worthy of imitation. Then quite in the same gaze and just opposite the first noted large bed, was a large succulent group. It is easy to name the plants which occupied this bed, but this will not impress or enlighten one upon the general plan of it. Giant specimen *Agave americana* (A. a. *variegata*), occupied prominent positions. *Pandanus Veitchii*, *Dasylium acrotrichum* and *Echeveria metallica* were used as dot plants. The golden *Lysimachia Nummularia aurea*, *Sedum glaucum*, *S. acre*, *Kleinia repens*, *Mesembryanthemum*, &c., were employed for carpeting. The beds of single flowered Hollyhocks, mostly of a pink shade, were very conspicuous and attractive in their season. A beautiful bed of *Carnation Raby Castle*, edged and carpeted with the yellow *Viola Ardwell Gem*, proved a pleasing union. Then the borders of *Zinnias* in all their diversity were very commendable, and ably assisted in making the place bright. *Impatiens Balsamina*, in many hues, waved in all its strength above the beautiful little *Viola Blue Gown*.

Close by the hedges which run along the central part of the flower bed area, there are numerous *Carnation* beds filled with all the best of tried varieties. Vases too are in this region and are a special feature. These are generally filled with *Fuchsias*, *Zonal Pelargoniums*, *Celosias*, *Aralias*, *Ivy-leaved Pelargoniums*, *Campanulas*, &c. They are of much service in this part and could scarcely be dispensed with. Cockscombs either the feathered type or the ordinary *C. cristata* are used. *Selaginella Kraussiana* is used around and between them so that one has no difficulty in imagining how fine these beds or borders are. Plants of *Acacia lophantha* and *Anthericum variegatum*, are dotted here and there above the Cockscombs to relieve the dead-level-flow which would necessarily result. I may mention that the *Carnations* in use are *Pasha*, a salmon-buff variety, *Yule Tide*, so much spoken of a few years ago and which is one of our best dark crimson *Carnations*, either for pot culture or in the open ground; *Germania*, the comparatively new yellow border variety, and no doubt one or two others.

Abutilon Thompsonii in vases could not have been better employed. This is a capital plant for bedding and summer decorative purposes.

A bed filled with tall Palms, *Ficus elastica*, dark flowered *Fuchsias* and the bright grass-like plant *Chlorophytum elatum variegatum* made very favourable impressions.

Away on the south-east (or probably due east) side of the park, Mr. Jordan has adopted a free and easy style of bedding with one or two great beds skirting some shrubbery. He has employed *Violas* in the following varieties.—*Lottie McNeil*, lavender; *Magnificent*, dark blue; *Goldcrest*; *Rosea pallida*, a pale blue; *J. B. Riding*, purple; *Marchioness*, white; *Countess of Hoptoun*, white; *Molley Pope*, a fine large yellow. These are planted in sheets of one colour and at a distance the effect is very brilliant. Blocks of *Araucaria excelsa*, *Francoas*, *Lobelia pumila magnifica* and an edge of *Sedum acre*, together with some dot *Aloes* form a very worthy group. In a like combination and also in union with the plants mentioned above, were noted the sweetly fragrant *Harrison's Musk*. *Verbenas*, *Phlox Drummondii* and the Regent's Park variety of *Lobelia pumila magnifica*, which is distinct in that the blue is pale and brilliant, are also among the plants massed there. The effect of the drooping pink *Fuchsia Mrs. Rundle* above white *Lobelia*, was good, for both the white and the pink were distinct, and not confused.

A dwarfed bed, which we thought might be imitated, was that in which *Begonia semperflorens rubra* waved above the yellow *Harrison's Musk*, for here again the colours were quite distinct, but at the same time not incongruous. A free flowering *Fuchsia* and one which stands out all winter in Regent's Park, is *Enfant Prodigue*, a dark flowered form. Nothing looks more superior than those beds (oblong in shape,

for form has also much to do with the finished picture) in which a silver leaved *Pelargonium* such as *Mrs. Mapping* or *Flower of Spring* is used as a close grounding, and well grown graceful and branching plants of *Verbena venosa* used as a "second-story" or "rider" sheet of colour. The *Verbena* is planted between the *Pelargoniums*, and when both grow up, the deep heliotrope-mauve above the green and white variegated *Pelargoniums* gives a distinct and pretty bed. Pink and gray, bright gray of course, are also very harmonious. Such a combination can be had by using *Pelargonium Sybilla*, and the bright silvery *Cineraria maritima*, or *Centaurea candidissima*, for the one can very well take the place of the other.

Cannas are very effective used alone, and I cannot say that the addition of *Celosia pyramidalis* can be regarded as aiding the effect. *Canterbury-bells* above *Dactylis glomerata*, especially when the blue or deep pink varieties reared themselves, also make unions which are worth recording. In Regent's Park as in most of the other parks, there are numerous borders which serve in cases as a background to the better hedding. The style of arrangement of these beds is that of the gardenesque or informal and only plants which are capable of looking after themselves so to speak, and also strong enough to withstand drought, are there planted. Trees and shrubs are generally close behind them, so that it becomes a case of underground struggle between the roots of herbaceous plants and those of the shrubs.

A bed of *Dracaena indivisa*, three plants spaced out as standards above a bed of *Begonia semperflorens rosea* and with *Dactylis glomerata variegata* used for relieving effect, was very fine. Various other combinations might be noted, but these we have written of were very representative. Mr. Jordan had plenty to show, and what there was spoke well for his good taste, his skill, and his attention.—*A Visitor.*

A NOTED AMATEUR.

ROBERTSON Parish, near Hawick, Roxburghshire, contains many men worthy of note from a horticultural point of view: and at the top of the tree at present as an amateur stands Mr. William McConachie, the genial parish constable, who during his residence in that district has taken a leading part in furthering the interests of horticulture. His really wonderful display of flowers around the police station, with kitchen garden, etc., attached, is produced in such a way as would put many a professional in the background. He goes heart and soul into whatever he takes in hand, and is brim full of enthusiasm and love for his pet hobby; spending all his spare time in his garden, when free from his official duties. Here in his garden we meet the man. The policeman is left with the helmet in the lobby. It is gratifying to see that many of our county police are imbued with the same spirit, for, as a rule, they are well to the front at all the village shows. All honour to them. They have in their ranks men who have in their day done much for certain sections of florists' flowers such as the Pansy, *Viola*, *Phlox*, *Pentstemon*, etc.; others again have a penchant for vegetable growing, Leeks and Onions being first favourites, and many fine specimens of both I have seen tabled at various exhibitions.

Our friend is as much at home amongst the one as the other, his record at the local show since it started seven years ago, being 250 prizes for flowers and vegetables; and on each occasion his magnificent window boxes have been awarded premier honours. His latest achievement was a few weeks ago, when he won for the third year in succession the massive Silver Cup, presented by Lewis D. Wigan, Esq., of Hoscote, Hawick, for the best kept and cropped cottage garden. The conditions are that the cup has to be won three times before becoming the property of the winner. Mr. McConachie having now attained to that distinguished honour, the cup is now his property. A handsome money prize also goes with it, as well as other fine money prizes for the next in order.

Since Mr. Wigan, with his proverbial good heartedness, instituted this competition a few years ago, the advance made in cottage gardens in this parish has been remarkable. I had the honour to be with them at their first show, and every year since, and can affirm that the growth of horticulture in

this romantic valley has thriven apace. It has been truly said that if anyone made two blades of grass grow where only one grew before, he was a benefactor of mankind. Such being the case, it must be highly gratifying to Mr. Wigan and his good lady to see their efforts so ably seconded by the parishioners, who in so doing are very considerably adding to their own comfort and prosperity.

At the show held a few weeks ago, it was a treat to see the hardy borderers with their wives and families, bonnie fresh-faced country lassies, and sturdy lads, drawn from the surrounding districts in great numbers; for the show day is now looked upon as a red-letter day in the parish calendar. Not only do flowers, fruits, and vegetables find favour, but the interests of the goodwives are studied as well; for a most meritorious and extensive Industrial section is added, embracing such useful articles as eggs, butter, jam, cakes, scones in variety, cooked Potatoes, trussed fowls, and laundry work in all its branches, besides knitting, crochet, and seam work, etc., for the young lasses. The children's section in the way of collections of native wild fruits, grasses, and Ferns is in itself a treat worth going a long way to see, and well worthy of every encouragement. But I am digressing, only Mr. and Mrs. Wigan and Robertson show are so much associated that it is a pardonable offence, I think.

I may add, however, that the opening speech of Mr. Wigan at the late show was certainly the best flower show speech I have ever heard, and will live long in the memory of those who heard it. At the close, he called upon his fair daughter to present the cup to Mr. McConnachie, which she did in a winning manner, amidst great cheering. Mr. McConnachie suitably replied, and Mr. Wigan, with his usual forethought, filled the cup with wine, and invited the unsuccessful competitors to drink to Mr. McConnachie's health, which they did in no uncertain fashion. In closing, I wish to mention the herculean task of the genial and trusted secretary, Mr. Willie Murray, gardener, Borthwickshields, who spares neither time nor trouble to make everything pass off satisfactorily, as it is greatly due to his untiring effort that Robertson horticultural show is so full of "vim," vigour, and vitality.—*Borderer.*

INSTRUCTIONAL FRUIT STATIONS.

At the Drill Hall meeting of the Royal Horticultural Society, held on September 26th, Mr. Edward Luckhurst sent a paper which was read by the secretary, Rev. W. Wilks, entitled, "Instructional Fruit Stations." The paper as a whole dealt with the trials being made by the Derby C. C., and which have been in operation for some seven years, in various parts of Derbyshire, for the instruction of artisans and resident workers, who are invited to visit and improve themselves thereby, and from lectures, demonstrations, &c., on the proper management of fruit trees and bushes. As above stated, the D. C. C. first inaugurated the scheme of having fruit stations in various parts some years ago. The idea caught on, and Mr. Luckhurst told us in his paper that the workmen made ample advantage of their opportunities. Raspberry canes, pieces of Gooseberry and Currant shoots, and any amount of specimens having various peculiarities bailed in upon him to explain or advise upon.

Questions on when to plant, prune, &c., and how to do these operations were so freely asked that the work soon became an established success and pointed that the institution of the Derby stations was a boon which had been long delayed and which might well be more widely represented in other counties.

The first fruit plot in his own charge was laid out at Duffield in 1893, a second at Matlock in 1895, and a third at Kingston. Land has been offered for the laying-out of two other plots, but these were not accepted. It is not merely a knowledge of fruit and fruit trees in their outward semblances that is wanted. The soil and its nature both top and sub-soil; the breaking up of the land and its effective and proper preparation; the drainage, irrigation, and aerating of the same, together with liming and manuring and the proper time and method of planting; distances apart, special use of pyramidal, bush and standard trained trees, and the principles of pruning; the importance of pressure in the roots; and the selection of varieties and kinds of fruits for different districts or localities are, one and all, the

subjects which the instructors and promoters of the fruit stations have resolved to pay particular attention to.

The selection of proper and suitable varieties proved a difficult matter in those districts where the workers had not previous knowledge of fruit culture. The plan was that of having trials of a large number of varieties, generally two plants of each, of trees or bush fruits and Rhubarb. The selection of bush fruits goes largely by the market value of them.

Mr. Luckhurst does all the pruning himself, and as the surface dressings are from artificial manures the cost for labour and other things is not much. Many of the young trees at Duffield are now 12 ft. high, with heads 8 ft. in diameter. But even though this proves good growth, there are good returns of fruit, for this is aimed at and not wood. The minimum distance between the branches is 15 ins., and 10 ft. from tree to tree; all the Apples are grown upon the Paradise stock. Some half-standard trees of Bramley's Seedling Apple have heads 15 to 16 ft. in diameter, but whether these have developed since the establishment of the plot we cannot say; anyhow, they will furnish capital samples upon which to operate.

Some hints upon the method of treating the cut-leaved Bramble were also given. With a number grown at Duffield they were allowed to grow wild the first season, which allowed them a start. In the second year they were cut back to a couple of good buds; in the third year they were more lightly pruned and bore good crops; and from having cut out old wood and laid in fresh canes with nourishment at the roots they have yielded splendid results. They require a good holding soil, in fact, a peaty or moist humic soil suits them.

The Kingston plot was primarily intended for the students at the dairy farm, which is another institution of notice. It is divided by paths into four sections. One of these is planted with pyramidal Apples, 10 ft. apart. A line of Strawberries is planted between each two rows of Apples. Other divisions of the plot are planted with half-standard Apples, at 15 ft. apart, leaving room for a row of bushes (Gooseberries or Currants) and allowing 5 ft. clear between these and the Apples. Damsons cover a third square with rows of Rhubarb between. In the fourth square there are Wine-berry, Loganberry, and Blackberry plantations. There is also in, or around this fourth square, double cordons of Apples, trained diamond fashion, and also a cordon of Gooseberries along an opposite side.

Thus it will be seen that there is plenty to see and learn in these instructional fruit stations. The work will have its reward, in that we shall see good trees, good varieties in the future; trees and varieties of an inferior description will be the exception.

Discussion followed the reading of the paper. Mr. Pearson, of Chilwell, Notts., who occupied the chair, said that living in the next county to Mr. Luckhurst, he knew the value of the work being done, and also how eager the artisans were to learn what they could of so profitable an employment or hobby. Upon a question being asked by Mr. Cook, of Dettling, Maidstone, about the diamond-shape training of Apples, Mr. Pearson said he did not approve of the method because where two shoots crossed each other there lay danger from friction, and wounds originated diseases. Then the closeness of the leaves was a great temptation for the harbouring of insects. Blackberries were mentioned as not bearing for the first two years, but they begin to crop after this and continue to increase with age up to a certain period. Mr. A. Dean, who also spoke, said he was surprised that 3 ft. had been given as the distance at which the Brambles were planted; 12 ft. would have been nearer the mark, but of course in a fruit-station one would have to show a compactly cropped area from the start. This was, however, not always the best policy, and one which so far as impressions with artisans went, should be guarded against. The thanks of the audience were passed to Mr. Luckhurst, and another vote to Mr. Wilks for having read the paper brought the meeting to a close.

From experiments it has been proved that the best returns come from Potato sets which are planted the same day as they are cut. The opinion goes that Potato sets are benefited by being kept for a day or two after being cut.

GARDENING MISCELLANY.

REGULAR-FLOWERED STREPTOCARPUS.

WHETHER gardeners or cultivators generally will ever be able to fix this character or not remains to be seen. It frequently turns up in collections, and the gardener is struck with it. He would like to fix it as has been done in the case of the Gloxinia; but hitherto only a few stray flowers here and there show the anomaly, which may, however, one day be the normal, or at least the common form. Mr. A. Pentney, The Gardens, Worton Hall, Isleworth, sends us the most recent specimen, which differed from the type in that the two upper lobes of the corolla were united so that the flower was reduced to four segments which were all of the same shape and colour, or nearly so. The upper segment was somewhat broader than the rest, but otherwise similar. The violet hands running along the middle of the lower lip extended in like manner along the upper one. Instead of two perfect stamens there were four, the two upper and usually rudimentary ones having become perfect.

GLOBE ARTICHOKE AS A DECORATIVE SUBJECT.

THE beauty for decorative purposes, which we find in the Globe Artichoke of our kitchen gardens, is now and again proved to us by its use in this respect in a few gardens. The big umbelliferous plant called Giant or Cow Parsnip (*Heracleum giganteum*) makes a handsome woodland plant, and specimens of the Globe Artichoke also attain to noble proportions in such places. Sicily, of which the chief city was founded by Corinth, is said to be its original habitat. The Corinthians, who were amongst the most voluptuous and gormandising people of the ancient world, invented a type of column in their architecture, distinguished by the graceful pattern of its capital. We are all along taught that the pattern was designed from the Acanthus leaf, but may we not assume that the foliage pattern of the Corinthian capitals is that of the Artichoke? The Acanthus was practically a weed with these people, while the Artichoke was esteemed a delicacy. However, let these things be as they may, what we advocate is that *Cynara Scolymus* or Globe Artichoke may be used effectively as a garden ornament.

ACHIMENES TUBIFLORA.

FROM time to time this makes its appearance in gardens, where it is admired and cultivated for a while till the novelty of its strange-looking flowers wears off, after which it disappears again for a time. A flowering stem of it reaches us from Mr. A. Pentney, gardener to A. Howard, Esq., Worton Hall, Isleworth. The flower stems are 2 ft. high, more or less, and thinly furnished with oblong, hairy leaves, and bear at the apex a short raceme of white flowers, 3 in. to 4 in. in length. The slender tube is sharply bent or kneed at the base, and from this point the flower assumes a drooping or nodding habit, which enables the beholder to look the flower fully in the face. The cultural requirements of the plant are much the same as for other members of the genus, or as for Gloxinias. The species is also known as *Dolichodeira tubiflora*, and *Gloxinia tubiflora*. The habit and general appearance of the plant is so distinct from that of other Achimenes, that hotanists seem to have had a difficulty in fixing upon the proper genus to which it should belong. It is an introduction from Buenos Ayres.

FREAK OF A GLOXINIA.

WHAT may be considered a regular Gloxinia would seem to be a contradiction in terms, if described likewise as a freak. In any case the flower sent us by Mr. F. G. Brewer, The Gardens, Oaklands, near St. Albans, is abnormal, though in most respects perfectly regular. It has five lobes to the corolla, and five, instead of four, stamens, and all with perfect, pollen-bearing anthers. On the inside of the tube of the corolla, however, are five Y shaped, colourless or white grooves corresponding to the stamens in position. Four of them have the arms of the Y about $\frac{1}{4}$ in. long, but the arms of the fifth are $\frac{1}{2}$ in. long. At the top of several of them are portions of anthers, and we should have regarded them as stamens, with the anther cells widely divergent, and

all adnate to the corolla, if it had not been for the fact that there are five perfect stamens. Herein is the anomaly to an otherwise regular flower. The corolla is crimson so that the innovation upon it is brought out prominently.

MISCANTHUS SINENSIS.

THIS is a hardy member of the order of Grasses, (Gramineae.) In appearance it resembles *M. japonicus* (*Eulalia japonica*) or *E. macrantha*, yet it is slightly broader in the leaf. It also grows taller than either of these. Although hardy it is not well to place it in the coldest part of the garden for the species are all natives of warm parts of the earth, such as South Africa and Eastern Asia, from the Malayan Archipelago to Japan.

SOCIETIES.

BRITISH GROWN FRUIT SHOW.

Sept. 28th, 29th and 30th.

Concluded from Supplement for September 30th.

Of five entries for a single dish of cooking Pears, Sir Mark W. Collett, Bart., St. Clere, won first. His *Bellissima d'Hiver* and *Uvedale's St. Germain* were magnificent; Capt. Carstairs, Welford Park, Newbury, followed second with large fruits.

Peaches from the open air made a very good show. For three dishes, distinct, the first award went to Col. H. Walpole, Heckfield Place, Winchfield (gardener, Mr. Maxim), who tabled *Sea Eagle*, *Princess of Wales*, and *Gladstone*, the latter particularly fine; Mr. J. Sparks came next him, with good types of *Sea Eagle*; the third prize went to the Duke of Fife, East Sheen Lodge (gardener, Mr. S. Osborne), with fine samples of *Royal Ascot*.

For one dish of Peaches, the Duke of Northumberland, Syon House, Brentford (gardener, Mr. J. Hudson) came in first with *Sea Eagle*; the Right Hon. Lord Poltimore, Poltimore Park, Exeter (gardener, Mr. T. H. Slade), coming second with good *Princess of Wales*.

For one dish of Nectarines, also grown out of doors, Mr. J. Sparks, Upper Grove House, Roehampton Lane, Putney, won with *Victoria*.

For four dishes of dessert Plums, C. E. Strachan, Esq., Gaddistown Place, Hemel Hempstead, (gardener, Mr. H. Folkes) was first with *Jefferson*, *Washington*, *Cloth of Gold*, and *Reine Claude de Bavey*; F. M. Loneran, Esq., Cressingham Park, Reading (gardener, Mr. R. Chamberlain), who had *Coe's Golden Drop*, *Jefferson*, *Transparent* and an unnamed one. All were very fine, large, juicy and well finished.

For one dish of any dessert variety the award fell to H. C. Moffat, Esq., Goodrich Court, Ross, Hereford (gardener, Mr. Thos. Spenser); J. G. Dearden Esq., Walcot Hall, Stamford (gardener, Mr. A. Wright), came second. Both had good samples.

For four dishes of cooking Plums, the first prize was carried off by Sir Joseph Pease, Bart., M.P., Hutton Hall, Guisborough, Yorks. (gardener, Mr. J. McIndoe), who staged remarkably clean and fine varieties in *Pond's Seedling*, *Archduke*, *Magnum Bonum*, and *Grand Duke*. The second prize went to C. E. Strachan, Esq., who was a close and good second.

For one dish of cooking Plums the award went to T. L. Boyd, Esq., North Firth, Tonbridge (gardener, Mr. E. Colman), who won with *Pond's Seedling*. The second award fell to H. M. Hurnard, Esq., of Hington, who likewise had *Pond's Seedling*.

DIVISION V.

Special district county prizes; open to gardeners and amateurs only. In Class LXIV. (A.A.) which was open to Kent growers, G. H. Dean, Esq., Whitehall, Sittingbourne (gardener, Mr. W. T. Stowers), was awarded the first prize. He had six dishes of Apples, four of cooking and two of dessert. *Peasgood's Non-such* and *Bramley's Seedling* with *Cox's Orange Pippin* and *Worcester Pearmain* were the choicest.

The first prize in Class LXIV. (B.B.) fell to the Marquis of Camden, who showed good fruits. G. H. Field, Esq., of Sevenoaks, was second. The latter section of this class was for six dishes of dessert Pears.

In Class LXV., open only to growers in Surrey, Sussex, Hants, Dorset, Devon, Somerset, and Cornwall, for six dishes of Apples, the Duchess of Cleveland, Battle Abbey, Sussex (gardener, Mr. W. Camm), carried off the first award. His dishes

were remarkably good. The second prize went to Jeremiah Coleman, Esq., Gatton Park, Reigate, whose Apples were very highly coloured. In the succeeding class for Pears open to growers in the same counties, A. Benson, Esq., Upper Staton Park, Merstham (gardener, Mr. M. Mancey) was first with select samples of *Souvenir du Congres*, *Marguerite Marrillat*, *William's Bon Chretien*, and others. Jeremiah Colman, Esq., was a very close second, having splendid *Doyenné Boussoch*, and *Souvenir du Congres*.

In Class LXVI., open only to growers in Wilts, Gloucester, Oxford, Bucks, Berks, Beds, Herts, and Middlesex, Colonel Vivian, Rood Ashton, Trowbridge (gardener, Mr. W. Strugnell), won first for six dishes of Apples, embracing the finest of culinary varieties and these were grown to perfection. F. M. Loneran, Esq., Cressingham Park, Reading (gardener, Mr. R. Chamberlain), came second. In the same class for six dishes of Pears, Major Heneage, V.C., Compton Bassett, Wilts (gardener, Mr. W. A. Cook), led the way with extra good samples.

The first prize in Class LXVII., open to Essex, Suffolk, Norfolk, Cambridge, Hunts, and Rutland, was carried off by H. H. Hurnard, Esq., Gurneys Manor, Hington, whose dishes (six) of Apples upheld the honour in his section. The Hon. W. Lowther, Wickham Market, Suffolk (gardener, Mr. A. Andrews), made a good second. Lord Suffield, Gunton Park, Norwich (gardener, Mr. W. Allan), took the lead in the section of the same class for Pears, his lot being of moderate size but fine otherwise. Hon. W. Lowther came second.

In Class LXVIII., open for growers in Lincoln, Northampton, Warwick, Leicester, Notts, Derby, Staffs, Shropshire, and Cheshire, the first prize fell to J. G. Dearden, Esq., Walcot Hall, Stamford (gardener, Mr. A. Wright). His dishes were all up to the standard. The Duke of Rutland, K.G., Belvoir Castle, Grantham (gardener, Mr. W. H. Divers), was an able second.

For Pears, J. G. Dearden, Esq., won first; and the Duke of Rutland second.

In Class LXIX., open to growers in Worcester, Hereford, Monmouth, Glamorgan, Carmarthen, and Pembroke, Mrs. Blaskill, Bridge Sollers, Hereford, was a good leader, and the samples of *Emperor Alexander*, *Golden Noble*, and *Warner's King*, were very fine. Mr. R. M. Whiting, Credenhill, Hereford, came second, with slightly smaller, but at the same time handsome fruits.

For Pears, Geo. H. Hadfield, Esq., Monarton, Ross (gardener, Mr. John Rick), won with a capital collection; and H. C. Moffat, Esq., also from Hereford, Goodrich Court, Ross (gardener, Mr. T. Spenser), was an able second.

In Class LXX., open to the growers in the other counties of Wales, R. D. Hughes, Esq., 35, Middle Lane, Denbigh (gardener, Mr. R. T. Jones), was the winner, but his lot was a bit behind. S. P. Peigh, Esq., Abermaide, Aberystwyth (gardener, Mr. H. Austin), was a close second.

Mr. James Garside, Larbeck Gardens, Great Eccleston, near Garstang, was first in Class LXXI., open to growers in the six northern counties of England, and in the Isle of Man, for Apples.

In Class LXXII., open to growers in Scotland, the Earl of Galloway, Galloway House, Garlieston, Dumfries, whose fruits of *Lady Sudeley*, *James Grieve*, and *Yorkshire Beauty* were very fine, first; W. Millar, Esq., Roundelwood, Crieff, came second.

For Pears, the first award also went to the Earl of Galloway, but these were not remarkable when compared with many others; W. Millar, Esq., Roundelwood, Crieff (gardener, Mr. J. McKinnie), was second winner.

DIVISION IV.—OPEN TO GARDENERS AND AMATEURS ONLY.

(Single dishes of dessert Apples, grown in the open air.)

For a dish of *Adam's Pearmain*, H. H. Williams, Esq., Pencalenict, Truro (gardener, Mr. W. Cornelius), was the first prize winner.

In Class LXXV., for *Allan's Everlasting*, F. W. Buxton, Esq., Pishobury, Sawbridgeworth (gardener, W. H. Godden), received the award.

For very fine *Allington Pippin* the prize went to Capt. Carstairs, Walford Park, Newbury. The fruits here had a beautiful bloom upon them.

Baumann's *Red Winter Reinette*, was asked for in Class LXXVII., and won by Capt. Carstairs, with fine samples.

There were twenty-one dishes of *Blenheim Orange* (small, highly coloured fruits being asked for), and the prize fell to F. M. Loneran, Esq., Cressingham Park, Reading (gardener, Mr. R. Chamberlain), whose fruits were of only moderate size, but well formed and highly coloured. The second prize went to O. E. d'Avigdor-Goldsmid, Esq., Somerhill, Tonbridge, Kent (gardener, Mr. C. Earl).

In Class LXXIX., for a dish of *Brownlee's Russet*, T. L. Boyd, Esq., North Firth, Tonbridge (gardener, Mr. E. Colman), won the first award.

Mr. R. M. Whiting, Credenhill, Hereford, was winner for *Claygate Pearmain*.

Mr. A. J. Carter, of Newfields, Billingshurst, Sussex, won for a dish of *Cockle's Pippin*, his fruit being clean and bright.

A dish of *Court Pendu Plat* was best as shown by Walpole Greenwell, Esq., Marden Park, Surrey (gardener, Mr. N. Lintoll). The fruits were small, but of very perfect form.

The competition for a dish of *Cox's Orange Pippin* was a very keen one, there being no less than thirty-five entries, and all were very fine samples, a credit each of them to those who exhibited. The lucky winner was Jeremiah Colman, Esq., Gatton Park, Reigate (gardener, Mr. W. King), who had magnificent fruits, solid, of capital round form and highly coloured. Lord Poltimore, Poltimore Park, Exeter (gardener, Mr. W. Slade), made a good second.

For a dish of *D'Arcy Spice* (syn. *Baddow Pippin*) there was no entry.

Geo. H. Hadfield, Esq., Monarton, Ross, Hereford (gardener, Mr. John Rick), was first prizeman for a dish of *Duke of Devonshire Apples*.

A dish of *Egremont Russets* was awarded the prize coming from Mr. R. M. Whiting, Credenhill, Hereford, and his fruits were perfect of their kind.

Fearn's *Pippin* brought together a dozen very decent dishes, the prize in this case going to G. H. Dean, Esq., Whitehall, Sittingbourne (gardener, Mr. W. T. Stowers), who showed very rosy samples.

There were also twelve dishes of *Gascoigne's Scarlet*, small, highly coloured fruits being here stipulated. The first prize went to T. Clinch, Esq., Deneway, Key Street, Sittingbourne, who showed specimens which were certainly small and well coloured, but whose form was not beautiful nor without blemish. The second prize lot was very fair, larger if anything, but not so deeply coloured. The Right Hon. Lord Poltimore was the second winner. There were no entries for *Golden Reinette*.

For a dish of *Gravenstein*, the Duchess of Cleveland, Battle Abbey, Sussex (gardener, Mr. W. Camm) won first with splendid fruits, richly coloured, large, and of good form.

The *James Grieve Apple* was best as shown by the Earl of Galloway, N.B. (gardener, Mr. J. Day).

King of the *Pippins* brought out sixteen competitors. The first prize lot were nice models of their kind. The first prize went to F. S. W. Cornwallis, Esq., Linton Park, Maidstone. G. H. Dean, Esq., followed second.

A dish of *King of Tomkins County* was fine as sent by Col. H. Walpole, Heckfield Place, Winchfield, (gardener, Mr. A. Maxim). His fruits were extra good.

There was no entry for the variety *Lord Hindlip*. The first prize for *Mabbot's Pearmain* was captured by O. E. d'Avigdor Goldsmid, Esq., whose samples were good.

F. S. W. Cornwallis, Esq., M.P., won for *Manington's Pearmain*, having very fair fruits.

The variety, *Margil*, brought out fourteen entries, most of which were very fine. The first prize had seemingly been awarded to the Duchess of Cleveland, of Battle Abbey, but the prize label had afterwards been cut out from the exhibitor's card. The second prize fell to F. S. W. Cornwallis, Esq., M.P., whose lot was not equal to those noted.

Of *American Mother* there were eight dishes, the prize here going to Mr. R. M. Whiting.

Ribston Pippin proved a favourite with competitors, for no less than thirty-four single dishes were staged. Jeremiah Colman, Esq., Gatton Park, here led off, followed by the Marquis of Camden; the first lot being particularly good.

In Class C. *Rosemary Russett* was asked for. The prize out of nine dishes fell to the Duchess of Cleveland.

F. S. W. Cornwallis, Esq., M.P., showed a finely coloured dish of *Ross Nonpareil*.

Leopold de Rothschild, Esq., won for *Scarlet*

Nonpareil, and F. M. Lonergan, Esq., was first for Sturmer Pippin.

Wealthy brought three competitors, the prize going to Mr. R. M. Whiting.

For a dish of Worcester Pearmain there were eighteen entries, and among them some very fine samples. The first prize fell to Jeremiah Colman, Esq., who had six beauties. C. J. Lucas, Esq., Warnham Court, Horsham (gardener, Mr. G. Duncan), was a very close second.

The prize for a dish of any other variety fell to Captain Carstairs, who showed very lovely fruits of the Thomas Andrew Knight Apple; the Duke of Northumberland was second with Golden Russet.

COOKING APPLES.—Alfriston brought out seven entries, H. C. Moffat, Esq., Goodrich Court, Ross, here winning.

F. M. Lonergan, Esq., won for Beauty of Kent.

For a dish of Bismarck the prize went to Mr. F. W. Sweet, Vredefort, Tovell's Road, St. John's, Ipswich, who had large but refined fruits.

Mr. H. Cook, Knowles Gardens, Sidmouth, won in the class for a dish of Bramley's Seedling, there being sixteen dishes put up.

For Cellini, the Right Hon. Lord Poltimore was awarded first prize with good fruits.

Cox's Pomona had a large number of competitors, and the award fell to G. H. Dean, Esq.

For Dumelow's Seedling (Syn. Wellington and Normanton Wonder), the Duchess of Cleveland carried off the prize.

Ecklinville Seedling had seven entries, G. H. Dean, Esq., winning with a fair dish.

Emperor Alexander was best as put up by F. S. W. Cornwallis, M.P., his lot being A 1. He also was first for Golden Noble, likewise for Golden Spire and Grenadier.

J. T. Charlesworth, Esq., had the best dish of New Hawthornden, and these were nothing great.

G. H. Dean, Esq., was first out of eleven entries for Lane's Prince Albert. He also won for a dish of Lord Derby.

Lord Suffield Apple brought ten competitors, the prize falling to Surgeon-General C. Planch, Syden Croft, Edenbridge, Kent (gardener, Mr. J. Treadwell).

For a dish of Mère de Menage, Captain Carstairs was first with magnificent examples and covered with a fine bloom.

F. S. W. Cornwallis, Esq., M.P., won the prize for a dish of Peasgood's Nonsuch, his lot being very fair; the second prize went to G. H. Dean, Esq., who had very fine fruits.

F. S. W. Cornwallis, Esq., M.P., again won in the class for Pott's Seedling.

Stirling Castle had nine entries, the prize falling to Mr. R. M. Whiting. G. H. Dean, Esq., was first from among nine others for his dish of The Queen. They were well coloured and of good form.

Warner's King brought ten exhibits, the best of these being from Philip Crowley, Esq., Waddon House, Croydon (gardener, Mr. J. Harris).

In Class CXXXIX., for any other variety, M. Biddulph, Esq., of Ledbury, was awarded the prize, he having very fine samples of Tyler's Kernel.

DESSERT PEARS.—The entries of these were fairly well filled, and as a rule the quality of the fruits was very good. For Beurré Bosc, Hon. P. C. Glyn, Rooksnest, Godstone (gardener, Mr. J. Friend), was the winner.

For Beurré d'Anjou, F. M. Lonergan, Esq., was first; and for Beurre Diel, the prize went to Lord Suffield.

The Dowager Lady Freake, Fulwell Park, Twickenham (gardener, Mr. A. H. Rickwood), came off first with a good dish. There were eight dishes of Doyenné du Comice, first won by Sir Marcus Samuel, of Mote Park, Maidstone (gardener, Mr. W. H. Bacon).

Durondeau brought out eight entries and here again Sir M. Samuel won.

In Class CLXI., for a dish of Louise Bonné of Jersey, there were nine entries, the first prize for a beautiful dish going to the Duke of Northumberland.

F. H. Buxton, Esq., was first for a dish of Marie Benoist.

For Marie Louise (five dishes entered), the prize went to Lord Suffield, who had very nice fruits.

Marguerite Marillat was best shown by F. W. Thomas, Esq., Wannock, Polegate, Sussex.

Pitmaston Duchess had eighteen competitors the

first prize for which was ably won by S. J. Du Croz, Esq., Oaklawn, Weybridge. The second went to H. Padwick, Esq., Manor House, Horsham (gardener, Mr. J. Webb).

Capt. Carstairs was first for a dish of Seckle.

For a dish of Souvenir du Congres, the prize fell to J. B. Fortescue, Esq., Dropmore, Maidenhead (gardener, Mr. C. Herrin), whose lot was magnificent, to say the least. F. W. Thomas, Esq., was a very fair second.

F. M. Lonergan, Esq., was first for a dish of Winter Nellis with very even fruits.

In the last class asking for any other variety, Lord Suffield carried off the first award with handsome fruits of Williams' Bon Chretien; G. H. Dean, Esq. came second with a dish of Duchess d'Angouleme.

NURSERYMEN.

Mr. J. B. Colwell, Sidmouth, Devon, had a magnificent collection of fruit occupying 30 ft. of tabling by 6 ft. broad.

In the centre of the table he had raised a four-sided pyramid formed of various varieties of highly coloured dessert Apples. This was surmounted by a small Palm. All over the table were placed dishes of very handsome fruits of which Cox's Pomona, Warner's King, Tyler's Kernel, Lord Suffield, Peasgood's Nonsuch, and others were almost perfect in their way. Pears in the varieties Pitmaston Duchess, Brockworth Park, Souvenir du Congres, Marie Louise and Williams' Bon Chretien were also models of beauty. (Silver Gilt Banksian Medal.)

Messrs. Paul & Son, The Old Nurseries, Cheshunt, had also a long table of very creditable Apples. Their Yorkshire Beauty, Jolly Beggar and Summer Strawberry were particularly choice. Pears and Crabs were likewise good. (Silver Banksian Medal.)

Messrs. J. Cheal & Sons, Crawley, Sussex, had a varied collection of Apples arranged in a tasty way. The bloom upon the fruits spoke of much care in the growing and handling of these. The general evenness of the collection, and uniform qualities were also points of notice. Alexander, Waltham Abbey, Seedling, Bismarck, Domino, Wormsley Pippin, Yorkshire Beauty, Loddington, Beitigheimer Red, Cox's Pomona, Walthamstow Beauty, and The Queen among the many, were chosen as of greater note. (Silver Banksian Medal.)

The Royal Jersey Agricultural and Horticultural Association, whose exhibit was fully mentioned in last week's supplement, received a Silver Gilt Knightian Medal for their collection.

Mr. Geo. Mount, Exotic and Rose Nurseries, Canterbury, was not behind in his exhibit. The varieties of most prominence here were naturally those which are always to the front, but fine samples of the Mother Apple, and of Grenadier, Newton Wonder, Norfolk Beaufin, and others were also in prominence. No finer Pears than Williams' Bon Chretien could be seen anywhere; Conseiller de la Cour, Belle de Jersey, and others were also splendid. (Silver Banksian Medal.)

Messrs. Richard Smith & Co., of Worcester, had a very choice table of Apples and Pears, and their dishes impressed us that here we had good fruit which had been plucked from among the nursery stocks, and which could be expected from their trees wherever grown, provided reasonable attention was given. Most of the fruits seen at shows has been specially grown for the exhibitions, so that one need not always judge the stock from the samples. In the Messrs. Smith's stand, Loddington Apple was well shown, so with Ribston Pippin, Cox's Pomona, Cox's Orange, Seaton House, Golden Noble, Worcester Pearmain, &c. The Pears were all very fine. Durondeau, Princess, Pitmaston, Duchess d'Angouleme, and General Todtleben being the pick.

Mr. John Basham, Fair Oak Nurseries, Bassaleg, Newport, had a tightly-packed table, but not too much so. The various fruits were shown in baskets, and all of it was of an even size, even in form, and very clean, smooth, and well-coloured skins, showing that the Monmouthshire climate and treatment had been acceptable. His Crimson Queening, James Grieve, Wealthy, Allington Pippin, Gravenstein, Jolly Miller, Lady Henniker, Stirling Castle, Emperor Alexander, Lord Grosvenor, Castle Major, Worcester Pearmain, Lady Sudeley, Jefferson, Col. Vaughan, and Yorkshire Beauty were delicious enough to make a gourmand's mouth water. The Pears were also superb. (Silver Gilt Banksian Medal.)

Messrs. S. Spooner & Sons, Hounslow Nurseries,

Middlesex, had a representative collection of Apples, Pears, and Crabs, Pott's Seedling, Lady Sudeley, Golden Spire, Duchess of Gloucester, Okera, and Flower Bed Apples made a brave show. The fruits, on the whole, were even, of good form, and well coloured. (Bronze Knightian Medal.)

Messrs. Pewtrees Bros., Tillington, Hereford, had beautiful dishes of Mank's Codlin, Golden Spire, Black Apple, Lady Sudeley, Hereford Crimson, Queening, Dredge's Flame, Peasgood's Nonsuch, Worcester Pearmain, and other varieties of Apples. (Silver Banksian Medal.)

MISCELLANEOUS EXHIBITS.—Messrs. John Laing & Sons, Forest Hill, and Catford, Kent, exhibited Apples and Pears in dishes, besides a number of finely trained and well fruited pot trees, and fruiting Vines. The variety, Hugh's Victoria Pear, and Williams' Bon Chretien in pots were marvels of good management. The fruiting pot Vines were strong, and had a numerous load of small bunches. Peasgood's Nonsuch, Mère de Menage, Warner's King Apples; and Marie Louise, Doyenne Boussoch Pears were noted among more as bright samples. They also had a magnificent collection of evergreen trees and shrubs in all forms, round headed standard Retinosporas, bushy Cupressus, graceful Cedars, and many things of this nature.

Messrs. Cutbush & Son, Highgate, London, N., had a pleasingly arranged bank of forty-five distinct kinds of climbing Ivies, healthy plants or baskets of plants all of them. For large-leaved kinds, Hedera dentata, and amuriensis may be taken as samples; H. arborescens variegata, H. digitata nova-aurea, H. madeiriensis variegata, and among the bright forms H. caenwoodiana, and H. Helix auto-purpurea as the most graceful.

Mr. John Russell, Richmond Nurseries, Richmond, put up a very large collection of Ivies. There were thirty-two climbing Ivies, and twenty-eight varieties of the tree forms, such as Dentata, a handsome form, Glymm, a tree variety of much worth, and almost a new form, suitable for drapings. Then Russelliana, the new variety certificated at Edinburgh this year, the result of a cross between Glomerata and Minima, making a fine, graceful thing. Elegantissima, Jubilee, a silver variety, Lee's Silver or Silver Queen, Madeiriensis, Poeticus or Poet's Ivy, one of those arching and clean cut varieties, together with many others suitable for all purposes and tastes were here shown.

Messrs. A. W. Young & Co., The Nurseries, Stevenage, staged a handsome group of bright and strong spikes of Michaelmas Daisies, Rudbeckias, Gladioli, Gaillardias, Dahlias, Sunflowers, and other seasonable hardy flowers. They also showed a dish of Young's Eclipse Tomato, which was recently given an Award of Merit at Chiswick.

Mr. R. C. Notcutt, Wood's Nursery, Woodbridge, and at Ipswich, had a collection of Apples and Pears, not for competition. At the same time the fruits were very fine, and in comparison with many another collection would have been deemed very fine. Duchess Favourite, Hollandbury Pippin, Cellini Pippin, and Hoary Morning were good of their kind.

The English Fruit and Rose Co., King's Acre Nurseries, Hereford, sent the new Apple, "King's Acre Pippin," which received an Award of Merit from the R.H.S. in March, 1897.

Mr. L. T. Davis, Ogle's Nursery, Hillsborough, showed how very fine Pernettyas can be for front shrubbery, rockery, or pot decorative purposes, when they are as well berried as those shown at the Crystal Palace. Many varieties were shown, and all were laden alike.

Mr. Wm. Taylor, Osborn Nursery, Hampton, Middlesex, showed samples of bunches of Grapes grown in the open air. The variety was Reine Olga, said to produce delicious fruit on open walls and the bunches on view were certainly very decent, weighing probably from $\frac{3}{4}$ lb. to 1 lb. each. Planting canes can be supplied by the grower. He also had a magnificent lot of Apples, and a fine dish of Pitmaston Duchess.

Mr. E. S. Towell, Llenot, Hampton Hill, sent four plants of his new Cactus-flowered crimson Pelargonium, named Fire Dragon. The plants have greatly improved since the early part of the year, the trusses being stronger and well borne on long stalks. The name was traced out with flower-pips on a green baize cloth, and formed a bright little feature.

Mr. John Watkins, Pomona Nurseries, Withing-

ton, Hereford, was among the most prominent of the nurserymen exhibitors, for his collection of Apples, Pears, and some Crabs was a sight which impressed itself on all who are used to see everyday fruits. Yorkshire Beauty, Gascoyne's Scarlet Seedling, Wealthy, The Queen, Lady Sudeley, Okera, Beauty of Kent, Lady Sweet, Swedish Reinette, Lady Waldron, or indeed, any of those we might name, were surpassing fine. Duchess of Oldenburg formed a brilliant patch of colours. (Silver Knightian Medal.)

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., also showed up in brilliant form, and the quantity of their stock was not greater than the quality of the same. King of the Pippins, Tyler's Kernel, Col. Vaughan, Wealthy, Golden Noble, Lord Derby, Fearn's Pippin, Chelmsford Wonder, Yorkshire Greening, Bismarck, and others were a credit to the show. Pears, in the varieties Pitmaston Duchess, Doyenne Boussoch, very fine, Beurré Diel, and Triomphe de Vienne were large, handsome and fragrant. (Silver Knightian Medal.)

Messrs. J. Laing & Sons, Forest Hill, and Catford, Kent, sent a magnificent table of fruit of the highest quality in all respects, but space and time does not allow us to make further mention here.

Messrs. Gaymer & Sons, of Attleboro, put up a conical group of their sample cyder in bottles with dishes of cyder Apples between them.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, made a lovely display with cut Roses. Tea, Countess Festetics Hamilton, the China variety, Queen Mah, the new bedding variety Corallina, a handsome and sweet bloomer; Tea, Empress Alexandra of Russia, Marie Van Houtte, together with many fine baskets of the climbing varieties, were all shown in strong force and good quality, especially for this time of the year. Pot Apple trees were hanked up behind each Rose table, and these also were very fair.

QUESTIONS AND ANSWERS.

Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Large Chrysalis.—J. E.: The chrysalis you sent us is that of the Death's-head Moth (*Acherontia Atropos*). It is generally rare in this country, though widely distributed from Brighton and Truro to Edinburgh and Glasgow. You do not say upon what plant or plants the caterpillar had fed, which would have been interesting information. It usually confines itself to Potatoes upon the leaves of which it feeds; but it has been found on various other subjects belonging to the Potato and other families. It occasionally occurs in so great numbers upon the Potato as to become a pest locally. It hides by day and feeds by night, but even then can be detected, especially by moonlight, owing to the yellow colour of the caterpillar and its huge size, so that hand-picking is perfectly practicable and effective.

Rusticum Vulva herba.—In THE GARDENING WORLD, p. 63, I read your letter in reply to "Botanist." The name he mentions is given to a plant in Northumberland and Durham, called *Asperugo*; also called the Madwort.—F. R. Nugee.

Willows with Coloured Bark.—Omega: Many of the British Willows take on a beautiful colour during autumn and winter when grown from stools that are hard cut back every year, or at intervals of a few years. They should also be fully exposed to wind and sunshine, not shaded in any way. Two of the very best are *Salix alba vitellina* with golden-yellow shoots more or less overlaid with bright crimson and other intermediate shades; and *S. alba caerulea*, with dark purple twigs. The first is known as the Golden Osier or Golden Willow; the second is a common variety of the White Willow, but has no English name in general use. Both take on the best colour when hard cut back as above stated. When allowed to get old, the Golden Willow is simply yellow. Others with coloured bark, when treated in the same way, are *S. fragilis basfordiana* (red), *S. daphnoides* (deep purple), and *S. d. acutifolia* (deep purple). Some varieties of *S. purpurea* (the Purple Osier) have purple bark, as well as some of the wild

varieties of *S. Caprea* and *S. cinerea*, but you would scarcely be able to get them from the nurserymen. The above may be planted round the edge of your pond; but the Siberian Dogwood (*Cornus sibirica*) and the white-fruited Dogwood (*Cornus alba*) should be planted in drier ground away from the water edge. Both have dark purple-red stems.

Daphne Menzereum Losing its Leaves.—M. M'Laren: Either the peaty soil is at fault, or it is badly drained, thus putting the roots into bad condition. We should advise you to plant the bushes in well drained, sandy soil, as we think, judging from experience, that something more substantial than peat is usually necessary to get the plants into vigorous growth. We have seen both this deciduous species and *D. pontica* thriving well in your county in the friable soil of beds in an old shrubbery. Splendid growth was also made by the red and white flowered varieties in a light sandy soil in the neighbouring county to the south. It never occurred to us that the plant was in any way difficult to grow. In beds, fully exposed to the sun, it grows very slowly, so that a little shade produced by trees standing at some distance away, but on the sunny side of the plants, would prove beneficial. You might find a slightly shaded position in your garden.

Field Mushrooms.—E. Slade: The specimens sent have every appearance of being Champignon or Fairy Ring Mushrooms (*Marasmius oreades*) that grow plentifully on lawns and meadows, producing the dark coloured rings of grass known as Fairy Rings. They reached us as we were going to press, so that we had no time to examine them critically.

Diagrams on Gardening.—Diagram: We cannot say whether you would be able to hire diagrams to illustrate lectures on gardening subjects, though we think it possible. You can certainly buy them, however. Apply to Mr. Thomas Laurie, Educational Publisher, 28, Paternoster Row, London, E.C., who keeps diagrams on various horticultural and agricultural topics suitable for illustrating public lectures. By asking for his lists of such things and explaining what you want, you will no doubt be able to come to a satisfactory arrangement.

Large Blue Fly.—Edwin Ballard: The specimen you send is the female of *Sirex juvenicus* or the Steel-blue Sirex. She bores holes in the bark of Conifers, preferring the Scotch Fir, and lays her eggs in the holes made. The grubs that hatch out from the eggs have strong jaws and eat their way into the wood of the tree, making holes so large that it becomes fit only for firewood. The specimen you send has, no doubt, come out of some Scotch Fir or other Conifer near by where you caught it. There is no means of destroying the grubs in the tree, but by cutting down the same and using it as firewood to prevent the infestation of other trees. There are, no doubt, many grubs still in the tree from which this insect came out, and you may detect their presence by holes pierced through to the outside of the bark.

Melon to Name.—Robert Grigor: The specimen you sent was a small and imperfectly developed fruit of Queen Anne's Pocket Melon (*Cucumis Melo* var.), and was somewhat difficult to recognise owing to its being out of character. It is also known as the Dudaime Melon, but is not edible, being only fit for decorative purposes on account of the beautifully marbled rind.

Names of Plants.—W. M.: *Clematis coccinea*, in very fine form.—M. M'Laren: *Quercus velutina*, one of the North American Oaks.—A. W.: 1, *Solidago canadensis*; 2, *Aster Amellus*; 3, *Helianthus multiflorus* fl. pl.; 4, *Hibiscus syriacus*; 5, *Cotoneaster microphylla*.—C. H.: 1, *Fittonia argyroneura*; 2, *Aralia elagantissima*; 3, *Schubertia grandiflora*; 4, *Cestrum aurantiacum*; 5, *Begonia Corallina*; 6, *Begonia metallica*.—R. M.: 1, *Aster cordifolius*; 2, *Aster diffusus horizontalis*; 3, *Crocus speciosus*; 4, *Crocus sativus*.—W. Davis: 1, *Salvia splendens*; 2, *Salvia azurea*; 3, *Amaryllis Belladonna*; 4, *Pteris cretica cristata*; 5, *Coreopsis tinctoria*.—A. R.: 1, *Rudbeckia speciosa*; 2, *Cyclamen neapolitanum*; 3, *Erica vagans*; 4, *Daboecia polifolia*; 5, *Sedum rupestre*; 6, *Sedum lydium* (quite hardy).—S. M.: 1, *Ligustrum ovalifolium aureum*; 2, *Cotoneaster Simonsii*.

Names of Fruits.—M. M'Laren: Apple Summer Thorle, sometimes called Summer Whorle.—Hortus: 1, Pear Williams' Bon Chretien; 2, not known; 3, Apple Sturmer Pippin; 4, Pear Marie Louise d'Uccle.

Communications Received.—Sutton & Sons.—W. Mackenzie.—Secretary R.H.S.—A. E. S.—G. B.—H. C.—A. N.—West.—C. D.—W. J.—T. S. Dymond.

TRADE CATALOGUES RECEIVED.

W. & J. BIRKENHEAD, Fern Nurseries, Sale, Manchester. —Ferns and Selaginellas. Special Autumn List.

F. R. PIERSON & Co., Tarrytown-on-Hudson, New York.—Choice Selections in Bulbs for Winter Forcing and Spring Flowering.

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Primula The Lady Improved, 2/- per doz.; in pots, 3/6.

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Duke of Montrose, 25 plants, 25/- per 100.

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BICOLOR J. B. M. CAMM, perianth white, trumpet soft pale chrome-yellow, a most beautiful variety, per doz., 36s.; each, 3s. 6d.

PALLIDUS PRÆCOX, perianth and trumpet from pale straw colour to white, very early, per 100, 8s. 6d.; per doz., 1s. 3d.

INCOMPARABILIS PRINCE TECK, broad, finely formed creamy-white perianth, large yellow cup, per 100, 21s.; per doz., 3s.

INCOMPARABILIS SIR WATKIN, perianth rich sulphur, cup yellow, slightly tinged with orange, very large flower, per 100, 25s.; per doz., 3s. 6d.

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The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, OCTOBER 14th, 1899.

"VEGETABLES FOR EXHIBITION AND HOME CONSUMPTION."*—Some writers have a fault of rushing into print before they are half conversant with the subject they have in hand; but in the writing of this book on vegetables Mr. Edwin Beckett, gardener to Lord Aldenham, Aldenham House, Elstree, commenced at the proper end of the work by making himself a first-class cultivator, and proving himself a successful exhibitor. We do not intend it to be understood that he made himself proficient in the art of gardening in order to qualify for authorship. On the other hand he was invited to write a series of articles giving details of his practice, as a cultivator and exhibitor, in a horticultural journal. The completion of his labours in this direction is the book now before us. This is the gardening work from his pen at which we hinted last year. Many of our readers are already familiar with Mr. Beckett's handiwork as an exhibitor at the Drill Hall and elsewhere, while our accounts of his successes have made his name familiar with a much larger body of the gardening fraternity. He gained the Royal Horticultural Society's Gold Medal for vegetables, on July 13th, 1897. This year he put up splendid exhibits of vegetables on the 13th June, and the 26th September last, in competition for the Sherwood Silver Cup (value ten guineas), and on the latter date was awarded the prize.

In his introduction to the book under notice he speaks of the greatly increased interest in vegetable culture all over the country by amateurs and professionals alike, and considers that competition at exhibitions has stimulated them to stage exhibits of the highest excellence. We contend that a successful cultivator and exhibitor of vegetables is ever afterwards likely to maintain a high class standard of garden produce for his master's table, and that the best samples for exhibition are equally suitable for the kitchen table. Some may demur to the size of the Celery, but in most other cases such an allegation cannot be made. There is no doubt that to be a successful exhibitor is the test of a good gardener, whatever the nature of the soil may be from whence the products are to be taken. Mr. Beckett has gained his experience from the working of a considerable variety of soils from the lightest to the heaviest in different counties. That on which he is labouring at present is on a part of the London clay which is very unworkable either when very wet or very dry. To grow good vegetables in such a soil

***"VEGETABLES FOR EXHIBITION AND HOME CONSUMPTION."** With a Calendar of Kitchen Garden Operations for Twelve Months; Short Descriptions of and Remedies for Insect and Fungoid Pests Affecting the Crops Dealt with, etc., by Edwin Beckett, F.R.H.S., price 3s. 6d. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited, 1899.

means a great amount of heavy labour, so that he practically endorses the opinions we have formed both from practical experience and observation in various widely separated parts of the country. It is this—to be a good vegetable gardener one must handle the spade heavily and often. That is the experience of all good vegetable gardeners and of their subordinates, whether the latter like it or not. Mr. Beckett is a thorough believer in trenching the soil 2 ft. to 3 ft. deep, whether it be sandy, gravelly, chalky or clayey. The lighter soils he would trench as early in the autumn as possible; but he has come more recently to agree with certain cultivators that the end of February and March is the best time to trench heavy and badly drained land. Of course there are those who discredit the trenching of light soils because by the process the medium is thereby rendered too porous and open. No fear of that if the trenching is accomplished sufficiently early for the rain and snow of autumn and winter to solidify the soil sufficiently for the succeeding summer's crop. The great depth of root-run thereby secured for vegetables increases their means of collecting food, and puts their roots to a greater extent beyond the prejudicial influences of a hot and drouthy season, such as that we have just experienced. Badly-drained land should be remedied in this respect wherever possible, so that no excuse on this score need be put forward. "Deep cultivation," says the author, "will always give the best returns," and he dissuades his readers from merely digging the ground on which an important crop is to be raised.

The proper preparation of the soil involves many considerations, and one of the observations made here is that for most vegetables it is absolutely necessary to provide a change of situation every year; and the Cabbage tribe he would never grow twice in succession on the same piece of ground. This is not a mere question of exhaustion of the soil, but implies the dangers that would result from insect pests and fungoid diseases. In the case of Onions he gives the opposite advice, stating that the best results are obtainable from soil cropped with Onions in several successive years, at least, if his directions are followed. We ourselves have grown good Onions on a border that had been similarly cropped for about twenty years previously; while much smaller bulbs were obtained from the use of a fresh piece of ground every year. The subject of manuring is fully detailed in the article on trenching, for Mr. Beckett uses the farmyard article liberally. One point is left unexplained, namely, that the operator should commence trenching at the lower end of the ground, if there is a difference of level. We should always commence at the top, and wheel the soil of the first trench down hill to the lower end of the ground, in the first place because it is easier, and secondly because in digging the second and succeeding trenches the soil can be kept at its proper level at the brow of the hill.

Some pertinent observations are made with regard to the staging of exhibits and the preparation of the same. Formerly it was a custom to put a superior dish of anything in a prominent position so that a good impression upon the judges might be made, but every good exhibitor well knows that the judges now look for a general evenness of all the dishes in an exhibit. Of two exhibits of equal merit as regards the quality of the vegetables, that one will be the winner, which is the neater and more tastefully arranged. In the selection of specimens for exhibition Mr. Beckett offers some poignant hints to inexperienced and intending exhibitors. It is a fatal mistake

to leave all the work till the last moment. Indeed, the process of selection may all be accomplished some days or even weeks before the exhibition, when the competitor's head is clear, cool and unworried by the bustle of hurried preparation at the last moment. The why and the wherefore of all these things are explained in the book so that those "who run may read." Full directions are also given for the staging of the component parts of an exhibit. In the case of miscellaneous collections of vegetables having no limit to the exact number of dishes, everything good in the exhibitor's garden may be staged, but inferior produce should be rigidly excluded on account of its weakening effect.

The various kinds of vegetables—and they are numerous—passed under review by the author are arranged alphabetically, a method we always approve in the case of gardening books for facility of reference by gardeners and amateurs generally. Under these various headings everything special to the subject in hand is dealt with in a clear and concise manner. Outdoor and indoor culture, special soils, manures and other necessities, and the best varieties for exhibition form the nuclei round which the writer of the book hinges his story. Needless to say the book may be handled with profit by amateurs and professionals alike; for no technicalities hamper the reader, and everything is severely practical. Illustrations of vegetables are freely used in the various chapters and articles of the work, many of the best of modern types being represented. About fourteen pages at the end of the book are devoted to descriptions of and remedies for the leading or more common garden enemies, whether insects or fungi. Printing and paper leave nothing to be desired, even if the book had been more highly priced.

Fuel should be secured before the cold weather sets in.

Weather in London.—The past week has been a mixture of sunshine and rain, fog and slight frosts. Around the outskirts of London where the air is clearer the frosts have been keener, and such things as Dahlias, Nasturtiums, &c., have in places been cut down. The thick atmosphere makes outdoor work disagreeable. The appearance of woodland and meadow in urban districts denotes the rapid advance of Nature to her temporary rest.

Devon and Exeter Gardeners' Association.—The annual meeting of this society was held under the presidency of the Mayor of Exeter, at the Guildhall, Exeter, on October 4th. Among others present were Messrs. P. C. M. Veitch, J.P., A. Hope (hon. sec.), W. Mackay (hon. treasurer), &c. The committee's report was most satisfactory, in that the original aims of the society were still being the guiding lines, and the past year's and the present syllabus were both of the most practical and helpful nature. The work was plodding and unpretentious, yet most advantageous to gardeners and gardening. The summer excursion, as noted in THE GARDENING WORLD at the time, was an unqualified success. The committee wished to thank Mr. A. E. Sanders, the esteemed president, for his continued interest and work upon the society. They also heartily thanked the Mayor for the renewed privilege accorded to them whereby they were permitted to meet in the Council Chambers for their business. The condition of the exchequer showed up well in having a balance in hand amounting to £16 11s. 9d. In moving the adoption of the report the Mayor encouraged the members in a cheery speech, saying that their position was really an enviable one as a society. They had excellent gentlemen filling the offices of president, secretary, and treasurer, and so long as they remained they would be in a good way. Mr. P. C. M. Veitch seconded the motion. Mr. A. E. Sanders was re-elected president, and the other offices were likewise re-arranged for the coming year. A vote of thanks to the chairman terminated the meeting.

Sharp Frosts are being felt in the south on mornings after clear, starlit nights.

Appointments.—Mr. Alfred Hamshire, for the last fourteen years head gardener at Beau Manor Park, Loughborough, has been appointed by the Asylum Committee of the Leicester Corporation to be general manager of the extensive grounds, farm, &c., at the old old Humberstone Asylum. Mr. Alexander McVinish, Lockington Hall, Derby, succeeds Mr. Hamshire at Beau Manor Park.

Messrs. Laings' Begonias at the Crystal Palace.—Amongst so many things gathered together at the Crystal Palace, on the occasion of the great exhibition of British Grown Fruit, it was almost certain that something would be overlooked. Messrs. John Laing & Sons, Forest Hill, London, S.E., had several large exhibits in different positions in the building, and amongst them was an exhibit of cut flowers of double tuberous Begonias. For quality the flowers were the finest they have put up this season. Sir William T. Threlson Dyer, of Kew, described them as "grand double Begonias."

Woolton Gardeners' Mutual Improvement Society.—The first meeting of the tenth session of the above was opened on the 5th inst. by an interesting lecture on "Some Famous Gardens," by the Rev. T. F. Nicholas, M.A., F.R.G.S., illustrated by many lime-light views obtained by the lecturer during his travels through the North American forests, the gardens of Paris, the College gardens of Oxford, and the stately domain of Blenheim. The beauty and variety of the different scenes were described in an interesting manner by the reverend lecturer, whose address was closely followed by the large attendance present. At the close of the lecture a cordial vote of thanks was accorded to the reverend gentleman on the motion of Mr. R. Todd, seconded by Mr. T. Carling, and carried with applause.

The Soil of Holland.—It may be remembered that in the early summer of this year, the Essex Technical Instruction Committee proposed and successfully accomplished a visit to Holland, having with them a large party of Essex agriculturists, and others interested. Mr. T. S. Dymond, as secretary to the committee, has compiled a report upon the visit, and this we have before us now. The pamphlet is neat and thoroughly well arranged, having a few representative photographs of various scenes. Such a booklet is worth all the trouble and expense which the visit and the compilation cost. Referring to the soil in the parts they visited, it is stated to have been either alluvial or peaty, of great depth, and in many cases kept moist even in times of drought, owing to the water in the canals being maintained at a constant level. Almost the whole of the districts consist of what is termed polder, that is, land which has been reclaimed from the sea or fen by massive protecting walls, and kept drained by pumping engines. The soil is undeniably rich in the elements of fertility, and so freely are they at the disposal of the crops that lime is seldom required. At the same time it was noticeable that care is taken to maintain or even improve its character, and all manure is carefully preserved for future use upon the land. In the Westland district of South Holland the market gardeners and fruit-growers of the villages have handed themselves to form a society, known as the Westland Society, for the promotion of the industrial interests of the districts. The society publishes a weekly paper, giving current prices and other information. By arrangement with the society the tavern-keeper of each village has erected an auction room in connection with his tavern, for the daily sale of market-garden produce. Buyers come from The Hague, Rotterdam, and other large towns to attend these auction sales. Since they came into existence the extension of glass-houses and gardens has been very great. The cultivation of shrubs and of bulbs are well-known as two of the most lucrative industries in Holland. The soils upon which the shrubs are grown is an immensely deep, peaty loam, with the water table about 18 in. beneath the surface. The bulb soils are very hot, consisting of fine sea sand, and they are liberally manured with semi-liquid cow manure, and the water-table is at least 3 ft. deep. In Essex there are coast tracts of alluvial soil with a subsoil of sea sand, which in some degree resemble the bulb soils of Holland, and upon these an experiment of bulb growing might be tried.

Centaureas make free and pretty buttonholes.

Clematis coccinea at Tignabruaich.—From a botanical point of view the correct name of this would be Clematis Viorna coccinea. The typical C. Viorna has purple flowers with four thick and leathery sepals. The scarlet variety is similar, except in the colour of the flowers, which may be described as brilliant vermilion externally, and pale yellow internally, but owing to form of flower the interior is hidden. C. V. coccinea is not often met with even in the South, and is less often seen in a vigorous condition out of doors. We were the recipients the other day of quite a handful of flowering shoots from Mr. W. Mackenzie, Ballimore House, Tignabruaich, Argyshire, who says that "the specimens sent were cut from plants grown on a south wall in the open air, and they have every appearance of flowering for some time yet if frost does not cut them off." A central flower terminates every shoot, but side shoots are given off in succession, each ending in a flower like the primary one, by which a succession of showy flowers is kept up for a long time. The warm Atlantic breezes are no doubt responsible to a large extent for the vigour of the plants at Tignabruaich, but the moisture of the atmosphere in summer must also exercise a beneficial influence on the well-being of this handsome Clematis, just as Tropaeolum speciosum is favoured from the same cause in Scotland.

Ladywell, Lewisham and District Cottagers' Horticultural Society.—On a beautiful day in mid-August, the members of the above society culled the best produce from their allotments or gardens and placed their entries side by side in competitive array under the marquees erected in the very adaptable grounds of S. J. Gore, Esq., at Camps Hill House, Lewisham. Like many other suburban, or urban horticultural competitions, half the joy of competitors at the Lewisham show comes with the winning of a prize or prizes; the other, and more satisfactory half is held over till the prizes are publicly awarded. In connection with the August show then, the prizes won there, were distributed by Mrs. H. J. Jones on Thursday, October 5, in the Parish Church Hall, Ladywell Road. The Hall was tastefully arranged with groups of flowers and foliage plants from Rye-croft Nurseries. The President, Mr. J. H. Jones, occupied the chair, and no one could better have performed the function involved. With an audience of some hundreds, and a select musical programme to tune the latent chords of harmony within the people, and with so full a share of "spoils" to load themselves with, it goes without saying that everybody there, was merry. Mr. Jones announced that something like £70 worth of prizes altogether was handed over that evening. These, by the way, were all useful, such as are welcomed by an industrial class, including wearing apparel from felt hats to stout boots, from huge currant loaves to legs of mutton and ham, cart loads of coal whereby to roast the said "legs," together with any amount of ornaments and furniture of decorative value. Some of the beautiful water colour and oil paintings, handsomely framed, worked envy in the hearts of those who had no show prize, but who had a very suitable space on some of their walls at home. Hard cash prizes were numerous, and by no means small, such as £2 8s., to Mr. W. Savage, Harts' Cottages, Knowles Hill, Lewisham, is witness. Certificates and Diplomas of Merit from the National Amateur Gardeners' Association were accorded to some of the winners. The names of some of those who won most largely are:—Messrs. E. King, E. W. Little, W. Musson, W. A. Ovenden, J. Roberts, W. Savage (who had the following haul:—A garden syringe; 3 lbs Tea; a hushel of Potatoes; brush oil painting; Goods, 17s.; Toogood Silver Medal and Certificate; Sander's Silver Medal, and the £2 8s. in cash, already mentioned); M. Stevens, G. Taylor, R. Wilkinson, and F. W. Westcott among the many others. On the motion of Mr. T. White, the vice-president, the audience gave Mrs. H. J. Jones a ringing vote of thanks for her courage and courtesy in the distribution services. Mr. Jones replied on behalf of Mrs. Jones. The appreciation, the enthusiasm, and the good feeling which seemed part and parcel of the people and proceedings, are a capital tribute to the president, to the secretary (Mr. A. Pratt), and to all who are workers in any way for this good cause which encourages thrift and happiness among the Ladywell, Lewisham and District Cottagers.

"Fruit Appropriation."—Such is the title under which a complainer writes in a contemporary about fruits he lost at the Crystal Palace Fruit Show. He suggests the employment of detectives along the outside tables. But in the first place, who would pay for a dozen detectives? And how would the detectives know whether one man was appropriating his own or his neighbour's dishes, seeing every entry is side by side? This in the smaller class at any rate. In the hurry men may take away wrong fruits unknowingly. Many of the appropriations were committed early in the day, and not by gardeners.

Hamilton and District H. and F. Association.—The monthly meeting of this association was held in the Y. M. C. Institute, on the evening of Friday, the 6th inst., and there was a good attendance. Mr. Campbell, Auchenraith Nurseries, in the absence of the president, took the chair. The subject of the evening was a paper on "Vegetables," by Mr. Macwhitter. Together with the necessity for always having the garden fully supplied with plenty of vegetables, he discoursed some anomalies, which occasionally arise from judging these at flower shows. Quantity and quality often were mistaken for the same thing. After the usual discussion a vote of thanks was accorded to Mr. Macwhitter. It was suggested to hold a combined vegetable and Chrysanthemum show next year. This was all the business.

Syndical Chamber of Belgian Horticulturists.—At the meeting of this body, in conjunction with the Royal Agricultural and Botanical Society of Ghent, in the Casino, Ghent, on the 1st inst., Certificates of Merit were accorded to a lot of cut flowers of Cactus Dahlias, 1898-1899, presented by M. A. Gallet (with unanimity), and Begonia President Bruneel, a seedling of 1899, shown by MM. F. C. De Cock Bros. (with unanimity). A Certificate of Merit for the variety was accorded to *Cattleya bowringiana*, shown by M. le Marquis de Wavrin. A Certificate of Merit for culture was awarded to *Ixora Morsei*, presented by M. L. De Smet-Duvivier (by acclamation), who received a similar award for *Coccoloba uvifera* (with unanimity). Honourable mention for culture was accorded *Kentia fosteriana robusta*, shown by M. A. Van Beerlere, and Honourable Mention for decorative Dahlias shown by M. A. Gallet.

Flowers at Vanderbilt's Funeral.—In the nature of the case, or rather because of the circumstances of the lately deceased Cornelius Vanderbilt, Esq., the famous American millionaire, one expects to hear of lavish floral tributes at his funeral. The family were averse to any great demonstrations in this manner, but despite this fact the quantity and quality of the offerings were commensurate with the great wealth of the late gentleman. Wreaths of Orchids were the predominant design, and these were immense and very beautiful. One broken column entirely of white Carnations and a garland of *Cattleyas* made a prominent feature. The pillows and crosses made a poor comparison beside the wreaths. Hundreds of *Cattleya labiata* were used. It is said that many of the brilliant events of the season have been put off because of his death, intelligence which casts a shadow over the flower trade of the city.

Intensive Gardening.—In last month's issue of *The Canadian Horticulturist*, we have the confession that "gardening as an art is too little understood in Canada." Having plenty of land at disposal the owners or tenants cultivate, or try to cultivate, more land than their means will fully and properly allow them to. The Canadians would do well to practice "intense-gardening," as some of their foreign friends understand the term, they having to get the value out of every square inch of ground. Prince Krapotkine, who has studied the subject in France, gives a number of instances in the country districts around Paris, where comparatively ignorant farmers have made small gardens enormously productive. He cites an instance where a farm of 2 $\frac{7}{10}$ acres yields 125 tons of market vegetable produce. The owner of the garden built walls to protect his garden from cold winds, and whitened them to secure all possible radiated heat and by carefully using all manurial matter and fertilisers, his little garden is in a productive condition all the year round.

The Hurst & Son C. C.—This club has now finished their season. Out of sixteen matches played, six were won, five lost, and five drawn. Several fixtures are already made for 1900, and any club wishing to arrange dates should apply at once to Mr. W. Riden, 152, Houndsditch, London, E. Seed trade clubs will have the preference of dates.

A fine Tree of Heaven—There are many trees of *Ailantus glandulosa* in the country, but a goodly proportion of them can only be regarded as fine foliage shrubs, for they are frequently cut hard back to encourage the growth of strong shoots bearing large, Fern-like leaves. It is often planted as a street, boulevard or avenue tree in Paris, and the question is frequently raised why it is not utilised for similar purposes here. A broad-headed tree is fruiting grandly in the garden of Mr. Larcombe, the station master at Turnham Green railway station. The tree is about 40 ft. high, yet only the head of it is seen from the train owing to the height of the embankment there. At present the clusters of winged fruits are considered to be more numerous than in 1887, when the tree fruited splendidly. The fruits resemble the keys of an Ash in form, but are produced in dense upright bunches or panicles. In their earlier stages they are green and unnoticeable, but later on assume yellow, amber, orange and even red tints, becoming at the same time very conspicuous and highly ornamental. For weeks past it has been worth going a long way to see.

LILIUM RUBELLUM.

THIS beautiful Lily is the most recently introduced, and without exception the loveliest of Japanese Lilies for pot culture. During the last two years it has been sent to the European and American markets in large quantities, but unfortunately for the shippers, at a considerable pecuniary loss, through their not sufficiently appreciating the requirements for the packing of the bulb. The buyers, on the other hand, have not been successful in their cultivation. The blame for this is due to the exporters not giving their clients a description of the conditions which surround this Lily in its native habitat. It grows in the northern part of Japan, and is therefore quite hardy. It is found in Pine forests with a dense undergrowth of Bamboo, &c., the soil being dry and poor. It follows that success is likely to attend its culture only by keeping the above information in mind. It is therefore suggested that a poor, stony loam be used with 2 in. of drainage and three bulbs to a 5-in. pot, keeping the soil slightly moist. Over watering is sure to be disastrous. The pots should be kept in the shade, "but not such as would naturally draw the plants." The Lily attains a height of 1 ft., and is compact and sturdy in growth. This character should be maintained. It may safely be said of this pretty Lily, which blooms in April, or earlier, that it will prove to be the gem of the greenhouse, conservatory, or sitting room. In Yokohama, out of doors, it flowers at the end of April and beginning of May. It should be grown on a raised bed of poor, dry soil, and out of the sun's rays, or plant on a dry bank, facing east or north. We in Yokohama grow it under deciduous shrubs close into the roots, where the condition of dryness is natural, and protection is secured from the sun's rays.

L. Krameri grows in the south of Japan under the same conditions as *L. rubellum*. It flowers one month later, takes the same cultural treatment, and attains a height of 3 ft. G. W. Rogers, Yokohama, August 26th, 1899.

EALING AND DISTRICT GARDENERS' SOCIETY.

THE twelfth annual general meeting of this society was held at the Municipal Buildings, Ealing, on 26th ult., when a very good attendance resulted. The annual report was distinctly progressive and healthy and showed a balance in favour of the society of £5 rs. 8d., as compared with £3 rs. 7d. last year. The president, J. Harris, Esq., F.R.H.S., was in the chair. The report and balance sheet were unanimously adopted. On the motion of Mr. Burgess, seconded by Mr. Edwards, the president was enthusiastically re-elected. The vice-presidents received their meed of praise, the Rev. Dr. Oliver stating that the continued success of a society like this depended on interesting

as many of the leading people of the place as possible; while R. Callard, Esq., said the attraction of the society to him was the object of mutual improvement. He considered the country was suffering from a lack of interest in their work on the part of the workers, and a society like this taught a man to take a pride in his work—a valuable lesson. Mr. C. B. Green, and Mr. H. Burgess were re-elected chairman and vice-chairman respectively; the committee resulting as follows:—Messrs. Baird, Cooper, Cox, Harding, Holloway, Langdon, Miles, and Stiles; hon. treasurer, W. W. Richardson, Esq.; hon. secretary, Mr. W. Roberts.

On October 3rd, the first event of the new session was an address from Mr. Green, on "Some wild Westmorland representatives of garden flowers and fruits." The meeting was well attended, Mr. H. Burgess occupying the chair.

Mr. Green stated, at the outset, that he was under an obligation to them for his re-election last week, and apologised for not being present on that occasion, for the very cogent reason that "Wild Westmorland" had detained him. Mr. Green then gave a lively picture of the "North Country," and characterised Westmorland as a district of lofty mountains and bleak moors, although it also possessed fertile valleys, trout streams, and lake scenery of great beauty. The valley of the Eden, for instance, was noted for its charms; in fact, it was the especial paradise of those in mood contemplative, whether of worm or wild plants. Only those plants were cited which had their representatives in modern gardens; for what, he asked, is a garden after all, but a place set apart for the cultivation of plants which were originally wild?

Geranium pratense was specially mentioned, because, although it was allied to, it was not identical with the so-called "Geraniums," of the old bedding-out craze. *G. pratense* did not require wintering in a greenhouse; it loved fresh air and cool treatment, while its lovely blue flowers were unequalled, in point of colour, in the zonal *Pelargonium*. The Ragwort (*Senecio*), was compared with the *Cineraria*; the Harebell (*Campanula rotundifolia*), and the clustered Bellflower (*C. glomerata*), with their garden allies; the Water Lobelia (*L. Dortmanna*) with *L. cardinalis*; the Globe Flower (*Trollius europaeus*) with *T. asiaticus*; the Water Lilies (*Nymphaea alba* and *Nuphar lutea*) with their gorgeous cousins at Gunnersbury House; the Welsh Poppy (*Meconopsis cambrica*)—a comparatively rare plant—with *Papaver nudicaule*; the Grass of Parnassus (*Parnassia palustris*) with other species on the rockery at Kew; the Gentians with their intensely blue relatives; the Butterwort (*Pinguicula vulgaris*) with *P. grandiflora*, and other forms; the Iris or Flag; the Honeysuckle (*Lonicera Periclymenum*); the Heathers; the Ferns; and many other plants were brought under notice; the object being to show the intimate relationship between the wild and garden flowers.

Fruits, which the lecturer termed the "harvest of the hedges," then came under review. Gooseberries (*Ribes Grossularia*) were exceedingly plentiful in Westmorland; they not only grew in the hedges but at the foot of stone walls by the wayside; Raspberries (*Rubus Idaeus*) were also abundant, the fruit of which differed chiefly in size from those cultivated, the flavour being excellent. Currants (*R. rubrum* and *R. nigrum*) were also found; while Plums and Cherries were connected with *Prunus communis* and *P. Avium*. The former were in considerable quantity as well as variety, the taste of which, the lecturer said, he could only compare to acetic acid put on with a file, a statement which provoked much laughter. Other fruits mentioned were those of *Rosa canina*, which the natives call "jupes" or "choops"; *Crataegus Oxyacantha*, which are locally termed "Cathaws," although they can abbreviate the term when the diction requires it, for they have a proverb that "mony haws" mean "mony snaws."

One of the sights of this county in September is the huge quantity of the Guelder Rose or Water Elder (*Viburnum Opulus*), the crimson clusters of berries of which are much sought after for decorative purposes, but perhaps the most striking effect is produced by the Crabs (*Pyrus Malus*), which are in battalions. The Crab, however, apart from its effect on the landscape is a valuable food-product, especially in the form of preserve. However, the lecturer could not resist a pun for the

wind-up, for, he said, the term *pyrus* could only be rendered as "Pear," while *malus* was Latin for "bad" (as well as "Apple"); therefore, although the Crah was undoubtedly a *bad Pear*, it did not follow that it was not, for some purposes, a good Apple.

In response to some questions and a vote of thanks, Mr. Green said the adjective "wild" Westmorland was well suited, for during his holiday of nearly three weeks, he had nothing but rain, except wind, hail, sleet, snow, and frost. The Dahlias were destroyed on the night of September 23rd.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE thirteenth anniversary dinner was held at the Holborn Restaurant on Thursday, October 5th, and we are pleased to relate that under the genial presidency of Mr. William Yeates Baker it was a grand success. Mr. Collins, the energetic and faithful secretary, had secured several helpers amongst the committee, and the result was—tables nicely decorated with flowers from Messrs. H. Cannell & Sons, and others; plants from Mr. H. B. May; Grapes from

McKerchar, Mr. Alfred John Baker (Thames Bank Iron Co.), S. Mortimer (the Dahlia specialist from Fareham who prides himself upon having attended every one of these festivals), J. F. Hudson, M.A. (the talented son of the society's treasurer), J. Brewer and Ward (Pollett, Ltd.), Dawkins and Middlebrooke (from Veitch's), Nathan Cole (the esteemed surviving founder of the society), and Sam Segar.

After the clearing of cutlery and dirty plates, the loyal toast was enthusiastically honoured; and this was followed by the chairman proposing "Continued Success to the United Horticultural Benefit and Provident Society"; after giving a few statistics Mr. Baker, in a most commendably brief, but happy and telling speech, pointed out the prominent features of the society. He reminded us that when it started in 1865 there were so few members that he believed the small bundle of sticks now used as its sign and symbol represented a stick for each member, whilst now it had 809 benefit members, an increase of eighty-eight during this year.

He considered the society formed a good insurance society as well as savings bank. The Benevolent

convinced that if gardeners read their paper more carefully they would not need to send so many letters asking for the address of the Horticultural Benefit and Charitable Institutions. Mr. Hudson clinched the chairman's appeal for more honorary members by stating that 96 per cent. of the year's receipts had come from benefit members, whilst only 4 per cent. had been donated.

Mr. Thomas Winter proposed "The Honorary and Life Members," and specially appealed for donations to the Convalescent Fund. In responding to this toast, Mr. George Bunyard expressed his conviction that the society was doing a vast amount of good. He considered that the list of honorary members should be doubled, and repeated his last year's suggestion that nurserymen should mention the society in their catalogues. Without disparagement to any other society this was certainly one of the best, and everybody connected with the gardening profession should join in some way. He would put his younger son down amongst the honorary members to keep his brother and father company.

The toast of "The Craft" was in the able hands



BAMBUSA FORTUNEI AND CHAMAEROPS EXCELSA. (See p. 105.)

the famous vineyards of Messrs. W. Thomson & Sons (Clovenfords), and other fruits from Messrs. James Veitch & Sons, Ltd.

The dinner was excellently served by the restaurant authorities, and no small portion of the evening's success was due to the manager of this department.

Amongst the gentlemen present at the top table, supporting the chairman, we noticed Messrs. George Bunyard, V.M.H.; James H. Veitch, the Brothers Sherwood, H. B. May, William Icton, W. J. Nutting, Peter Kay, G. H. Richards, S. T. Wright, R. Dean, V.M.H.; J. Wilkinson, and C. E. Osman. Messrs. George J. Ingram and B. Wynne represented the Gardeners' Royal Charities, and the United Horticultural Benefit and Provident Society sent its three trustees, viz., Messrs. George Wheeler, Joseph Wheeler and Riley Scott; its treasurer, Mr. James Hudson, V.M.H.; its auditors, Messrs. George Dixon and W. Gunner; and the following members of the committee:—Messrs. G. Kelf, T. Winter, W. P. Thomson, W. Woods, H. Peerless, and W. Taylor. The Horticultural Press was in evidence, though one gentleman presumably present in this capacity took not a single note of the proceedings. Other gentlemen present included Messrs.

Fund was greatly in need of support, and as time went on this would be more and more the case. The Convalescent Fund, formed by Mr. Sherwood, should be subscribed to by every member at the rate of a shilling per year. The £14,350 invested capital was something to be proud of, and should be an incentive to the members to press other gardeners into the fold, so that at least the society may reach its thousand strong by the time of the next anniversary. Mr. Baker finished up by inviting more honorary members and annual subscribers, thanking his many friends for attending the festival and listening to him when speaking under the influence of a bad cold.

Mr. James Hudson responded to this toast. Commencing humorously, he said that he recognised in the chairman a very good friend to gardeners in spite of the fact that he had made many of their places warm for them (hot water boilers). The invested capital appropriately came under the treasurer's remarks, also the low subscriptions, and the need for more members. The annual dinner he said was to make the society more known, as the Horticultural Press did their best in this direction. On behalf of the society he thanked the Press for their great help during several years, and he was

of an orator, Mr. Richard Dean, who spoke of the characteristics of the multitudes of gardeners of all degrees, in his own characteristic style. He also made reference to the impartial, disinterested and admirable manner in which the present representatives of the Horticultural Press carried out their duties.

Mr. S. T. Wright ably responded to Mr. Dean's eulogiums. He appealed to young gardeners to work and study hard, mentioning that members of "The Craft" who had been selected to have the great honour of putting V.M.H. after their names were all hard workers as lads. He often heard people talking about gardening being overdone, but he well knew that there was plenty of room at the top, and there was also a great want of good fruit growers. In his position as superintendent of the R.H.S. gardens he was always in request to recommend men in this connection, and unfortunately he had been compelled to decline about thirty applications through inability to find the men. Mr. Wright was proud to think that there was no class of men more willing to help each other than gardeners were, and no employees more faithful and loyal, whilst their integrity and honesty was worthy of all praise.

Mr. A. J. Baker announced the following contributions as resulting from the festival, viz. :—

	£	s.	d.
Messrs. Dicksons, Ltd.	2	2	0
Mr. R. Dean	0	10	6
Mr. Watkins	1	1	0
Mr. W. Y. Baker	15	15	0
Mr. Peter Kay	3	3	0
Mr. George Monro	1	1	0
Mr. N. N. Sherwood	5	5	0
Mr. S. T. Wright	0	10	0
Messrs. James Veitch & Sons, Ltd., ..	3	0	0
Mr. Wm. Marshall	1	1	0
Messrs. J. Laing & Sons	2	2	0
Mr. William Icton	2	2	0
Employees of Thames Bank Iron Co. ..	1	1	0
Mr. T. N. Cox	1	1	0
Messrs. B. Maller & Sons	1	1	0

and two honorary members, Mr. Bunyard, jun., and himself.

Mr. W. Icton suitably proposed "The Chairman," and Mr. Baker modestly replied. "Our Secretary" was also honoured at the request of the chairman, and in a few feeling remarks Mr. Collins referred to his work for nearly thirteen years, and to the value of the society.

The evening was further enlivened with some real good music and sketches by a small company under the direction of Mr. Herbert Schartau.

THE PLANT HOUSES.

CHRYSANTHEMUMS.—With growers in the south the "Autumn Queen" is somewhat late this year. There will be hosts of blooms for the November shows, but the earlier or October shows will try the skill of exhibitors in their endeavours to meet the demands or, at least the requirements of the time. So much for exhibitors and blooms for shows. But, of course, if the show blooms are to be behind the bush plants for cut flowers must also be backward. However, since the cool weather and the rains took the place of heat and drought our hardy flowering plants have improved, and are lasting better, too. There is any amount of Dahlias, Sunflowers of all kinds, Asters, Tritomas, Anemones, and other things of the period, so that as far as the season goes we stand in no real need of the early pot Chrysanthemum blooms. Indeed, if they are only meant for cut flower purposes, the better plan would be to let them come on slowly and so have the value of them at a duller time. Chrysanthemums make the best subjects imaginable in the cut state when taken with long stems arranged in large vases. They also are glorious for a united effect as seen in the great banks or sheets of colour. In large houses alone, such as great high-roofed and wide conservatories, it is possible to have a very varied and tasty house of little else than Chrysanthemums. But in the conventional span-roofed house with central and side stages we have nothing left us but to bank up the plants at a dead level. Of course, the plants themselves are very varied, in fact, no other class of plants of a like nature has half the diversity. There are so many sections giving all grades of variation from small pompons, pompon Anemones, large Anemones, Japanese Anemones, incurved and Japanese recurved, reflexed and decorative varieties, besides having a range of colour which baffles description. The Chrysanthemum rust takes up its abode in the tissues, and this is difficult to remedy. The soft constitution of over-fed plants renders them a prey to this *Puccinia Hieracii*. With hardy grown plants, the chances are much against the first inception and development of the spores. The uredospores are in active growth from the spring, and mostly attack the under sides of the leaves. (A good remedy appears on p. 104.) One leaf affected is enough to spread the pest throughout a whole collection, and even syringing with preventives or combative solutions has the effect in a measure of spreading the spores. Growers near large cities or in manufacturing districts are generally pretty well protected from the fact that the atmosphere is, to an extent, impregnated with sulphur.

WATERING.—Every grower knows how much depends on skillful watering after the plants are housed. If the weather is dry and breezy this operation may not entail such imperative care, but in dull weather the water must be sparingly given, and the floors and

stages kept dry. If green or blackfly are upon the plants give the house a thorough fumigating.

VARIETIES.—Lady Fitzwygram is one of the finest early flowering white varieties I know of. The flowering qualities and the colour of the blooms are so good that it is a variety one should see everywhere. It makes a good bush plant. La Vierge is another of the earliest and dwarfest whites there is, and one which has been known for many years. Harvest Home does well out-of-doors, but comes better and is more beautiful when given the care of pot culture. Mrs. Hawkins for a deep yellow of the Desgranges type might also be included. May Manser is a novelty of last year's introduction. The blooms come earliest, and are very handsome from the first crown bud. The reflexed type, together with the broad petals and soft white colour, though the petals are peculiarly tipped with yellow and slightly curled up, make this variety a most charming introduction. Rycroft Glory is another fine thing. The flowers are very large and strong, and in colour they are a bronzy-tinted yellow. It has had two First-class Certificates. Baron Hirsch is one of my favourite incurved early varieties. The orange-cinnamon colour and its compact, perfect build, and easy growth make it a most desirable plant. It does best on a second crown bud. Other good Japanese reflexed varieties in bloom now, some of which are new, are Mr. R. Pearson, Miss Bessie Luscombe, Mrs. Hall, Mrs. A. H. Holmes, a seedling from Edith Tabor, Mdme. Gustave Henry, and Lili Boutroy, a Japanese incurved bloom of great size, its colour being palest primrose.

CROTONS.—The stock of these has had a capital summer for growth. With a grower who raises magnificent plants under a frame above a hotbed, the specimens he has at this time are simply marvellous. No place is better than a good wooden frame for young Crotons, although the idea may come as a novelty to not a few. There is a continual humidity in the atmosphere of the frame, besides which the temperature is becomingly and acceptably high and steady. If shade is needed this can very simply be given. Air can also be afforded by having patent ventilators in the front, back, or sides of the frame-work. Top back ventilation is, however, generally sufficient. About shading, some growers are strong in its advocacy, while others show splendid plants which *never* are shaded. Mr. McIntyre, the famous stove plantsman of Darlington, never shades a single Croton during summer. He believes in keeping a steaming atmosphere, and lets the temperature run as high as it will. Yet we know his plants do not suffer. However, that is in the North of England, and like Mr. D. Buchanan, who is hardly ever beaten, certainly not by market-growers, in Grape production, and who never ventilates his vineries from the front but only from the back, we must accept it as proper enough for northern cultivators, but in the very south in exposed places, some slight shading is a necessity. The colours are really softer, indeed, like a pebble after rain; the colours of a Croton leaf which has developed in partial shade, are far finer and more numerous if not so brilliantly showy. Some of the finer varieties of Crotons or Codiaeums may be chosen from the following:—*C. aigburthensis*, a bushy grower, yellow and green; *C. Flamingo*, broad-leaved, with a red mid-rib edged yellow and orange-green suffusion; Countess, a beautiful bright yellow, narrow-leaved variety, very graceful; *Gordonii*, a twisted variety, maculated variously with green, yellow, and red; *Thomsonii*, a broad-leaved form of bright yellow hue and green intermingled; *Newmanii*, coloured in various shades of red, yellow, and green; *Superbum*, a narrow-leaved drooping yellow variety of much merit because of its gracefulness; *Ruberrimum*, a peculiar, but very beautiful Croton of magenta, pink, cream, and green hues, although the red tones predominate. Of course, there are the older varieties, such as Prince and Princess of Wales, *C. magnificum*, *C. Weismannii*, *C. Johannis*, and many others. *C. Golden Ring* may be taken as the most beautiful of the twisted yellows.

PRESENT WORK.—Double tuberous Begonias are now presenting us with pollen after having been starved for some time. Crosses should be made and the softer tones, such as pink and cream might be more worked up and varieties with these colours introduced. Most plants are now in a state of quiescence, or at least growth is confined to the

developing of strength for the winter. Shading should be taken from the houses, and moisture need not be so lavishly strewn about.—*J. H. D.*

Kitchen Garden Calendar.

SINCE writing the last instructions we have been visited with a heavy rainfall, which has considerably improved kitchen garden crops, and owing to the warm condition of the soil all green vegetables have made considerable headway. In some places the frost has been severe enough to cut down Beans and Peas, but where this has not happened, should the autumn hold out fine, supplies may still be gathered, though they will not have that delicate flavour as when the weather was warmer to induce a more free growth. Still, they will help to fill up blanks.

Special attention must now be paid to crops growing under glass, and air must be given whenever the weather is favourable to strengthen the plants. French Beans in heated pits must have a little fire-heat at night to keep the plants growing. Those coming into bloom must not be allowed to get dry at the roots, but the atmosphere ought not to be overcharged with moisture or the flowers will not set. Make another sowing for succession that there may be no blanks.

ASPARAGUS should now be cut down, the beds being cleaned and left rough for the winter. Those intended for forcing ought to receive attention first; that the roots may have a rest before being lifted. In most places this is much sought after during the winter and early spring months, therefore a good breadth should be grown for forcing. When lifting the roots be careful not to injure them more can be avoided. They should be taken straight to the place where it is intended to force them, for when allowed to get dry they do not so readily start into growth. Maintain a genial warmth of about 60°, and admit air on all favourable occasions. Asparagus requires all the light possible at this season of the year and through the dull winter months to give strength and colour to the growths. When forced in too high a temperature or kept in semi-darkness the growths are neither so tender nor so plentifully produced. The soil in which the plants are growing ought not to get dry; at the same time avoid having it too wet, for during the dull weather there is very little evaporation, and when surcharged with moisture this lowers the temperature.

LETTUCE and other plants in cold frames ought to have the lights removed on all favourable occasions to keep the plants sturdy, for the hardier they are grown the better able will they be to resist the frost later on, should it be severe. Cauliflower plants intended for early use should be pricked out while small, that they may be as sturdy as possible. It is also well to prick out some Parsley into a cold frame to give supplies when the frost is severe. Make a sowing of Onions in boxes for transplanting in the open in spring, and for use in salads while small. Secure all tender vegetables before the weather gets too bad, and earth up Celery whenever the soil is in a suitable condition for such work. Do not delay the planting out of spring Cabbage longer than can be avoided that the roots may take hold of the soil before frost sets in.

GENERAL WORK.—Advantage should be taken of every favourable opportunity to trench all vacant ground, for the sooner such work is done the better. Trenching is one of those operations that is not thoroughly understood by many, but if the finest samples of vegetables are to be produced it is absolutely necessary that the ground be thoroughly worked. To trench in spring is usually a mistake, as the soil is left too porous, and if a hot, dry season follows, the crops suffer from the drought. When trenching is done in the autumn the soil has time to settle down again before spring, the only thing then necessary is to loosen the surface to admit the air that the soil may be dried a little before sowing and planting. There is another advantage in trenching at this season which ought not to be lost sight of, which is, that the ground works much freer than when it has become soddened with the heavy rains. Do not attempt to bring up the poor ungenial soil to the surface, as small seeds cannot make headway in it. If too shallow to admit of trenching loosen up the bottom spit and allow it to remain there until it has been improved by the surface soil being washed down into it. If this be repeated for three or four years in succession there will gradually accumulate a greater depth of soil of a more fertile nature.—*Kitchen Gardener.*

HINTS FOR AMATEURS.

Bedding Plants.—As a rule the cuttings of nearly every class of bedding plants are firm and stout this year, so that where there are plenty of shoots made one of the chief points of success in propagation is assured. But this is a ticklish time in the management of bedding plants as a whole. Pelargoniums in boxes in the frame ground, or standing out on the paths must be looked over occasionally. Even if a few leaves become mouldy, thus retaining dampness around them, they act in no good way in relation to the others. There will be any amount of dead leaves to pick off. When these are taken away the air, being more at freedom to penetrate among the cuttings, has a wonderful power in bracing them up and in keeping them healthy and clean. One good watering after they are put into the boxes is generally sufficient for them. There is no root action for some weeks, so that unless the weather happens to be dry and hot the soil will have no chance of becoming parched. A fault which we in our haste may commit is in putting the cuttings in too deeply. This applies more particularly to the smaller stuff, such as Vincas, Euonymus, Calceolarias, Violas, and so on. These are not large at the best, and it is an easy matter to do wrong with them. Our desire to get them firm at the base may be overdone, so that when we water them afterwards their crowns are capped with fine soil and sand. Some of the leaves too, may be covered up, and these by decaying may be the means for causing the stems themselves to damp off. Still, the chief operation to be careful over (speaking now of frame-grown stuff) is the airing. For some time, a few days, say, after the cuttings are put in, keep the frames practically shut up and shaded. The object of this is to keep an even temperature, warm to a degree, and to prevent the inrush of cold winds or of draughts, which would be hurtful in more ways than one. Then when the cuttings have pricked up a bit, as they ought to do under ordinary circumstances, more air can be given, but the shade must be kept on so long as the weather is sunny. About ten days after having inserted and watered them, go over the beds, poking between the plants and the rows with a sharp pointed stick, taking away any withered leaves at the same time. If this operation is done regularly, both with cuttings dibbled into beds in frames or with those in pots and boxes, and if the growers just guard against an excess of moisture, together with proper ventilation, there need be no fear entertained as to their progress. Cuttings of Pelargoniums which have rooted may be left for some short while yet, whence they may be potted off singly into 3 in. pots. For this purpose we fall back on the old Chrysanthemum soil, which is rich enough, and at the same time full of fibre. It only requires the addition of a slight amount of fresh loam and sand to make this a perfectly suitable potting compost. If crocks happen to be mixed with the soil pass it through a $\frac{3}{4}$ -in. sieve. Many things are out-of-doors yet, so that it would be wise to have a quantity of protective material sought out ready to use for covering up on short notice. Bracken, Asparagus, straw, mats, &c., are all useful.

Chrysanthemums.—A week of bright weather, breezy and sunny during the day, brisk and sharp at night, is worth more in the way of plump, healthy growth than three weeks of indoor care. But if the weather is to be as wet and dull as it has been lately every plant whose buds have set and are swelling well must be housed with despatch. The plants this year are very robust and clean. Black fly, however, has troubled them, especially during the last two months. So far as I have been observing there is no rust in appearance yet. Should it be in your own collection try the effect of this mixture:—Half a gallon of water, one pound of whale oil soap, boiled together, to which is added one gallon of best petroleum; make this boil, and keep it stirred for fifteen minutes, then add three ounces of ammonia carbonate. Pour the mixture into jars, and use it in small amounts when cold for syringing the plants with. In cases where mildew has obtained a hold the best combatant is fresh flowers of sulphur. This can either be dusted over the plants with a "duster," which is a funnel-shaped box perforated and mopped with wool, and one end made for the purpose. Any of the sundriesmen advertising in THE GARDENING

WORLD will provide one. Or a sulphur solution may be made and syringed over the plants. Use fairly warm water (80° or 90°) for the purpose, and keep the mixture well worked up.

Staging.—It stands to reason that the amateur's conservatory is stocked in a fairly full way before ever a single Chrysanthemum plant is brought within the doors. The question which faces every "Chrysanthemist" at this time then is, what am I to do?

Well, in the first place, it is very evident that the plants already indoors and the plants yet to come in, cannot all have room. If there is one fact more to be emphasised than another it is that the plants must have freedom.

Therefore, as a necessity, an evil necessity it may be, some of the already existing plants must be ousted. Do not delay. Frost may steal down on any of the coming nights, and nip off those plants which have cost you so much work all through this last warm summer. If you have a number of Geraniums, or correctly, zonal Pelargoniums, unless these are thoroughly good plants, fresh, stout, clean, healthy, well foliaged and likely to flower freely in the coming weeks, cut them down to within 4 in. from the base. This will give you freedom, and you will not lose anything. What to do with these cut down plants will be explained in a later paragraph.

Then, no doubt, the Fuchsias may still be occupying a place. Remove these to some cool light house, or shed even.

After this the Cannas, Aspidistras, and other plants whose nature is either hardy enough to stand the vicissitudes of a parlour or hall temperature, or whose character is to dry up and rest for a period, can all be taken away. Thus we shall have some considerable space. The next move is to arrange the tallest Chrysanthemums in the centre and along the sides of the house. The blooms expand best, and are strongest when they open within a short distance from the glass, say 1 ft.

After the blooms have somewhat expanded, and no more growth in length is likely, then it pays to re-arrange the plants so that the blooms come beneath the eyes. It would be a wise plan even if the stages were all made to lower or raise as required. We cannot expect tastes to be at one in the matter of arranging the different sections of this plant. Some may like to have all the Japanese varieties together, others may like to mix the Japs. and the incurved varieties, and so on. The best results are obtained when this latter section are kept by themselves at the warmest end of the house, and the Japanese at the cooler part. The bush varieties may be banked up in the middle stage. If there is no central platform the tallest should be placed in the most convenient places on the floor. In large gardens the early-flowering bush plants generally occupy the Peach or other fruit houses. I like the early *Mme. Desgranges* varieties; *Lady Selborne* is an early, but very much better variety; *Mychett White* and the newer *Market White* are capital; *Rivers H. Langton* is one of the earliest Japanese forms; *Ryecroft Glory* and *May Manser* are both of recent introduction, and are large blooms of much merit when taken early. But we can consult the charms of varieties more fully in another few days.

After the plants are all housed turn on a slight flow of heat to the pipes, and keep a chink of top and bottom air on at all times. Nothing is more dangerous than a cold muggy atmosphere for the plants after coming from the open air. A warm circulating wave keeps the plants in brisk action, and able to ward off mildew or disease. Do not feed them after the blooms begin to burst open. Abstain from watering much.

Fuchsias.—Gradually withhold water from these until the foliage withers. They can now be placed in a vinery or a fruit house if this is at command. If not, place them close together in a sheltered shed or with smaller plants, under the stages of the conservatory, putting them on their sides. The small amount of water they will get there will be sufficient for them. The main thing is to get them dried off properly and afterwards comfortably stored out of the way. With Cannas the same rules apply. Young Fuchsias must be kept growing on, being now placed on shelves near the light.

Pelargoniums.—The cut back plants should be kept dust dry and the pots can be placed away on shelves or under stages, but the position must be dry and moderately warm. Cuttings should be made

from the firmest and stoutest shoots which were cut from the old plants. These can be struck in pots or boxes of light soil in warm pits. When they have rooted, take them to a cool house.

Miscellaneous Work.—Pot off Carnations. Imported Azaleas for Christmas flowering must be kept in a warm house and syringed three or four times a day. Pot Vines and other fruit trees should be ripened and exposed to the fullest, once the crop is gathered. Remove all shadings. Mend all paths or make new ones at this season. Trees, shrubs and hardy plants generally do best when planted at this time. Take up and pot all bedding stuff required for stock next year, such as dwarf Lobelias and *Lobelia cardinalis* where the soil is cold and heavy; "Geraniums," *Echeverias*, *Alternantheras*, *Iresines*, &c. Store Begonias when the foliage dies off, keeping them in their colours by themselves. Give plenty of air to tree Carnations, and house all the Cyclamen, *Cinerarias*, *Primulas*, *Calceolarias*, *Solanums*, and other plants which have been in the frames during the summer.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Hardy Ferns.—*Ergo*: Your wish is laudable. Nothing is healthier or more refreshing to our eyes than Ferns in rockeries and woodland crags, or what is the next best thing, a rootery in some quiet shady corner of the garden. By rootery, we refer to a mixture of tree-roots, and stones. Great roots can be most effectively made use of along with both large and small stones. In the finished state, but more especially after a year or two's growth, where creepers, Ferns, grasses, hardy plants, and dwarf shrubs have been employed in the "make-up," these rooteries form most charming and interesting features. Many an odd corner, now only a nuisance, could be made a little "Treasure Island," if only the owner or the gardener could see their way to adopt the hint. However, try the following list of hardy Ferns in the meantime:—*Scolopendrum vulgare* (the Hart's Tongue Fern), the Royal Fern (*Osmunda regalis*), the Lady Fern (*Asplenium Felix-foemina*), and many of its varieties, the Male Fern (*Nephrodium Felix-mas*), and several species of *Polypodium*. Once these become established you may then wish for greater variety.

Carnation Compost.—*East Sheen*: For the first potting use two parts of yellow loam (this is the best, the yellow loam) and one part each of sharp sand and Beech leaf-mould. For after pottings use more loam, and add some dry natural manure, preferably that of pigeons.

Calla eliottiana.—*G. Beech, Herts.*: Unfortunately the price charged by nurserymen for even very small crowns of this yellow-flowered Calla is prohibitively high. You will get crowns of two years' growth for 7s. 6d., and so on, up to a guinea. They can be bought now and potted up, giving them a fairly rich soil and not too large pots. They will start growth early in the New Year.

Cyclamen.—*J. Bolton, Tarbert*: A sowing of these should have been made in August. However, since that month is passed, delay no longer. Sow your seeds in carefully prepared pans of light sandy soil. Crock these well, and fill them with the fine soil, sowing the seeds on the surface, and merely covering them afterwards. Water the pans through a fine rosed can, using tepid water. Place the pans in a close case and allow them bottom heat. When the young plants have made one leaf, gently ease them out and prick them into other pans of fresh soil, and when they have grown to a fair size pot them off singly, still keeping them in a warm house. Your old plants, after flowering, need not necessarily be thrown away.

Window Plants: How to Manage.—*Jessop*: With ordinary care we generally find window plants pass the winter all right. In case of failure again, however, your questions have come in good time if you will observe the following rules. Do not place them close to the window panes, because

the temperature alters considerably to within a foot from the inside side of the glass. Keep them about 15 in. out. When you air the room, take the precaution to place the plants out of the draught. Do not water them in cold foggy weather until the pots ring dry. It is generally the safer plan to keep them on the dry side all winter. The foliage must be always clean, and harmful gases should if possible be kept out of the room.

Rubbish for Heavy Soil.—*Allotment Holder*: Provided the refuse is clean, does not contain strong weeds or irrepressible taprooting plants, and is in no way infected with insect pests, we see no reason why you should not dispose of your stuff in the manner stated. Leaves of Cabbages, small weeds,

OUR PICTURES FROM THE ROHAIS NURSERY.

It is seldom that we are able to present our readers with three such interesting views as those which appear in our pages this week. They represent results of the photographic art of one of Guernsey's most eminent photographers, and are illustrations taken in the Rohais Nursery, Guernsey, of Mr. A. J. Guilbert, whose name in connection with the nursery profession is so well known.

The picture showing the view through the centre of the nursery grounds will give one an excellent idea of the depth of the grounds of the establishment; and the adjacent seed trial fields are broader than the nursery is in length.

Vines having been established eight years; and there is no doubt from the reputation which the owner has attained and sustains that he is quite at home with the subject under cultivation.

Beneath the Vines and in the centre of this house Smilax was doing wonderfully well in addition to those planted out in the middle of the house. Smilax is also cultivated in pots in their thousands. In house No. 2, Tomatos were cropping well in such well-known varieties as Stirling Castle, Cropper and Up-to-Date. Before going to the other houses, of which there are some thirteen or fourteen, the party was conducted over the lower grounds and on through the sub-tropical gardens, the following being some of the more noticeable specimens:—*Gunnera scabra* or wild Rhubarb, the spikes in



CENTRE VIEW OF THE ROHAIS NURSERY, GUERNSEY.

parings, and haulms of Potatoes, Peas, &c., if well chopped up and spread out, would be a help to either light, medium or heavy soils. Where anyone has more rubbish than he can dispose of, let him burn as much as possible and use the ashes. Or again stack it up neatly, mixing with the rubbish lime, soil, and manure if he has it.

Rats and Mice—*W. Cooper, Yorks.*: These will be found anywhere so long as they can obtain some Peas, Beans, or other food in a garden. They will make a shelter for themselves. Devices for trapping them must be frequently changed, else they fail in their service. Poison must be set about with great care. Traps must likewise be carefully placed. We think the best plan, when they burrow in the soil, is to dig the whole run out. Lads or men with sticks should be set around the digger, so that when the animals run out they can be at once killed.

Our photograph of *Bambusa Fortunei* (p. 102) is a picture of a specimen of this type which probably by those best able to judge will be pronounced as a representation of a very handsome specimen of this species of plants. Alongside is a grand specimen of *Chamaerops excelsa*, both these prominent subjects being on the left of the main entrance of the nursery. The third picture (p. 107) is a snapshot from the sub-tropical portion of the gardens, and whilst excellent so far as the limits of the photographer's plate would admit, it conveys but a small idea of the grandeur of this portion of the nursery. We recently had an opportunity of going over the grounds with a party of English horticulturists, personally conducted by Mr. Guilbert, of which party our correspondent was permitted to form one.

The leading features in Mr. Guilbert's business are perhaps Grapes and bulbs. Of the former a house was, at the time of our visit finishing well, the

several instances 3 ft. to 4 ft. in length, naturally attracted attention; Yuccas, in all varieties; Tritomas, yellow and red; *Phormium tenax*, which was flowering, was also interesting; whilst the *Benthamia fragifera* with its strawberry-like fruit was almost tempting enough to appear edible. A deep red *Camellia Marchioness of Exeter*, 150 ft. in circumference, and *Calycanthus* of the variety which resembles a sweet smelling Allspice were also noticeable. *Acanthus mollis* with its mauve spikes was a little past its best, but owed its fine foliage to the neighbourhood of water. *Osmunda regalis*, the Royal Fern, is scarce even in Guernsey although it grows outside freely in Devonshire. Here under cultivation in the island it was magnificent.

Fruit trees for planting out constitute another department to which Mr. Guilbert gives some amount of attention. Apples and Pears are the principal varieties. Plums, Peaches, and sturdy

Cherries well indicate the subjects mostly under treatment; Carnations and Chrysanthemums in pots; whilst a field adjacent to the nursery was entirely full of the latter flowering early.

We observed also the striking Camellia hedge parting this section of the nursery from the other. *Agapanthus umbellatus albus* was doing well. *Calla aethiopica alba* was seeding freely in the open. *Fuchsia Undala* filling a greenhouse was flowering freely. A field of Daffodils grown for cut bloom contained Emperor, Golden Spur, and the principal market sorts. Aralias were good. *Abies nobilis*, which seeded here last year, was pointed out, and the Mahonias looked verdant and pretty.

Gladiolus The Bride formed an extensive section by itself. Dahlias were getting past their best. Vines in pots, of which there was one house full of Hamburghs, struck from eyes, were also noticeable.

Mr. Guilbert has added a comparatively recent departure in a newly constructed Orchid house, which he showed us, and which contained a well established collection of Cattleyas, Oncidiums, *Dendrobiums*, *Odontoglossums* and *Cypripediums*.

Reverting to his trade in Tomato plants, we were interested to learn that during the past season Mr. Guilbert's sales had extended to 160,000. Cutbush's Champion Tomato is the favourite here. *Eucharis* was excellent, flowering in pots. A houseful of *Asparagus Sprengeri*, and another house devoted to Cucumbers, with yet another alongside of it containing Vines in pots, 8 ft. to 10 ft. high, of which there were some 2,000 plants, were all of interest. A house of *Aspidistras* and *Stephanotis*, the latter containing the biggest plant Mr. Guilbert had known, and from which 5,000 pieces had been cut last season, showed how well these subjects were handled.

Alicantes, occupying ainery, were very freely cropping, and the Apex house devoted at present to *Freessias* was also shown us. *Verbenas* made a good show; and in the former house the decorative plants had a share of attention.

A show house on the left hand of our exit from the nursery contained a general collection of flowering subjects.

Mr. Guilbert concluded by drawing our attention to an excellent example of *Bambusa Fortunei*, and after a very pleasant afternoon the guests drove back to town.

Incidentally we gathered that Mr. Guilbert has very much developed the extent of the nursery during the three years he has owned it. The total number of houses here and at his other grounds is 34; and these necessarily employ a large number of hands. The usual appointments of potting sheds and so on are well looked after; and the nursery is managed by a very capable foreman. With the floral department in the town Mr. Guilbert, who is enthusiastically assisted by his wife and eldest son, may be well understood to have a very busy time.

LONDON PARKS AND GARDENS.

V.—FINSBURY PARK.

In proportion to the brilliance and continuity of this last summer's sunshine, the blaze and sparkling show of flowers in the beds at Finsbury Park, London, N., seem to have been evolved. Anyone seeking for floral, rather than for foliage effects, would have found it in this North London park. It is evident that Mr. Melville understands what will most please his visitors, for as a rule, only very bright displays are appreciated by hard-working artisans or others of industrial communities. The plants in Finsbury Park have to bear against whatever weather prevails, for upon the whole it stands high, and any shelter the beds have, is from the screening background of shrubs and trees which have been planted in times past. The bulk of the bedding is arranged on high ground in the centre or slightly to the north side of the park. The area is really one great oval bisected by a path. On either side of the path, laid out in grass the oblong, oval, and square beds. Their edges present one almost continuous straight line, and when seen at their best (all the beds being edged with the same little white-flowered plant, *Nycteria selaginoides*) they create an impressive effect. In the back parts of the large semi-circular areas of the flower garden beds in quite a variety of forms are patterned and fit into each other very neatly. For the purpose of offering guidance or

fresh ideas to those who are unable themselves to visit the London parks, these references are written. Bearing attention then, first to an oval bed, this has been tastefully arranged with *Begonia floribunda rosea* as a furnishing, while throughout the bed and between the plants were samples of that bright close-growing plant, *Mesembryanthemum cordifolium variegatum*; standard plants of *Abutilon Thompsonii*, helped the dignity of the bed and the edge of Emperor William Lobelia added another colour which harmonised and heightened the combination.

In a round bed in contiguity with this last noted, we found it edged with the bushy bronze *Pelargonium*, Harry Hieover from which the flowers seemed to be kept off; then in the body of the bed *Coleus Verschaffelti* was massed, above which were tall plants of *Grevillea robusta*. In the background furthest from the path, brightness was shown from the tasty union of *Centaurea candidissima*, over-riden by a fine selection of the mauve or magenta-flowered *Verbena venosa*, edged with a light blue band of *Ageratum*. No more telling mixture or union can be planned, than that of the white-leaved *Centaurea* and magenta-flowered *Verbena* noted above. In another bed, shaped somewhat like a bird's wing, the plants used were strong growing bronze *Pelargoniums* dotted over with standard *Eucalyptus globulus*, and edged with *Nycteria*.

A bed of *Canna Adrian Robinii*, edged with *Cineraria maritima* made likewise a fine show when at its best. The Brighton Gem *Pelargonium*, below well-flowered *Fuchsias* and edged with blue *Ageratum*, also made a fine display. Ivy-leaved *Pelargoniums* and *Celosia pyramidalis plumosa*, filled an oblong bed which had for edging rows of *Lobelia* and *Echeveria*. Again in a central bed *Abutilon Thompsonii* above pink tuberous *Begonias* and edged with *Lobelia Snowball* gave a finished picture which won the public praise. In the beds showing their outer edge all in one straight line, the same edging plants as already hinted at were employed in them and as a second row, *Lobelias* were employed; all for the sake of a united effect. The *Eucalyptus Gunnii* above a mixture of silver-leaved *Pelargoniums* and *Verbena venosa*, formed a bed whose arrangement is worth the copying. A large bed of purple-leaved *Cannas*, edged with *Pyrethrum Golden Feather* contrasted pleasantly. As a feathery dot plant the *Acacia lophantha* is in its proper place above *Begonia semperflorens* along with an edging of *Gnaphalium lanatum*.

One of the most brilliant beds in the parks was a diamond-shaped one, filled with a glowing scarlet variety of *Pelargonium* edged with *Achillea odorata* and having specimen *Eucalyptuses* waving above them. All these beds are flanked by an encircling border of tall growing, massive plants.

Out about in the very beautiful grounds, beds of *Gladioli* were placed. The scarlet varieties were massed in circles by themselves and lent features of much interest to the place. Rather a novelty was seen in an oblong bed where the *Begonias* which filled it were planted in straight lines having the spaces between them filled with *Mesembryanthemum*, the whole being edged with *Pyrethrum Golden Feather*.

Lobelia cardinalis with plants of *Golden Privet* intermingled and edged with *Echeveria metallica* also added one more noteworthy feature.

Throughout the very extensive grounds neatness and good keeping were the order of things. In its higher altitudes Finsbury Park affords some splendid views of northern London, extending almost to the country districts. Then within itself there is a fine stretch of ornamental water enlivened by beautiful swans and other aquatic fowls. The rock garden and the numerous hardy flower borders, beds and open spaces make this park a very influential institution in the populous district surrounding it. Mr. Melville conducts a good work and the best compliment he receives is to find this work appreciated by the thousands who enjoy Finsbury Park.

Weather in London.—Recent weeks have endowed us with water, water for thirsty wells, cisterns, brooks, and drains. Some days have been showery, others have been dull without rain, while again rain was all but continuous on Sunday. It drizzles as we go to press.

REDBRAES NURSERY, EDINBURGH.

ABOUT the middle of last month we took a hurried run through the Redbraes Nursery, of Messrs. James Grieve & Sons, in the Broughton Road, Edinburgh. Naturally enough, by that time the season was waning, and the flowers in season bore the character of autumn. Dahlias of various sections were in bloom, and between them were Lettuces left to grow at their own sweet will. These, we were informed, were intended as traps for earwigs, or rather as food for them, because so long as these troublesome insects could get Lettuces they let the Dahlias severely alone. Certainly the latter showed no evidence of having been attacked although earwigs were plentiful enough. Early flowering Chrysanthemums in the open had commenced the display early in August, Mons. Grunerwald being the first to expand its rosy blossoms. This was followed by Mychett's White, Alice Butcher, bronzy-orange, dwarf and floriferous; Youngi, rich purple flowers and dwarf habit; and Pilrig, a model, dwarf and bushy variety, with golden-yellow flowers. Close by was an orange-flowered, dwarf and floriferous variety of the French Marigold named Pilrig. It is not affected by a droughty season, and forms a good substitute for yellow *Colceolarias*. *Chrysanthemum maximum* was flowering for the second time, the early stems having been cut down.

All of the above we noted on the way to the green-houses. The bulb season had also commenced and a stock had been got together of such bulbs as Hyacinths, Tulips, Snowdrops, Daffodils, Crocuses, fine samples of *Scilla sibirica*, &c. The forcing house for the time being was filled with such things as *Pteris tremula*, young stuff of *P. cretica cristata* and other Ferns, which were to be displaced later on to make way for a great variety of subjects for forcing purposes.

Several of the houses had been filled with Tomatos planted out in narrow borders during the summer, and the remainder of the crop was still hanging. The Messrs. Grieve grow a large quantity of stuff purely for bedding purposes, and variegated, tricolor, and zonal *Pelargoniums* were being housed on the benches under the Tomatos. The next house was similarly occupied with *Pelargoniums*, Chinese *Primulas*, *Araucaria brasiliensis*, *Lilium speciosum* (*lancifolium*), *L. s. Kratzeri*, and two or more strains of *Primula obconica*. Here also was another collection of bulbs direct from the growers for supplying the requirements of customers. *Pelargoniums* for bedding filled the next house.

Asparagus Sprengeri seeds freely, and here we noted a large batch of seedlings that will make handsome decorative subjects presently. Batches of *Pteris serrulata major*, and *P. cretica cristata* had just been put in 48-sized pots. The next to this was also a Fern house in which was a batch of seedlings from *Gymnogramme schizophylla*, showing a considerable range of variation, and the whole stock had just been sold.

Very fine was *Adiantum Capillus-Veneris imbricatum*, resembling *A. farleyense* and constituting a good substitute for it. Larger batches of Ferns already mentioned were also located here, as well as batches of *Araucaria excelsa* in 48-sized pots, and handsome plants of *Ficus elastica* in 32-size pots. The ubiquitous *Acalypha Sanderi* has also found its way here. Thousands of *Pteris Wimsetti* were grown in thumb pots and 60's. A healthy lot of *Doryopteris palmata* occupied small pots, all being healthy and ready to be potted into larger sizes. The above will give an idea of the useful decorative stuff grown in the houses, and which are always in requisition.

Passing into the open air we found the materials for a cut flower trade, both in early flowering Chrysanthemums and the large flowering race grown in bush form in pots, at that time in the open air. Serrled ranks or long lines of them were all staked to guard against wind. Plantations for flowering in October and November were also planted in the open ground. Here was a golden-yellow sport from *La Triomphante*, a good grower, and easily managed. The Wallflower-leaved East Lothian Stock was grown in quantity. *Gaillardias*, *Matchett Mignonne*, for cutting, and large plantations of bushy plants of Wallflowers were passed in succession. These old-fashioned flowers are very popular about Edinburgh, and Messrs. Grieve require about 60,000 plants for spring bedding, &c. Border Carnations are grown in quantity, many of them being fine varieties raised here. *Chrysanthemum Harvest Home* is a

favourite, as is the green variety *Mdme. E. Rogers*, a very vigorous growing sort. *Helianthus Miss Mellish* is a popular border subject.

Many frames were filled with *Viola* cuttings, and successive batches were being added. A large, pink, and free flowering variety of *Primula obconica*, named *Taymouth Castle*, was gay in cold frames, alongside of *Richardia Little Gem*, *Chrysanthemum Queen of Earlies* (the best early white), and *C. Soleil d'Octobre*, all in pots. Five or six lights were filled with *Aralia Sieboldi*, in 32-size pots. Pinks in great quantity were being rooted in frames close by a healthy stock of blue *Primroses*. A propagating house was filled with zonal and other *Pelargoniums*. Further on we passed other plantations of *Wall-flowers*, *East Lothian Stocks*, *Canterbury Bells*, *Sweet Williams*, *Alyssum*, and striped *French Marigolds*, the latter a fine strain from which seed was being gathered. Orange, lemon, and striped varieties of the *Scotch Marigold* were flowering freely. *Sweet Peas* are grown in breadths, but only the scarcer varieties are saved for seed. Late in the season as it was, the *Violas* or many of them were fresh and flowering profusely. Some of the choicest we noted were *Mary Gilbert*, golden-yellow; *Lilacina*, deep lilac; *Rosea pallida*, pale rose; *Sylvia*, white; *Tom Wilson*, purple; *Bluebell*, popular for cottage gardens; *Redbraes*, dark purple and dwarf; *Marchioness*, pure white; and *White Duchess*, all of them being choice. Thousands of *Violas* were being rooted in frames.

Shrubs are not neglected, for many of the popular sorts are grown, including *Rhododendrons*, 6 in. to 12 in. high; a stock of *Ampelopsis* in pots, the golden *Black Italian Poplar*, *Azalea mollis*, the *Kilmarnock Willow*, *American Weeping Willow*, and an assortment of the hardier, shrubby *Veronicas*, including *V. pinquifolia*, *V. Traversi*, *V. ligustri-folia*, &c. Young stock was being rooted and brought along in frames, notably *Rhododendrons*, *Box*, *Skimmias*, *Retinosporas*, *Ivies*, &c. *Genista tinctoria* was still flowering freely in the shrubberies.

Some healthy young trees of *James Grieve Apple* were grown in pots, being intended for orchard house culture. Kitchen garden produce, chiefly for the supply of roots or tubers of certain things, also form an item of the cultures here. Notable was a seedling, kidney *Potato* planted and dug on the same days as *Sharp's Victor*, and which is four to six times as productive and two or three times the size of that well known early variety. Other *Potatoes* being dug were *Jeannie Deans*, *Myatt's Kidney*, *Maincrop*, and *British Queen*, the latter being a pebble-shaped, white tuber. Early *Albert Rhubarb* is the favourite variety here, being early and richly coloured, though the stalks are small. The white variety of the *Jerusalem Artichoke* is more highly esteemed than the common one. A collection of *Strawberries* included *Royal Sovereign*, *W. E. Gladstone*, *St. Joseph*, and *Richard Gilbert*. The latter is the best of Mr. Wm. Carmichael's seedlings, on account of the short foliage, firm fruit and rich flavour.

SOCIETIES.

HARROW AND ROXETH ALLOTMENT HOLDERS' SHOW—September 26th.

THE allotment holders of Harrow and Roxeth have an annual show where the merits of their various products are proved in competition. This year the society held its exhibition in the Mission House, West Street, Harrow, and the show was said to be the best on record. This, after such a season, is an encouraging thing. Along with the competitive exhibits there were a number of groups and tables, &c., sent for inspection; these, of course, helped the effect of the show. One of the best of these was sent by Mr. David Page, gardener to F. E. Marshall, Esq., and consisted of a handsome collection of vegetables very neatly arranged. There were no less than nineteen kinds put up. Mr. James Smith, the secretary of the society, was not behind Mr. D. Page, for he also put up a non-competitive group of vegetables, with one more dish than the former had. Mr. C. Long exhibited some gourds. The weight of one which Mr. Bristow staged was 62 lbs., which, it will be admitted, is a large quantity of matter for the roots to draw up and store in a fruit like this. The judges were Mr. D. Cooper, gardener to Sir E. Montague

Nelson, Hanger Hill House, Ealing; and Mr. Edwards, of Oakhurst Gardens, Ealing. It is very satisfactory to state that the judging pleased the committee.

Competition ruled keenly in some of the classes, and it seems advisable that a few of the better patronised classes should be thrown open to other allotment holders in the surrounding districts. The interest would certainly be furthered and the enthusiastic cultivation would be more intense. The society continues to flourish and we hope to hear of its having recourse to a larger hall for its exhibition in the near future. Mr. Bosworth Smith made a most interesting speech after his wife had distributed the prizes to the winners in the evening. In the class for a collection of vegetables the number and kinds

for Harrow growers only, were: Messrs. J. Silk, Mascord, King, Ward, Ball, Hooper, Pawle, Graham, Stiles, Franklin, and others. In the division open only to Roxeth growers, such names as Messrs. H. Bristow, W. Tompkins, G. Harding, F. Gurney, G. Warren, F. Moore, A. Rance, A. Ridgeway, and others were mostly in prominence. At the close of the show cheers were given for Mr. and Mrs. Bosworth Smith, Mr. and Mrs. Marshall and Mr. James Smith (hon. sec.)

ROYAL HORTICULTURAL.—October 10th.

THE principal features of the meeting at the Drill Hall on Tuesday last were *Chrysanthemums*, *Michaelmas Daisies*, *Ferns*, autumn foliage of hardy trees and shrubs. Large collections of Apples and



GUNNERA SCRABRA. (See p. 105.)

to be at the exhibitor's own option, the first prize was won by Mr. G. Smith; second, Mr. G. Warren; and third, Mr. A. Rance. Mr. S. King and Mr. G. Mascord were first and second respectively, for three dishes of *Potatoes*. A competition for nine *Onions*, brought the prize list out as, first, Mr. H. Bristow; second, Mr. A. Rance; and third, Mr. G. Warren.

For twenty-five *Brussel Sprouts*, Messrs. Mascord, W. Piper, and A. Franklin stood in this order. Special prizes were given by F. E. Marshall, Esq., for the best kept and cropped allotment, and here Mr. G. Mascord was the lucky competitor; Mr. G. Smith and Mr. A. Franklin were equal; with Mr. G. Hooper and Mr. G. Ball as third and fourth winners. The names of the principal winners in the division

Pears were also a very prominent feature on the tables.

Orchids were not very plentiful on this occasion. A small group of them was set up by J. Bradshaw, Esq. (gardener, Mr. H. Whiffen), The Grange, Southgate, N. He had a grandly flowered plant of *Cattleya Mantinii nobilior*, bearing fourteen large flowers on two scapes; also *C. Maronii*, *C. labiata*, *Odontoglossum crispum* in fine varieties, and *Cynoches chlorochilum*.

An interesting group of *Stenoglottis longifolia*, with a plant of *Bulbophyllum grandiflorum*, was staged by Messrs. F. Sander & Co., St. Albans. All the plants of the former were in fine condition.

Messrs. Hugh Low & Co., Bush Hill Park,

Enfield, staged a fine piece of *Cymbidium traceyanum*, bearing eight large flowers. They also staged *Cypripedium Olivla*, *Cattleya gaskelliana alba*, *Laelia pumila magnifica*, and *Cattleya Mantinii nobilior*.

Messrs. James Veitch & Sons, Ltd., Chelsea, exhibited *Cattleya Minerva*, a very pretty hybrid between *C. bowringiana* (female) and *C. Loddigesii* (male), the lip showing the union wonderfully. De B. Crawshaw, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, exhibited *Cattleya hardyana* Crawshaw's var. and *Laelia pumila* Lionel Crawshaw. H. T. Pitt, Esq. (gardener, Mr. F. W. Thorougood), Rosslyn, Stamford Hill, exhibited *Odontoglossum grande pitteanum*, *Bulbophyllum grandiflorum*, and *Saccolabium Calceolus*. Henry Little, Esq., Baronshalt, The Barons, East Twickenham, staged *Cattleya schofieldiana*, *C. Mantinii nobilior*, and *C. aurea* Little's var. Mr. W. Stevens, Walton Grange Gardens, Stone, Staffs., exhibited *Odontoglossum crispum* *Daphne* and *O. c. Katae*, both very richly blotched; also *O. c. Queen Empress*, a silvery-rose and very pretty variety. Fred Hardy, Esq. (gardener, Mr. Thos. Stafford), Tyntesfield, Ashton-on-Mersey, showed *Sophrocattleya George Hardy* and *Laelia Euterpe* Tyntesfield var.

F. A. Bevan, Esq. (gardener, Mr. W. H. Lees), Trent Park, New Barnet, staged a very large and most interesting collection of Michaelmas Daisies for which he received a Silver Gilt Flora Medal. He also had some certificates. Very fine were the varieties of *Aster Amellus*, *A. Novae-Angliae*, *A. Novi-Belgii*, *A. N.-B. densus* and various others. They were set up in large bunches, the tall ones occupying the back row and the dwarfer ones the front.

Messrs. Wm. Cutbush & Son, Highgate, London, N., set up a table of stove and greenhouse plants, including clumps or small groups of *Nerine Fothergill* major, *Erica gracilis*, *E. caffra*, *Carnation The Gilt* and *Lady Ulrica*, the latter a new scarlet *Malmaison* var. The *Otaheite Orange* was also in groups surrounded with *Aralia Veitchii*, *Palms*, *Carex*, &c. (Silver Banksian Medal)

Mr H. B. May, Dyson's Lane Nurseries, Upper Edmonton, had an attractive table of *Salvia splendens grandiflora* and *Bouvardias* set up in little groups and surrounded by *Maidenhair* and other Ferns. The scarlet *Salvias* made a fine contrast to the white *Bouvardias*. (Silver Banksian Medal)

Messrs. Hugh Low & Co., staged a small group of *Statice profusa*, in 48-size pots, in fine condition and profusely flowered.

Messrs. W. Wells & Co., Earlswood Nursery, Redhill, set up a large group of *Chrysanthemums*, including the large Japanese types, early flowering and pompon varieties. Large and handsome blooms of H. R. Pearson, Mdme. C. Bruant, Emily Towers, Rayonnant, Sir J. W. Clarke, Lady Phillips, Kathleen Rogers, Miss Lili Boutroy, and others were set up at intervals amongst the large bunches of other types. For cut flower purposes very handsome and distinct are Sam Barlow, salmon-pink; Ambrose Thomas, red; Mrs. Hawkins Improved, bright yellow; Mdme. E. Lefort, bronzy-gold and pretty; Nellie Brown, rich orange; the yellow pompon *Fiberta*, &c. (Silver Gilt Banksian Medal)

Messrs. Paul & Son, Cheshunt, exhibited a table of *Roses*, cut from the open, the Tea, hybrid Tea and China *Roses* being fresh and attractive for this season of the year. They also had shoots bearing fruits and also to show the autumn tints which the foliage of many *Roses* assumes. (Silver Flora Medal)

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, London, S.E., had a large group of trees and shrubs suitable for London planting. Amongst them we noted *Yews*, *Hollies*, *Olearia Haastii*, *Portugal Laurels*, *Ivies*, *Yuccas*, *Abies nordmanniana*, *Cotoneaster Simonsii*, *Euonymus latifolius aureus*, *E. l. albus*, *Golden Privet*, and a great variety of other subjects indispensable for garden decoration. (Silver Banksian Medal)

Messrs. Barr & Sons, 12 and 13, King Street, Covent Garden, staged a large group of hardy herbaceous plants, including a great variety of the leading and most showy or useful of the Michaelmas Daisies. They also had fine heads of the apricot-coloured *Kniphofia Triumph*, *K. Star of Baden*, *K. Leichtlinii aurea*, *K. corallina superba*, *K. hybrida nana remontant*, and several other of the Red Hot Poker plants. They also showed autumn-

flowering *Cyclamen*, *Crocus speciosus*, *Caryopteris Mastacanthus*, and many others.

Messrs. James Veitch & Sons, Ltd., staged a large group or collection of ornamental trees and shrubs to show the varied and beautiful autumn tints they assume. Rich and beautiful bronzy tints were characteristic of *Vitis vinifera purpurea*, *Oxydendron arboreum*, *Acer japonicum laciniatum*, *Kolreuteria japonica*, *Berberis Thunbergii*, *Euonymus amurensis*, *Ampelopsis tricuspidata*, &c. They also had a stand of hybrid Javan *Rhododendrons*, and a group of Japanese *Chrysanthemums*, having large blooms in fine form for this early period of the year. Louise, Mdme. Gustave Henry, Emily Silsbury, and Reginald Godfrey were particularly noticeable. (Silver Flora Medal)

Messrs. F. Sander & Co. staged a group of *Draecena sanderiana viridis*.

F. A. Bevan, Esq. (gardener, Mr. W. H. Lees), New Barnet, sent a collection of Apples, including such fine varieties as Peasgood's Nonsuch, large and beautiful; Worcester Pearmain, Mère de Ménage, Cox's Orange Pippin, Beauty of Kent, Fearn's Pippin, King of Tomkins County, and others. Coloured foliage was laid between the dishes. (Silver Knightian Medal)

Martin R. Smith, Esq. (gardener, Mr. Charles Blick), Hayes, Kent, proved his worth as a fruit grower for a collection of Pears sent up by him was remarkably fine, large, smooth, well coloured, &c. His *Beurré Superfin*, *Pitmaston Duchess*, *Marguerite Marillat*, *Souvenir du Congrès* among others were splendid. (Silver Gilt Knightian Medal)

J. Key-Allen, Esq., Bittern Park, Southampton, showed a small but fine collection of Apples, especially as the grower is an amateur. (Bronze Banksian Medal)

R. Leigh, Esq. (gardener, Mr. Woodward), Barnham Court, Maidstone, covered a large space of tabling with a very fine collection of Apples and Pears. The fruits were individually fine, even superior, and proved that after all the bad weather Mr. Woodward is able to produce good fruits. (Silver Banksian Medal)

S. A. Sewell, Esq., Maplestead, Buckhurst Hill, Essex, exhibited some fine fruits of Apples and Pears. Amongst the former were large samples of *Striped Beefing* and *Lord Suffield*. The Pears included *Uvedale's St. Germain*, handsomely coloured; *King Edward*, and clean fruits of *Zéphirin Grégoire*.

NATIONAL CHRYSANTHEMUM.—

October 10th, 11th and 12th.

THE annual show of early flowering *Chrysanthemums* has again to be recorded under the management of the National *Chrysanthemum* Society. The show was held on Tuesday, Wednesday and Thursday, October 10th, 11th and 12th, respectively, at the Royal Aquarium, Westminster. On the whole it was a good show and the visitors there found plenty of variety and much that was of merit. Along with the *Chrysanthemum* classes there was a competition for the Deverill prizes for vegetables and splendid produce was put up. The miscellaneous groups as usual were numerous and good.

COMPETITIVE EXHIBITS.—OPEN CLASSES.—For a group of *Chrysanthemums* and foliaged plants arranged for effect, to fill a space of 72 superficial feet, the whole to be grown by the exhibitor and shown in the pots they are grown, Mr. J. Spink, Summit Road Nursery, Walthamstow, came first, thus winning £5. The blooms were simply magnificent especially those of Mr. C. Harman Payne, W. H. Lees and others. The effect of *Eulalia*, of sorts, interspersed among the plants was very fine. Sir Henry Tate, Bart. (gardener, Mr. W. Howe), Park Hill, Streatham Common, S.W., was second with a denser group in which foliage plants predominated. H. E. Fry, Esq. (gardener, Mr. H. E. Dove), Bickley Hall, Bickley, Kent, came third and had a very select and beautiful group of dwarf single-stemmed *Chrysanthemums*, &c.

CUT FLOWERS.—The competition for twenty-four blooms of Japanese, not less than eighteen distinct varieties, and not more than two blooms of each, brought out some capital samples. The first prize fell to W. T. Newman, Esq., Totteridge Park, Herts. (gardener, Mr. James Brookes). The blooms were remarkably even, of large size, good substance and brilliance. Particularly fine were the samples

of Mrs. W. Lees, Mdme. M. Ricoud, Mdme. L. Brosilion, Oceana, Mr. T. Brewer, Werther, Mrs. C. H. Payne and *Soleil d'Octobre*. The second prize fell to T. D. Lambert, Esq., J.P. (gardener, Mr. J. Trelford), Moor Hall, Cookham, Berks., whose blooms were behind in brilliance. Mrs. J. Lewis, Louise, Edith Tabor, Modesto, Belle Mauve, Queen of Portugal, and others were particularly fine. Arthur Pearson, Esq. (gardener, Mr. W. T. Prewett), Frensham Place, Farnham, Surrey, came third. His blooms were very fair, but at the same time much behind the other two stands. The best here were Emily Silsbury, Le Grand Dragon, Jane Molyneux, and M. Massange de Louvret.

For twelve blooms of Japanese, distinct, the first prize fell to A. Von André, Esq. (gardener, Mr. M. Gleeson), Warren House Gardens, Stanmore, N.W., and here every bloom was a model of perfection. Ella Curtis, Mrs. Weeks, Henry Weeks, Mdme. Bernard, Eltham Beauty, Simplicity, Joseph Brook, Australia, Mutual Friend, were marvellously fine. W. T. Newman, Esq. (gardener, Mr. Brookes), was here a good second, having fine blooms of *Soleil d'Octobre*, Mrs. W. H. Lees, Mdme. L. Brosilion, Oceana, Mdme. Ricoud, and *Pride of Exeter*. The third prize went to Mr. C. Cox, Brickendon Grange, Hertford, whose Mdme. Ricoud, Graphic, Pres. Nonin, Phoebus, and E. Molyneux, were very nice. An extra prize went to C. C. Strachan, Esq., Gaddesden Place, Hemel Hempstead, Herts., whose stand was a most creditable one.

For six blooms of Japanese, distinct, Geo. Wilder, Esq. (gardener, Mr. W. Meredith), Stanstead Park, Emsworth, Surrey, was awarded first prize, the best blooms being Oceana, Edith Tabor, Mrs. D. Dewar, and Australia.

For six blooms of Japanese, one variety, S. Smith, Esq., Werndee Hall, South Norwood, who showed Australia in fine style. Mrs. Harmsworth (gardener, Mr. H. Paton), Poytners Hall, Totteridge, Herts., came second with Mdme. Gustave Henry. A. L. Reynolds, Esq., Moss Hall Grove, Finchley, was a close third with Phcebus.

For six blooms of incurved, not less than three varieties, C. A. Smith-Ryland, Esq., Barford Hill, Warwick, was first. The blooms were small, and none too perfect, Lord Coleridge being best. Mrs. Lawrence, Elsfeld House, Hollingbourne, Kent, came second with only fair samples.

For twelve bunches of pompons, not less than six varieties, with *Chrysanthemum* foliage, the only exhibitor was T. Boney, Esq., Southwood House, Highgate, N., whose stand, however, was very fine.

The same gentleman won for a vase of pompon blooms, and really the arrangement and colouring used was very rich and fine. R. Neveson, Esq., Hendon, came second with a more naked vase, but which was yet very tasty. W. Howard, Leavesden Cottage, Weybridge, was third.

In Class XXI., for three epergnes (amateurs), Miss C. B. Cole, The Vineyard, Feltham, was the deserving winner. Mrs. W. Green, Junr., Florist, Harold Wood, Essex, made a capital second, while Mr. A. Meriden, 308, Southampton Street, Camberwell, S.E., was third.

AMATEURS' CLASSES.

The first prize for twelve blooms of Japanese, distinct, fell to S. Smith, Esq. (gardener, Mr. R. Gladwell), Werndee Hall, whose dozen were equal to almost any other in the show; second, C. W. Richardson, Herts.; A. L. Reynolds, Esq., Ravencroft, was third.

DIVISION B.—For twelve blooms, distinct. W. G. Prudden, Esq., York Road, Hitchin, Herts, was first, followed by Mr. Martin Salisbury, Providence, Shanklin, Isle of Wight, both of whose stands were of superior merit.

For six blooms of Japanese, S. Smith, Esq., South Norwood, stood first, followed by C. W. Richardson, Esq., Sawbridgeworth, Herts., and T. Boney, Esq., Southwood Lane, Highgate.

OPEN CLASSES.—The first prize for a vase of *Chrysanthemums* fell to Miss Easterbrook, The Briars, Fawkham, Kent, whose arrangement was superb; S. Hardy, Esq., Cholmeley Lodge, Highgate, N., made a good second; and R. Neveson, Esq., third.

MISCELLANEOUS EXHIBITS.

Messrs. H. Deverill, Banbury, put up a large and select list of cut herbaceous blooms. Asters, of course, and early *Chrysanthemums* were the

chief features, and these in all their variety were very select. (Small Silver Medal.)

Messrs. Hawes, 4, Glaskin Villas, Lea Bridge Road, Clapton, N.E., made a fine representation of various sizes of watering cans in all makes, and to suit all requirements, small cans for table work, large and strong ones for heavy watering.

Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, staged a fine table of Apples in baskets. We need not here individualise. The whole collection was very fine, displaying careful treatment and selection. (Silver Gilt Medal.)

Mr. W. T. Prewett, Frensham Place, Farnham, Surrey, had a splendid and tastefully arranged table of Pears and Apples; of the latter the Peasgood Nonsuch, and the Pear Souvenir du Congrès, were extra choice.

Messrs. John Laing & Sons, Forest Hill and Catford, arranged a table of Apples; Pears, Nuts, and other fruits whose finished effect with the fruiting trees of Pear and Orange, the numerous and tasty interspersions of foliage and flowering plants made it one of the chief features of the show. The central arrangement presented sloping sides of variously bright-coloured Apples, with three rising dishes, with Apples also, and hung around with sprays of Crataegus Pyracantha; and the Currant Tomato greatly set off the collection, of which it may be said no finer fruits were to be seen. Messrs. Laing & Sons had also a much admired group of clipped trees and shrubs exhibiting the topiary art to great perfection. The forms of crosses, standards with bowls, columns, screws, and representations of animals and birds were among the subjects shown. (Gold Medal.)

Messrs. Dobbie & Co., Florists to the Queen, Rothesay, staged in their usual tasteful manner a beautiful, varied, and brilliant selection of early-blooming Chrysanthemums, cut Dahlias, and a few other seasonable plants. Among pretty and graceful Chrysanthemums, Mdme. Zepher Linnet, Edith Lyratt, Martinmas, Flora, Crimson Marie Masse (bronze would be better), and Bronze Blushing Bride were models of all that is most lovely in the flower realm. (Silver Gilt Medal.)

Messrs. M. Hodgkins & Co., 5, Beaufort Avenue, West Didsbury, Manchester, had a most interesting stand of framed skeleton-leaf arrangements which created considerable interest.

Mr. J. Williams, 4A, Oxford Road, Ealing, W., came out very strongly in an exhibition of his table decorations, having massive centre pieces, and lesser side stands of all description. These were filled with seasonable flowers. (Highly Commended.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., always takes great pains to put up a finished group or arrangement of plants, be they what they may. He here once again showed very great skill, care, and taste. The arrangement was that of three semi-circular convex groups. The central of these was composed of strongly-flowered Chrysanthemums in pots; on the left were beautifully-coloured Crotons, while on the right were specimen Dracaenas, Cocos, and Kentias, together with handsome foliage plants, and a grouping of Maidenhair Ferns here and there mounded as effect required it, composed a group unique in its beauty and quality. Large uniform plants of Sempervivum tabulaeforme and Panicum formed a smart edge, while Bamboos and Palms banked up the background. (Gold Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, were to the front once again with their semi-circular and prominent group of superior Cannas of which they hold the most superior strain at present grown. The varieties Amie Pichon, Queen Charlotte, F. R. Pearson, Conquerant and Pierson & Co. were marvellously bright and large, and this too, in 4½-in. pots. (Silver Gilt Medal.)

Mr. S. Mortimer, Rowledge, Farnham, Surrey, made a bright display with a wondrously fine show of fancy and Cactus Dahlias. The latter were arranged in bunches, while the former were well displayed on show boards. It is wonderful to see such fine blooms at this time of year. (Silver Gilt Medal.)

Messrs. R. & G. Cuthbert, Southgate, N., set up a decorative group of the new Mrs. Wingfield early flowering Chrysanthemum. The variety is of the decorative section with gracefully pendant petals, the colour being varied from soft peach to deep pink.

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, London, set up an immense

quantity of cactus Dahlia blooms, but these are about the last for the season, frost having come like a thief in the night and blackened the plants. The blooms were perfect, and show the best types capable in this plant. Asters were also a strong feature, and the whole arrangement was relieved by long arching sprays of Eulalia. (Silver Medal.)

The Ichthemio Guano Company, as is usual at Aquarium shows, had a very large and representative stand of their sample tins of manure, in all sizes. The arrangement followed the usual plan of a cone in tiers graced with pot flowering plants, and draped beneath with a purple cloth.

Messrs. W. Cutbush & Son, Highgate, N., showed also what they could do in the production of high class hardy fruits. The bright colouring of the Apples and Pears was quite a remarkable feature, and just adds to the impressions received of bright fruit at the Crystal Palace. High quality was the description in all the dishes of the Messrs. Cutbush's stand. (Silver Gilt Medal.)

Mr. Eric. F. Such, The Royal Nurseries, Maidenhead, Berks., had a large assortment of cut Chrysanthemum blooms, all fresh and good. (Small Silver Medal.)

Messrs. Lawes' Guano Company displayed a numerous collection of the sample tins of guano.

SPECIAL VEGETABLE COMPETITION.

Prizes from Mr. H. Deverill, Banbury.

For a collection of eight kinds of vegetables Mr. Edwin Beckett, gardener to Lord Aldenham, Elstree, was an easy first, and it must suffice to say that everything shown was of the finest. Mr. R. Lye, gardener to Mr. Kingsmill, Sydmonton Court, Newbury, was a good second, having a fine selection of Cauliflowers among other things.

The third prize went to Mr. Wm. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury; and fourth Mr. T. Bowerman, gardener to C. H. Hoare, Esq., Hackwood Park, Basingstoke. For six Deverill's Oxonian Leek, Mr. T. Bowerman was first winner; Mr. R. Lye, second; Mr. E. Beckett, third. Mr. E. Beckett was the winner for Celery, having Aylesbury Prize Red. Mr. T. Bowerman, second, and Mr. John Masterson, Wexton House, Shipston-on-Stour, third. For twelve Ailsa Craig Onions the first award fell to Mr. T. Bowerman, who showed splendid samples. Mr. Clayworthy, Sefton Park, Devon, was second, and Mr. W. Pope, third. For six largest Ailsa Craig, or Deverill's Coconut Onions, Mr. J. Bowerman again was the winner.

For six of Deverill's Pedigree Onion, The Autocrat, Mr. G. Masterson was first, followed by Mr. W. Pope, Mr. H. Blunt, Ashdover, Kent; and Mr. W. Maybury, from the same part. For twelve specimens of Deverill Improved Hollow-crowned Parsnips, Mr. E. Beckett was first winner and Mr. W. Pope, second.

Mr. R. Lye won for twelve of Deverill's Middleton Park Beet, Mr. W. Pope was second.

Mr. John Masterson was first for Exhibition Scarlet Intermediate Carrot, and Mr. Pope, second.

Mr. R. J. Thornton, Tyson, Kineton, Warwick, won for the collection of vegetables in the section open only to amateurs and cottagers; Messrs. E. & H. Wells, Tysoe, were second.

OBITUARY.

MR. PETER WHITTON.

WE very much regret announcing the death of Mr. Peter Whitton, in his 39th year, by drowning in the River Teetsa, Darjeeling, India, during the terrible earthquake and torrential downpour of rain, which occurred on the 25th ult. He was crossing the greatly swollen river in a boat along with two other Europeans and six natives, when the boat was swamped and all were drowned, with the exception of one of the boatmen, who was picked up 14 miles down the river. About 1,000 acres of Tea plantations were destroyed at Jalapanar, owing to the rain and landslips.

Mr. Peter Whitton is a brother of Mr. John Whitton, Simla Cottage, Craigie, Perth, and of Mr. James Whitton, superintendent of the Glasgow parks and gardens. He was born on the Methven Castle estate, Perthshire, where his father was gardener for nearly 50 years. He began his career as a teacher, but gave up this occupation for the profession of gardening, serving his apprenticeship at Glamis Castle, Forfarshire. After the completion of this

engagement he went for a short time to Whittinghame House, East Lothian, the seat of the Right Hon. Arthur J. Balfour.

Being energetic, and always on the outlook for means of bettering himself, he obtained an appointment about fifteen years ago in the service of Messrs. Finlay, Muir & Company, of Glasgow, on their Tea plantations in India. He travelled over a considerable portion of India, laying out the ground and making new plantations for the firm, and was so successful that his services were highly appreciated. About seven years ago he was appointed chief superintendent over all their estates, and this was his occupation at the time of his lamented and untimely end. The title of the firm was otherwise known as the Consolidated Tea and Lands Company, of which Mr. John Muir is chairman.

About four years ago Mr. Whitton married Miss Graham, the daughter of a farmer at Kildenny, Forteviot, Perthshire, by whom he is survived, but no family of the marriage are alive. Last year he paid a visit to this country and his friends, living with his brother John, at Perth, during his stay. The latter read a short account of the earthquake and storm in the *Evening Telegraph*, thus learning that an accident had occurred. He was also the first recipient of a wire, confirming the melancholy news of his brother's untimely end. According to his last letter to his brother James, at Glasgow, the deceased was in fine spirits, and full of hope for the future. His relations and numerous friends deplore the death of so successful and promising a young man.

GARDENING MISCELLANY.

TOMATO GOLDEN NUGGET.

I ALWAYS grow a few plants of this capital salad variety. Half a dozen plants in a border, either between the Peach trees of a fruit house or in pots, frames, or such places where shelter and suitable growing conditions can be secured is a suitable place for it. The one point to watch is not to over pot the young plants. They must not be starved, but under moderate culture they fruit freely, and have a capital flavour as well. As above noted, the use we put it to is as a salad vegetable. For one o'clock lunch along with Radishes, Mustard and Cress, and other flavour-some condiments this small yellow fruiting variety is very serviceable.—*J. Harris.*

KNIPHOFIA PFITZERI.

ALL the Kniphofias (Tritomas) are handsome plants and make fine subjects for the herbaceous border or for beds massed in large quantities out in pleasure gardens. It is expedient to give the roots some slight protection during winter. They do best when they get a good start; for this we must take every care when planting. A deep good soil for the crowns and a mulch of either dung or leaf mould are necessary to success. K. Pfitzeri bears noble spikes of bright orange-scarlet. It received an Award of Merit in 1895 from the Floral Committee of the R.H.S.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Seeds of Plant to Name.—*Sigma*: The fruits or so called seeds sent us agree entirely with those of Scabiosa Columbaria; but leaves should have been sent with the specimens in order to make sure of the species. If the plant is a wild one then the above name is absolutely correct.

Dwarf Oenothera biennis.—*Sigma*: As far as we know or have observed there is no strain of the Evening Primrose so dwarf as that you mention. The specimen you have may be accidental and the character not fixed; but to prove this you should save the seeds and grow all the seedlings by way of experiment next year. Whether it would prove popular or not would depend entirely upon the beauty and attractiveness of the flowers and plants com-

bined. If the dwarf strain proves constant, and the seedlings or plants are really ornamental, they would soon find admirers and cultivators. On the other hand they might be merely of botanical interest. In any case it would be interesting to probe the matter to the bottom.

Beetle on Poplar.—*J. McDonald*: The beetle you sent us was *Phratora vulgatissima*, known also as *Phratora Vitellinae*. There is a group of allied beetles, and sometimes they are all grouped under the genus *Phaedon*, so that yours would be *Phaedon vulgatissimus*. As far as we know this species confines itself to Poplars, Willows and one or two other timber trees, so that you need not fear attack upon Apple or other fruit trees. Probably you think the disfigurement of the Poplars sufficient for you to wish the beetles elsewhere. They have the habit of gathering in their legs and dropping to the ground as if dead when alarmed. They can fly, however, but you might spread a sheet under the trees during the early morning, then get a long cane or light rod with which to shake the branches and make the beetles drop. You could then gather and destroy them before they escape. This will save attack next year in proportion as you capture the beetles.

Temperature on the Grass.—*Omega*: The air is denser at the ground level than above it; and this is much more evident at the bottom of a valley than on the top of the neighbouring hill or mountain. What is equally or more to the point is that radiation is going on more actively at the earth's surface than at 3 ft. or more above it. By radiation we mean that the heat of the earth is being radiated or given off from its surface into space; and where the air is densest this radiation is the keener. The fact of the heat being given off rapidly at the earth's surface causes a corresponding fall of the temperature, so that we have the phenomenon of dew owing to the condensation of watery vapour; or we have frost if the temperature falls sufficiently low.

Best Time to Plant French Ranunculus.—*Omega*: We take it for granted that you mean some strain of the Common Garden Ranunculus (*R. asiaticus*). There are the Turkey Ranunculus and the Persian Ranunculus, both being strains of that already mentioned. If this is what you mean, then about the end of February is the best time to plant the tubers. Select a time when the soil is fairly dry and in workable condition, as it will be more favourable to the tubers if not puddled. The beds should be prepared before hand, commencing now or as soon as you can. If the soil is heavy and unfavourable take it out to the depth of 1½ ft. to 2 ft., replacing it with a compost of two parts good, friable loam, one part of leaf soil and well decayed cow dung. Add sufficient sharp silver sand or river sand to make the whole porous. Be sure that the drainage is good, then thoroughly mix the compost and fill the beds with it. By planting time it will have settled to make it firm or solid enough.

Names of Plants.—*W. M.*: Not a Crocus, but *Colchicum speciosum*, the largest flowering species we have.—*R. M.*: 1, *Crataegus coccinea*; 2, *Pyrus Maulei*; 3, *Pyrus Aria*.—*W. D.*: 1, *Physalis Alkekengi*; 2, *Salvia splendens*; 3, *Salvia azurea*; 4, *Primula floribunda*; 5, *Pernettya mucronata*.—*J. W.*: 1, *Hippeastrum aulicum*; 2, *Ophiopogon Jaburan variegatus*; 3, *Pteris longifolia*; 4, *Odontoglossum grande*; 5, *Cattleya dowiana aurea*; 6, *Oncidium incurvum*.—*A. J. C.*: 1, *Aster cordifolius*; 2, *Aster ericoides*; 3, *Senecio pulcher*; 4, *Colchicum autumnale*; 5, *Crocus speciosus*.—*A. M.*: 1, *Chrysanthemum uliginosum*; 2, *Chrysanthemum segetum*; 3, *Veronica longifolia subsessilis*.—*Omega*: The material sent is not sufficient to identify the Sunflower (*Helianthus*); you should send leaves as well as flowers. The shrub is the Golden Broad-leaved Privet (*Ligustrum ovalifolium aureum*).

Name of Fruit.—*J. G. Hardham*: A highly coloured specimen of Apple Hollandbury.

Communications Received.—*Gyp*—*J. Mayne*.—*J. Kemp King*.—*A. E. S.*—*Todd & Co.*—*J. G.*—*W. M.*—*A. J.*—*R. M.*—*Cedo*.—*J. S.*—*A. L.*—*P. F. C.*—*T. H.*

TRADE CATALOGUES RECEIVED.

H. CANNELL & SONS, Swanley, Kent.—Autumn Catalogue—a Valuable Book of Reference in Horticulture.

C. PLATZ & SON, Erfurt, Germany.—Novelties for 1900 of Flower and Vegetable Seeds.

FREDK. W. KELSEY, 150, Broadway, New York.—Choice Hardy Trees, Shrubs, Bulbs, and Plants for Autumn Planting.

ANT. ROOZEN & SON, Overveen, near Haarlem, Holland.—Catalogue of Choice Dutch and Cape Bulbs, &c.

FREDERICK ROEMER, Quedlinburg, Germany.—Novelties in Flower Seeds for 1900.

W. ATLEE BURFEE & Co., Philadelphia, U.S.A.—Burpee's Sweet Peas for 1900. Preliminary Wholesale Prices; also of Vegetable Seeds.

F. C. HEINEMANN, Erfurt, Germany.—Special Trade Offer of Novelties and Specialties.

OTTO PUTZ, Erfurt, Germany.—Flower Seed Novelties of my own raising for 1899-1900.

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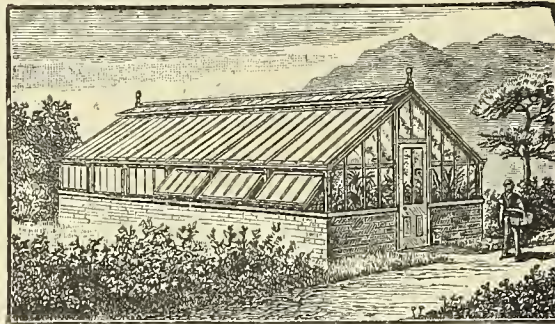
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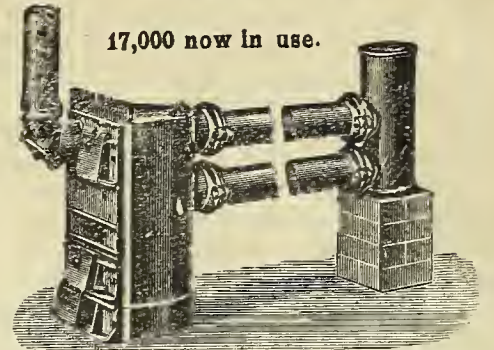
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SATURDAY, OCTOBER 21st, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, October 23rd.—Sales of Dutch Bulbs by Mr. J. C. Stevens, and Messrs. Protheroe and Morris.

TUESDAY, October 24th.—R.H.S. meeting at Drill Hall. Sale of Dutch Bulbs by Messrs. Protheroe and Morris. Sale of Nursery Stock at Milford, near Godalming, by Messrs. Mellersh (3 days).

WEDNESDAY, October 25th.—Sales of Dutch Bulbs and Plants by Mr. J. C. Stevens, and of Dutch Bulbs by Messrs. Protheroe & Morris.

THURSDAY, October 26th.—Sales of Dutch Bulbs by Mr. J. C. Stevens, and Messrs. Protheroe & Morris. Sale of Stock at Hollamby's Nurseries by Messrs. Protheroe & Morris (2 days).

FRIDAY, October 27th.—Sales of Dutch Bulbs by Messrs. Protheroe & Morris.

EFFECT OF SALT WATER ON LAND.—It

may be remembered that we gave a short account of the flooding of low-lying land on the coast of Essex by an exceptionally high tide, which occurred on the 29th November, 1897. This, of course, extended to the highest reaches of tidal rivers on the East Coast of England; but though the extraordinary tide made itself felt even above Kew, it did no material damage in the upper reaches of the Thames owing to the canalisation of the river, for which we have to thank our Saxon ancestors, possibly also the Romans. A great portion of the Essex coast bordering on the sea, and also

the Thames, was under water for longer or shorter periods, owing to the North Sea overflowing the banks, and even breaking down the sea wall in places where the land had been reclaimed from its influence in bygone times. The total area of Essex flooded by salt water was approximately 29,540 acres, which were under cultivation, or lying in pasture. Owing to the difficulty attendant upon repairing the breaches of the sea walls, many hundreds of acres are still overflowed at each succeeding tide.

The damage done to existing crops was very great, independently of the more or less permanent injury to the land. Peas and tares were killed in nearly every case; and wheat was also killed where it was under water for several days; pasture grasses did not appear to have suffered till active growth should have commenced next spring, when all the more delicate and useful grasses died off. Only one crop inundated is recorded to have been worth harvesting. The North Sea water contains 2.7 per cent. of chloride of sodium (common salt) and about 0.5 per cent. of other salts and sulphates. These salts caused the injury to the roots, by producing plasmolysis of the root hairs and finer roots, so that they could no longer sustain the plants. In order to ascertain the amount of the salt and its effect upon the land, samples were taken during January, 1898, and subjected to analysis. A report has been drawn up by Messrs. T. S. Dymond, F.I.C., and F. Hughes, of the Technical Laboratories, Chelmsford, and the substance of their report was laid before the British Association, at Dover, in September last. It is satisfactory to note that the percentage of salt still in the soil was much less for this year than for 1898. In the case of Northey Island, however, there are at least two exceptions, in one of which the soil contained more salt than last year. This does not appear to be explained; but we can understand the second case inasmuch as the salt was in the subsoil, and gradually being washed below reach of the roots of plants in the natural course of drainage and washing by rain. In the same island a portion of land was flooded daily for 12 months till it contained a deposit of 1.054 per cent. of salt in 1898, but during the present year this had been reduced to 0.626. Nature will, therefore, right the matter presently by rain and drainage. Apropos of this point, we may mention the fact that the salt water killed the worms, which lay dead on the surface, where they were devoured by gulls. This in itself would delay the process of the purification of the land by drainage, making the matter more serious than it otherwise would have been. After a period of nearly two years, the report says that young worms are again appearing upon the land. Where they came from, or how, does not seem to have been the object of inquiry, though we mooted the re-sowing of the land with worms soon after the occurrence of the salt water flood. The effect of the salt upon the condition of the land was just what might have been expected. At St. Osyth, while the soil was still fairly moist it was easily turned over by the plough; and being in fact in a soapy condition, the plough cut through it as if cutting cheese; but in dry weather it became hard and cindery. The soil consisted of a heavy clay overlying a subsoil of London clay and suffered flooding for a fortnight. Water took twice as long to percolate through soil impregnated with salt, as it did through that which had not been inundated.

The experiments made to determine what, if any, chemical changes had been effected in the land overwhelmed with salt water, are also interesting. After the removal of the salt from the samples under

treatment, analysis showed that the deficiency of lime, magnesia, potash, and soda, was one-fifth compared with that in clay from unflooded land. The double silicates of alumina had been destroyed to some extent by the salt water, so that the mechanical condition of the soil had thereby been impaired. An improvement has been effected, however, on some portions of the flooded land by applications or dressings of lime, whereby the double silicates are reproduced, thus causing the soil to revert more or less to its former granular condition. The elimination of lime by the salt water was to a great extent the cause of the bad condition of the soil; while the deposit of salt naturally held an excess of water, retarding the speedy and natural drainage of the land. The application of lime produces amelioration of the land more quickly than more inert forms of the same material, such as chalk or shells. The aeration of the clay land by good tilth, and the ploughing in of spoilt hay or clean straw, are also advocated by the writers of the report. Rapid drainage is also being advocated for the elimination of salt, for it can be carried away in the drainage much more quickly than it can be absorbed and removed by any kind of crop, Mangolds not excepted. By experiment in the Laboratory it was proved that 1½ ins. of rain water allowed to filter through six inches of the flooded soil, was effective in removing almost every trace of salt. It is reckoned that a reasonably heavy rainfall during the coming winter will be sufficient to remove the remaining salt from the land that was flooded, provided that the drains are kept open and the water run off as it collects in the dykes inside the sea walls. If not carried away during winter, it must be remembered that the salt in the soil will be borne upwards again towards the surface by evaporation during warm and dry weather in summer. The Essex farmers should, therefore, profit by the hint while conditions are in their favour for the elimination of the salt still remaining in their soils. While the soil has been impoverished in certain respects, it is to be noted that there is an increase of available potash and phosphates of which the farmers may take advantage by good cultivation. Nitrification has been retarded, so that the application of nitrates will prove highly beneficial. Basic slag may also be applied in preference to superphosphate, seeing that the remaining salt will exercise a solvent effect upon the slag. Cruciferous plants, it may be noted, have given almost uniformly more satisfactory crops than any other farm culture.

From the summary of estimated produce from flooded land, many useful items may be gleaned. At St. Osyth, during 1898, coleseed, spring beans, and tares, failed to germinate. Apple trees planted in an orchard in 1893 were killed by the salt flood. The finer grasses and clovers gradually died, and the seeds of red clover failed to germinate. Ten of the ewes and 30 of the lambs, allowed to run on the flooded marshes for a short time daily, for a few days, died. During 1898 and 1899 more than average crops of the Thousand-headed Cabbage were secured. Various cereals and beans gave but poor crops from land that had been inundated. Leguminous crops, cereals, &c., sown on heavy alluvium, overlying a subsoil consisting of an ancient stratum of seaweed, at Tillingham, all died off. During the present year, some land left unsown at the same place, became covered with couch grass, furnishing half a ton of coarse hay per acre. Land fallowed during 1898 gave better results this year, being a sign of returning fertility. Land fallowed at Dengie in 1898 gave eight

quarters of black oats this year, which we should consider very satisfactory. The best crop of rye grass at Great Wakering this year was obtained from land manured with long hay; and the worst where sewage cake had been used as a manure, the latter being too close in texture for land under the conditions above-mentioned. A great number of experiments and observations were made and here recorded, which those concerned may study for themselves in the report.

Excursions to Edinburgh Chrysanthemum Show.—The North Eastern Railway Company is arranging excursions to the Chrysanthemum show inaugurated by the Scottish Horticultural Association, commencing on November 16 next. The area to which the advantage of cheap fares will be extended will include Sunderland and intermediate stations to Edinburgh, and the tickets will be available for three or five days, according to the desire of excursionists when taking tickets. Last year the excursion was run for the first time, and was so successful that it is being again tried. Every society promoting a show of more than local importance should make similar arrangements with the railway companies of their districts, or bring the matter before them for consideration.

New Glazing System.—We have had placed before us the explanation of a system of glazing which so far as we can judge seems to meet the needs of market men and others who have to study economy and utility at every point. The system is simply this. Rafters or principals are fixed at proper distances, and these support purlins which run in parallel lines. The whole may be of wood or iron. The panes of glass are "slotted," that is, holes are made at top, middle, and bottom of the edges as the case may be, and when they are laid flat down, form apertures through which a pin or clip is passed and secured on the inside of the purlin by means of a screw or nail, thus holding the glass firm. The clip is cork or rubber lined, and when fastened to the purlin, makes a neat watertight joint. The advantages of this method, which is simplicity itself, is that no outside paint is needed; nothing obstructs the light; no putty is required and the first cost is much less than the putty system; and then anyone can repair a broken pane. In places not subject to high winds there seems no reason why this new system should not become popular and prove perfectly efficient. The subject is brought to our notice by Mr. G. G. Taylor, 10, Meridian Place, Clifton, Bristol.

Bristol and District Gardeners' Mutual Improvement Association.—The opening meeting of the winter session was held at St. John's Parish Room on Thursday, the 12th inst., when there was a very good attendance. The Rev. A. N. Scott, M.A., one of the society's vice-presidents, took the chair at the opening of the meeting, and expressed his interest in the work of the society, wishing it every success during the session that was so auspiciously commencing. A very able paper was given by Mr. W. Bound, of Wokingham, Berks., on "A Few Useful Stove and Greenhouse Plants." He illustrated his remarks with several specimen plants, cut blooms, and plates, amongst which was a fine collection of Anthurium blooms, and a well developed plant of Acalypha Sanderi. The plants he urged the audience to cultivate, both on account of their usefulness and easy culture were Anthuriums, Poinsettia, Euphorbia jacquiniæflora, Aeschynanthus, Streptocarpus, Begonias, including the variety Gloire de Lorraine, and Acalypha Sanderi. Mr. Bound gave in the clearest manner cultural directions to secure the best results; the soil best fitted to grow the different plants; method of propagation, &c.; laying great emphasis in each case on the need for good drainage, careful watering, and plenty of ventilation. The thanks of the meeting were heartily accorded Mr. Bound for his attendance and paper; also to Messrs. Sander, St. Albans, for providing the specimens. Prizes for twelve Oignons were awarded—first, Mr. Shaddick; second, Mr. Bannister; and the Society's Certificate of Merit was awarded to Mr. Shaddick (Croton), Mr. Newberry (Odontoglossum grande); and Mr. White (Pitcher Plant).

Fungi.—There are some 6,000 species of Fungi. Of the Agarics alone there are about 1,200 known species in this country.

The Botany of the Behring Sea Coast of Alaska has been explored through the authority of those interested at the University of California. The experts who made the investigations, returned with many important specimens.

Earth Worms and Horse Chestnuts.—In one of our contemporary continental papers there appeared a receipt for the destruction of earth worms in pots. The process is to crush Chestnuts, put them in a muslin bag, using eight to each quart of water. Leave these to macerate for twenty-four hours and use the liquid in watering the plants. It is claimed the worms will come to the surface and die. Not even the most delicate roots are hurt by the Chestnut juice, yet the effect works such miracles on stout skinned worms.

Fruit Growers and Railway Rates.—I have just been reading the paragraph in GARDENING WORLD headed: "How Fruit Growers are Handicapped," and have been much struck with the difference in rates charged by the railway companies for foreign *versus* home-grown fruit from Dover to London. Can this not be remedied by an application to the Railway Commissioner or the Law Courts? By the Railway and Canals' Acts no preference is to be given by railway or canal companies to one trader over another, and I am of opinion that the home grower has a good case for remedy—aye, even to compel restitution of past sums paid in excess. The matter was tested in Scotland by colliery owners suing the railway companies, who had given less rates to other coal owners, and the companies had to refund sums amounting to many thousands of pounds, which had been illegally exacted. Even the carrying of foreign fruit by express trains is a preference, provided the home grower offers a truck load of fruit. Is it not worth while looking into this?—*Cor.*

Reading and District Gardeners.—The opening meeting of the autumn session of the Reading and District Gardeners' Mutual Improvement Association was held last week, when an interesting hour was spent on the subject of "Successes and Failures of the past Season." This was opened by Mr. H. Wilson, The Gardens, Lower Redlands; and from the experience elicited from Messrs. Neve, Stanton, Bound, Townsend, Exler, Chamberlain, Woolford, Alexander, and Hinton, a good opinion was formed of the crops in the neighbourhood. Early Peas were good; the later crops in most places a failure; Beans, fairly good; Potatoes, good; Carrots, good; Cauliflowers, nearly a failure; Turnips, similar; Lettuce, poor; Onion, very good; Spinach, a failure, but a splendid substitute when this crop fails is the Spinach Beet. Fruit was of better colour and clearer in the skin than usual; Peaches (outdoor) were very good; Plums, very good; Pears, very good; Apples very good; Cherries, very good; Currants and Gooseberries, excellent; Strawberries, some varieties, very good indeed. The best flowers to withstand the drought proved to be fibrous rooted Begonias, Godetias, Nemesis, Antirrhinums, Verbenas, Petunias, and Phlox Drummondii. The exhibits consisted of a splendidly flowered Orchid, *Miltonia candida*, shown by Mr. Lever, The Gardens, Hillside; a bunch of highly coloured *Salvia*, Sutton's Scarlet Queen, by Mr. E. Fry, The Gardens, Greenlands; and a grand specimen of Alfriston Apple, weighing 1 lb. 10 oz., by Mr. Farey, Balmore Gardens. As it was the first meeting held by the association since the death of Mr. James Martin, who had been a member since its foundation, the President, Mr. C. B. Stevens, referred to the great loss the association had sustained by the death of Mr. James Martin, and said that he had become one of the most practical men in his profession; there might be greater theorists, but practical men, none. He was a friend to every gardener, and his great characteristic was to impart to them the knowledge he had obtained. His death was a great loss to their association and to the great firm by whom he was employed. Messrs. Woolford, Stanton, Neve, Macdonald, and Dore also spoke to the great interest shown by the deceased in all things appertaining to their profession. It was suggested that some memorial should be raised, and it was decided to bring the matter forward at the next meeting.

Forest Fire Extinguished with Wine.—On the 10th inst. the rapid spread of a forest fire threatened to destroy the big vineyard on the Santa Cruz Mountains, California, when, in the absence of water, the fire had to be extinguished with 40,000 gallons of wine.

Chrysanthemums at Finsbury Park are once more staged, for public inspection. The number of plants grown for this public exhibition amounts to 3,600 of which more than half, that is, 2,000, are now on view. The newer varieties will not be at their best for a week or two.

Weather in London.—The tone of the weather has during the past week been even on the whole. Sunday was very cold in the early part, but became milder during the evening. Other mornings have opened either cold, mild, or foggy, but have generally changed in their meteorological conditions during the day. Fogs are prevalent.

The Colour of Fruits in Connection with Judging Apples.—I saw the Crystal Palace fruit show, and thought it was a grand display, especially of Apples. I admired the colour very much; but in regard especially to cooking Apples, is not too much made of colour? Are Apples grown for colour only? Certainly not. What is wanted for the cook is a good soft Apple (not too much acid) of a good shape and good size, so as to have as little waste in paring as possible. I maintain that a dish of Apples of the same variety of something heavier than a dish of coloured Apples ought to get the preference. The cook does not send up to table the parings of coloured fruit to show the guests that the Apple pie is made from coloured fruit. Size, I think, is a better test of good cultivation. Colour is often accidental, owing, it may be, to the place where the tree is grown; or it may be got on fruit of old trees not very well cultivated. As a fact judge, as a rule, give the prize to coloured fruit even although very much smaller than uncoloured fruit. Is that good judging?—*Onlooker.*

Orchids at the Sale Rooms.—Orchid lovers are now back to town, to their accustomed occupations, or enjoying their gardens at home. The hot weather has gone and they want something fresh to brighten their Orchid houses, or linger over in expectation of something choice or unique. At all events, this appeared to be the tone of the large assemblage of buyers at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside, on the 13th inst.; for besides the 60 gs. bidden for a variety of *Cattleya hardyana*, with white sepals and petals, many hybrids with no particular reputation, as well as some choice things, changed hands at respectable figures. *Cattleya Ferdinand Dennis* (*C. Aclandiae* × *gigas*) changed hands for 8½ gs.; *Laeliocattleya callistoglossa* for sums varying from 8 gs. to 14 gs.; *Laeliocattleya eximia inversa* for 9 gs. and 10 gs.; *Cattleya Maronii*, 11 gs. each; *Laeliocattleya Lafontainei*, 8 gs.; *Lc. Lady Wigan*, 11 gs.; and *Cattleya Grand Duchess Elizabeth*, 12 gs. The parentage of this latter was *C. Mossiae* × *C. lawrenciana*. The above are merely some samples amongst many.

Devon and Exeter Gardeners' Association.—The opening meeting of the new session of 1899—1900 of the above society took place on Thursday, October 12th, at the Guildhall, Exeter, when Mr. Fletcher, gardener to Colonel Halford Thompson, J.P., read a paper on Dahlias. He mentioned the fact of his having sent out as many as 100,000 plants every year, and had planted out for stock, for market work, from seven to nine acres of plants in his past experience. He confined his preliminary remarks to a short description of the history and evolution of the Dahlia, and pointed out that it was essentially a modern flower. It was without a challenger in its season, and we only require to imagine a garden without Dahlias to have the picture of a very blank area. Mrs. Gladstone was noted as the best show Dahlia they had. He thought the most useful of all Dahlias was the neat little pompon named "White Asters." "The most important, popular, and promising" of the Dahlia family was, however, the Cactus section. Single Dahlias were also vaunted, and these had come through peculiar periods of appreciation and fluctuation. Dahlias required generous treatment, and the best situation in which to plant them out, was a good open breadth where the soil was heavy, had been worked two spits deep, and had been enriched with manure. Discussion and votes of thanks brought the meeting to a close.

Free Flowers for the People.—The usual distribution of plants and flowers grown in the various London parks has been again arranged for by the London County Council. The giving away took place on the following dates:—Southwark Park, October 12th; Bethnal Green gardens, October 13th; Brockwell Park and Victoria Park, October 17th; Finsbury Park, Dulwich Park, Peckham Rye Park, Victoria Embankment Gardens, October 18th; Island Gardens, October 19th; Battersea Park, October 20th. At the Royal Victoria Gardens, North Woolwich, and Waterlow park, the distribution will take place on the 24th inst.

Sevenoaks and West Kent Chrysanthemum Society.—The exhibition of Chrysanthemums by the above society has been settled for Tuesday and Wednesday, November 7th and 8th, in the Club Hall, Sevenoaks. Besides the Chrysanthemums, there are classes for other exotic plants, and for fruits and vegetables. Since the compilation of the schedule, the committee has been kindly assisted by the president, Mr. Dixon, so that they are able to intimate an increase in the amount of the first prizes in several of the classes, as follows:—Division I.—Class "A" (Open): Twenty-four cut blooms, £5, instead of £2; Class III.: Group, £3, instead of 35s.; Class XVIII. (under gardeners): Bouquet, £1, instead of 10s.; Class XIX. (under gardeners): Hanging basket, £1, instead of 10s. Division II.—Class XXX.: Group, £2 10s, instead of £1 12s. 6d.; Class XXXIV.: Specimen plant, 10s., instead of 5s. This represents a total increase in the amount of prizes of £6 7s. 6d. The prizes are very good indeed, and it is to be hoped the competitors will have something worthy of the Sevenoaks society.

Blackberries and Punishment.—From a daily paper, *The Journal of Greengrocery, Fruit and Flowers*, extracts an article written in ridicule of some of the London Post Office officials. The writer had sent some Blackberries from Somersetshire to his home in an eastern town, in a stout wooden box which was accepted by the P.O. authorities at Somerset. From very rough usage the box was altogether smashed and the fruits mangled. Those to whom it was delivered did not, however, complain. But the G.P.O. folks did. In a few days a letter reached him complaining of the possibilities that the juice from his Blackberries might have damaged other parcels, and pointing out certain paragraphs of the P.O. rules and laws for "explosives, filth, things indecent and obscene, of an obscene, or an indecent, or grossly offensive character." He was summarily cautioned that "senders of such parcels are liable to twelve months' hard labour." The correspondent winds up his critique by saying that "Robust nerves are not universal, and such a vulgar and ridiculous threat might seriously upset the digestion of some simple folk unaccustomed to London official manners and arrogance."

Ealing and District Gardeners' Society.—On the 10th inst. Mr. A. Pentney, Worton Hall Gardens, Isleworth, gave the members of this society a very interesting paper on "Hybrid Streptocarpus." Mr. C. B. Green presided. Mr. Pentney exhibited flowers, some of which were 2½ in. across, to illustrate his subject and to show the great advance that had been made in the size and quality of these flowers. He explained very fully how these results had been brought about, and referred at some length to the work of hybridisation of these plants, which had been carried out at Kew and other places. Their culture and suitability for cool greenhouse decoration received sound treatment; as did, likewise, the constructional parts of the flower; for Mr. Pentney insisted that a knowledge of botany was essential to enable one to describe the component parts of a flower, and to otherwise carry out successfully the delicate processes of cross-fertilisation. Mr. Pentney saw no reason why success in plant culture, or hybridisation, should not be attained; because, after all, the main thing which contributed to success was attention to little things. The chairman followed on the same lines and emphasised the value of botany to the gardener; for, he said, other things being equal, the advantage must rest with the one who possessed it. After a good deal of favourable discussion, Mr. Pentney received a hearty vote of thanks. A vote of thanks was also accorded him for some well-grown Chrysanthemum blooms, which he staged to show what could be done in small pots.

Wounds on Trees should be painted over to preserve them from decay.

Apple Crops in Missouri.—Only half the Apple crop of Missouri will be marketable because of the injury of scab and Codling Moth. The State will produce about one-fourth a full crop.

The Temporary Bridge at Kew is now open for the public traffic, and proves a more commodious structure for the passengers it has to bear than the old stone structure built in 1777. On Sundays and Bank Holidays it had become positively dangerous for the thousands of pedestrians who crossed it on their way to Kew Gardens, owing to the number of 'buses and other vehicles that generally made a dash at break-neck speed in order to gain the steep crown of the bridge, and then hurried at an equal rate down the opposite slope. The parapets of the old bridge were always in a chronic state of disrepair, and have been mended with wooden beams for months past. Refractory horses backing against the parapets and knocking them down had many narrow escapes from going over the sides of the bridge into the Thames.

Shirley Gardeners' and Amateurs' Mutual Improvement Association.—The monthly meeting of the above society was held on the 16th inst., at the Parish Room, Shirley, Southampton, Mr. Ladhams, F.R.H.S., presiding over a very good attendance of members. Mr. F. W. E. Shrivell, F.R.H.S., gave a lecture on "Chemical Manures for the Kitchen and Market Garden." To prove the efficiency of chemical manures, he gave a detailed account of experiments carried out at Tonbridge, where a quantity of land is divided out into sections, and the sections into plots, each plot bearing a distinctive letter, and being manured, some with heavy, some with light dressings of farmyard manure, others with additions of chemical manures, and one plot in each section is devoted to the use of chemical manure only. Careful weighing of the produce and checking the amounts received for the same has shown the plots chemically manured only to produce the heaviest, and most remunerative crops, at much less cost for manures, too. Well printed diagrams of five years' experiments were shown, the amount of crops, value, and cost of manures being tabulated in each case. A bright discussion ensued, and a hearty vote of thanks was accorded to Mr. Shrivell at the close of the proceedings. Mr. Shrivell in responding, proposed a vote of thanks to the exhibitors, many of the members having brought fruit, &c., making a very good show.

"The Firs," Warwick, Collection of Orchids.—The whole of the celebrated collection of Orchids of the late Major Mason, J.P., The Firs, Warwick, was put up to auction by Messrs. Protheroe & Morris, on the 10th, 11th, and 12th inst. Something like £3,000 was realised during the three days of the sale. High prices ruled for choice things. *Cypripedium insigne giganteum*, described as being the best ever seen, was knocked down for 140 gs.; *Cattleya Mossiae* bellissima brought 17 gs.; *Cypripedium insigne Sanderae*, 34 gs.; *Laelia anceps* Bull's White, 15 gs.; a piece of *Cattleya bowringiana* with fifty pseudobulbs, 9 gs.; *Laelia pumila* alba, 9 gs.; *Cattleya Mendelii* Morganiae, 11 gs.; *Cymbidium Parishii*, 9 gs.; *Dendrobium ballianum*, 15 gs.; *Cattleya intermedia* alba, 21 gs.; *C. Lord Rothschild*, 25 gs.; *C. John Baguley*, 10 gs.; *Laelia anceps amesiana*, 11 gs.; *Laeliocattleya Iolanthe*, 18 gs.; and *Laelia purpurata Littleiana*, 20 gs. Choice *Cypripediums* were evidently popular, 73 gs. being secured for *C. lawreanum* hyeanum; and 85 gs. for another plant; *C. insigne Dorothy*, 28 gs.; *C. insigne Sanderae*, 52 gs.; and *C. i. Maulei*, yellow variety, 31 gs. *Cattleyas* were also greatly in favour, for *C. Mendelii* Miss Little fetched 19 gs.; *C. Wageri*, 9 gs. and 10 gs.; *C. labiata amabilis*, 10 gs.; *C. gaskelliana* alba, 9 gs.; *C. Skinneri* alba, 17 gs.; *C. labiata* alba, 60 gs.; *C. Trianaei gigantea*, 10 gs.; *C. Trianaei backhouseana*, 13 gs.; *C. Parthenia speciosa*, 17 gs.; *C. Mossiae Wageri*, 26 gs.; *C. Mantinii nobilior*, 11 gs.; *C. Ferdinand Dennis*, 17 gs.; *C. superba splendens*, and *C. Harrisoniae splendens*, 20 gs.; and three hybrid *Cattleyas*, 20 gs. Notable also were *Laeliocattleya Bertha Fournier*, 30 gs.; *Lc. Pallas superba*, 15 gs.; *Lc. Empress Queen*, 7½ gs.; and *Dendrobium Phalaenopsis alium*, 50 gs. Various other Orchids ranged from 5 gs. to 10 gs. or 11 gs., all showing the demand that still continues for choice, rare, or in any way really choice things.

Textile Fibres.—There are three natural fibres from which varieties of textile are made. These are wool, cotton and silk. Wool and cotton possess a highly-organised or cellular structure, whereas silk, being merely a solidified liquid has no special internal formation, but rather resembles a thread of glass. From this latter fact it is thought that the artificial manufacture of silk will open up a field of experiment for the chemist. Given a requisite liquid

he suffered terribly, so much so that for a week on end he never slept. He asked for opium, but a friend dissuaded it. Then his wife suggested:—"Won't you eat Strawberries." It was the season for them. Linnaeus, in the spirit of an experimental philosopher, replied that he would make a trial. He did so and soon after he fell asleep. He waked refreshed. He tried more, and went to sleep a second time, not waking until the morning. Then he ate

William. It is one of the most useful little edging plants for summer flower gardens, and few plants are more numerous used or more fitting for the purpose. This variety of the dwarf Lobelias does not grow in a loose and straggling manner, but, indeed, keeps up a compact line, which is a gain over many a sort. The light centre of the blue flowers also lends it additional attractiveness.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

A choice Cattleya hardyana var.—Many fine varieties of *C. hardyana* have already found their way into cultivation; but it is evident that there are still surprises in store, perhaps many. One of these surprises turned up at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside, on the 13th inst. The sepals and petals were pure white, thus contrasting with the lip, which was rosy-purple fading to a broad lilac border, and having a dark band running down the centre of the tube. There was a large white and yellow blotch at the base of the side lobes, where an eye-like spot occurs in the ordinary forms, and crimson lines extended on to the base of the yellow. It turned up in a batch of *C. dowiana aurea*, collected by Mr. John Carder, for Mr. Thos. Rochford, of Turnford Hall, near Broxbourne. From the latter it was bought in a lot of imported plants (that is, unflowered) for a small sum by Mr. H. A. Tracey, of Twickenham. It was a very small piece, and after it had been coaxed to open its solitary flower, it turned up at the Sale Rooms on the above occasion, when Mr. Rochford bought it back for 60 gs., and was delighted with his bargain.

APPLE CHARLES ROSS.

ON September 12th last, an Apple was brought up to the meeting of the Royal Horticultural Society, by Mr. Charles Ross, gardener to Captain Carstairs, Welford Park, Newbury, Berkshire, when an Award of Merit was accorded it under the name of Thomas Andrew Knight, in compliment to the first president of the society. At the above-mentioned date, the Apple was still unripe, so that its merits could not be fairly tested. It was brought up again to the meeting of the 10th inst., when its merits were more fully recognised, and a First-class Certificate accorded it. In the interval between the two meetings, Colonel and Lady Alice Houlton, the owners of Welford Park and employers of the gardener, Mr. Charles Ross, came to hear of the merits and success of the new Apple, and desired to have it named after Charles Ross, the raiser, so that is the name it will have to bear.

Mr. Ross has raised some hundreds of seedling Apples, some of which were of considerable merit; but that under notice is his crowning success. Report already has it that it is the Apple of the century. It was raised from a cross between Cox's Orange Pippin and Peasgood's Nonsuch, between which it is intermediate in size and colour, while it possesses the shape and general contour of Cox's Orange, though twice the size of a good sample of that splendid Apple. The fruits are widely conical, smooth in every part, with a wide open eye, seated in a shallow and almost smooth cavity. The skin is now of a rich shining yellow, as if polished, and much splashed, marbled, and shaded with bright red on the exposed side, the red extending over the greater portion of the surface, as grown at Welford Park this year. The short stalk is set in a deep cavity, much covered with russet.

The flesh is yellow, tender, crisp and sweet, so that when eaten it melts away in the mouth, so to speak, leaving no woody residue behind, as in the case of many Apples enjoying a high reputation. The core is remarkably small, but not seedless, as some would seem to imply; for the specimen given us by the raiser, and from which the accompanying illustration was prepared, contained nine good seeds out of a possible ten, the full complement with which Nature has endowed any true Apple or Pear. The Charles Ross Apple is one of the most handsome of dessert Apples in cultivation, and is sure to be extensively planted during the next few years. The whole of the stock of this grand new variety has been secured by Mr. W. Horne, Cliffe, near Rochester, Kent.



APPLE CHARLES ROSS.

It would not be an insoluble problem to produce from it a fibre resembling silk in every respect.

The Detroit Convention.—The society of American Florists have an annual convention which sits for a certain period in one or other of the large American cities. This year Detroit was the meeting place, and next year New York will be favoured. Business and pastimes both had their turn in the proceedings. Mayor Mayhury of Detroit gave the opening speech of welcome, to which Ex-President Robert Craig, of Philadelphia, responded. The objects of the S.A.F. are to stamp out from the profession that which is deleterious to it; to commend and retain whatever is good; and to point out and obtain that which is lacking. Trade exhibits are numerous grouped at these conventions. New officers are at this time appointed for the ensuing year. Indeed, the aims and objects of American Florist conventions are just the same as are the conferences of our Royal Horticultural Society of England.

Smilax Leaves Spotted.—The peculiar spotting sometimes seen on Smilax leaves is the result of an insect which belongs to what is commonly known as the flea-beetle family. Just as soon as we have cooler weather these insects cease their ravages. How to annihilate this pest so that it will not bother Smilax or other plants in summer time is a hard problem to solve. Among Potatoes growing on some parts of America, a near relative of this insect causes much havoc among the Vines, and in many cases seriously impairs the crop. The now quite well known Bordeaux mixture answers a double purpose, if freely used in the case of Potato growing, by checking insect injury and fungus diseases. One of the tricks resorted to by these troublesome insects for their self-preservation, is to dodge beneath the leaves—side s.e.p., as it were—upon the slightest agitation of the Vine. It is thus difficult to hit the enemy with what is known as contact insecticides, and to use poison for internal application would be extremely risky and might prove dangerous.

Strawberry Cure for Gout.—In a contemporary we are furnished with an instance—an experiment by Linnaeus himself, no less—of how Strawberries were instrumental in curing the pains of sciatica. In 1750

all he could get, and on the subsequent morning was able to say that he no longer felt pain. Gouty pains returned at the same period next year, and again the Strawberries acted the cure, as also in the third year. Linnaeus died soon after, so the experiment ceased. Is the story feasible, and have Strawberries any special properties in gouty cases?

EDGING PLANTS OF VALUE.

IN the London parks one finds a certain number of plants which are more or less used as edging plants by nearly all the superintendents. One of those most frequently used is *Gnaphalium lanatum*, the Cudweed (Syn. *G. japonicum*). To gaze at it from a few yards it represents a band of bright gray, crimped stems and foliage, for the plant is a procumbent and spreading grower. The foliage is tough, each leaf being about an inch long, cordate at the base and obtuse or rounded at the apex. It is fairly hardy, and in favoured parts may be left in the beds permanently. To propagate it cuttings are resorted to. Young shoots of the current year are what is wanted and these strike freely enough under hand-lights in pots, or in light soil under frames. It is a recommendable plant for use in edging beds with a high centre because of its binding roots and close top growth. *Chlorophytum elatum variegatum* is another bright and useful plant for edging. It differs altogether in constitution and habit from the *Gnaphalium*. Its use is principally for "heavy" bedding. Heavy bedding, as we know it, implies such large plants as specimen *Coleus*, *Iresines*, huge *Pelargoniums*, *Fuchsias*, and such plants. It is allied to the *Anthriscums*, and is sometimes used as a greenhouse plant. A stock can be maintained from suckers, seeds, or best of all, by division of the plants in springtime. *Coprosma laueriana variegata* is used mostly for large circular beds, being pegged down for the purpose. The leaves are oval, leathery and shining, with a green and yellow variegation. It is readily propagated at this time of the year from cuttings. The plant, however, is an evergreen (much resembling *Euonymus japonicus variegatus*), and can be kept in pots or boxes during severe winter weather. It is also used as an edging plant in window boxes. Then again, we have *Lobelia Emperor*

ROYAL HORTICULTURAL SOCIETY.

THE next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, October 24th, in the Drill Hall, James Street, Westminster, 1 to 4 p.m. A lecture on "Growth of the Fruit Trade" will be given by Mr. Geo. Monro, V.M.H., at 3 o'clock.

The War Office having asked for the Drill Hall of the London Scottish Volunteers (in which the meetings of the Royal Horticultural Society are held) to be placed at its disposal for the temporary accommodation of 300 soldiers *en route* for South Africa, it is probable that the society's meeting on October 24th will have to be held in the Drill Hall of the Queen's Westminster Volunteers, which adjoins that of the London Scottish, being actually the next door. If this should be the case Fellows and exhibitors are requested to make the best of an unavoidable inconvenience, which, it is hoped, will not have to be repeated.

The following dates have been fixed provisionally for meetings in 1900:—January 9th, 23rd; February 13th, 27th; March 13th, 27th; April 10th, 24th; May 8th, 23rd, 24th, 25th (Temple); June 5th, 19th, 27th (Richmond); July 3rd, 17th, 31st; August 14th, 28th; September 11th, 25th, 27th, 28th, 29th (Crystal Palace); October 9th, 23rd; November 6th, 20th; December 4th, 18th; January (1901) 15th, 29th; February 12th.

Gentlemen willing to lecture on any of these dates are requested to communicate with the Secretary, 117, Victoria Street, S.W., at once.

Trials will be made at Chiswick in 1900 with the following subjects:—

(1) Tulips for outdoor decoration, twelve bulbs of each variety should be sent *at once* to the superintendent, R.H.S. Gardens, Chiswick, W. Each variety should be marked with its colour and whether early, mid-season, or late.

(2) Phlox decussata: Two plants of each should be sent on or before March 1st.

(3) Cactus Dahlias: The 1899 trial will be repeated. Any new varieties, two plants of each should be sent in April.

(4) Potatos, new varieties: Twenty tubers to be sent before February 1st. Also a trial of distinctly **early** Potatos, both old and new varieties requested.

(5) Tomatos, for outdoors only: Seed before February 1st.

(6) Peas, half pint to be sent in January.

(7) Celeriac: Seed in January.

The Royal Horticultural Society will hold its next examination in horticulture on Tuesday, April 17th, 1900. For syllabus, apply to the Secretary, R.H.S., 117, Victoria Street, S.W., enclosing a stamp.

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned hereunder were made by the Royal Horticultural Society on the 10th inst.

Orchid Committee.

ODONTOGLOSSUM CRISPUM DAPHNE.—The sepals of this variety are lanceolate, with a large, soft, rosy blotch covering the greater portion, so that the white ground is almost hidden. The ovate petals are white with two or three small blotches of the same peculiar shade on the centre of the white ground. The lip has a large, central, cinnamon blotch on the centre, and deeply indented in front and behind. On the whole the variety is very distinct. (Award of Merit.) W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs.

ODONTOGLOSSUM GRANDE PITTEANUM.—The brown colour forming the usual blotches of this species has been washed out, as it were, leaving the sepals and petals of a soft yellow, with darker yellow bars where the brown of the type should be. The lip is almost white, with a pale yellow zone at the base. (Award of Merit.) H. T. Pitt, Esq. (gardener, Mr. F. W. Thorogood), Rosslyn, Stamford Hill.

EPIDENDRUM LAUCHIANUM.—This bears long, arching and graceful racemes of small flowers, the sepals and petals of which are brown, and the small, folded lip green. (Botanical Certificate.) Royal Botanic Gardens, Glasnevin.

Floral Committee.

ASTER NOVI-BELGII ROBERT PARKER VAR. NANUS.—The flowers of this variety are very numerous, mauve, and otherwise similar to Robert Parker, from

which it was raised as a seedling. The plant is much dwarfer, however, being only 2 ft. high, whereas the original is 4 ft. or 5 ft. (Award of Merit.) F. A. Bevan, Esq. (gardener, Mr. W. H. Lees), Trent Park, New Barnet.

ASTER AMELLUS DISTINCTION.—The usual blue-purple colour of the typical A. Amellus has here given place to a distinct shade of rose. The dwarf habit, earliness, and large flowers of all the varieties of A. Amellus make them useful adjuncts to the adornment of the outdoor garden during August, September, and October. (Award of Merit.) F. A. Bevan, Esq.

Fruit and Vegetable Committee.

APPLE THE BARON.—The size, shape, and qualities generally of this variety are identical with those of Dumelow's Seedling (otherwise known as Wellington), from which it is a seedling. The difference is chiefly in colour, the new variety being heavily overlaid with red on the exposed side. (Award of Merit.) Messrs. S. Spooner & Sons, Hounslow.

APPLE CHARLES ROSS.—See p. 118.

THE FLOWER GARDEN.

LIFTING BEDDING PLANTS.—In certain damp, cold, bleak and exposed lands, there are certain plants, which though ordinarily safe enough to leave out, are not so in other gardens whose conditions in the above respects are different. What these plants are which he finds are not safe when left out, the cultivator no doubt has before now determined. Lobelia cardinalis in a certain garden near Wakefield, Yorks., could never be relied upon, for in the soil there it seemed to perish, shrink, mould and decay. We annually lifted it and boxed the roots. Very little water is required all winter for plants so treated. Then of course at this season the land must be cleared. The bulbs are waiting to be put in, so with the bedding Violas, the Wallflowers, shrubs and so on. So now is the last chance of making up any deficit in the number of our next season's plants. As a rule it is a hard matter to get sufficient cuttings in September, and many of them damp off. It is therefore the more discreet plan to lift the bushiest and best of the old plants, to trim them and either to pot them into 5-in. pots or, which is not so preferable, box them off. Procure a stout fork or spade and carefully ease up the plants, such as Pelargoniums, Vincas, and other things, loosening the soil from about the roots, and placing the plants into a barrow where the roots can be covered over.

POTTING.—Having got a sufficient quantity raised and pots and compost prepared in the potting shed, the next operation is to get the plants trimmed into a neat form, the roots being also cut back a bit. One good crock and a few dry, clean leaves is sufficient in the bottom of the pots. A compost of old Chrysanthemum soil, some new loam, a large quantity of sand or sandy soil—more than half—with the liberal addition of leaf mould and dry horse-droppings, properly mixed, will be found a suitable one. After the plants are potted they may be taken to the peachery stages and shelves. Frames in which a temperature of 56° can at all times be maintained together with facilities for watering and picking off dead leaves will also answer. The plants should be watered thoroughly, not a dribble given, but a hearty soaking, with tepid water. The house cannot be kept closed or any heat given, which would give the plants a start, but after the first watering no more will be required for some time. Here and there, one may be in need but that will be all. Keep the dead leaves plucked off and give them as much space as possible.

LOBELIAS.—The dwarf edging varieties have to be potted up and kept for getting cuttings next spring. The very greatest care is required not only in the potting of these but in the after treatment. The temperature to suit best will be about 50° Fah. Above or below injures and endangers them. Watering is a very vital point, and it must be seen that the centres of plants are not damped unduly, or that moisture is not sprinkled about unnecessarily.

DAHLIAS.—These in many places have been cut down by frost and the sooner they are lifted now the better for the plants. Advice on this matter has already been given. One main point to look to at first so as to save confusion, is to label the plants

according to their colours unless they are named and their distinctions known.

CARNATIONS.—These can be planted out into well prepared beds, or better still for the plants themselves, they can be potted up and kept in cold frames with some slight protection during winter.

WALLFLOWERS.—The plants are in fine condition this year and if they are planted now they will at once make a start. The Belvoir Castle red is a capital variety, which in borders should be placed at the back of the dwarfed and yellow variety, Golden Queen. A row of a yellow variety between two dark ones also makes an attractive show. The system of massing varieties of one colour denotes very good taste.

MISCELLANEOUS WORK.—Sweeping and cleaning up leaves and all untidiness occupies some considerable time. Walks must be repaired and lawns returned or this had better be left till spring unless the work is none too brisk. Fruits of ornamental Crabs still hanging out should be gathered and made use of. Edgings may be laid.—J. H. D.

The Orchid Grower's Calendar.

HYBRID CATTLEYAS.—Raising Orchids from seed in this country certainly requires plenty of patience and care, but the pleasure derived from such tedious work when success at last attends your efforts amply repays one for the extra care and trouble bestowed on the tiny little chaps.

One often hears the remark, "Oh! what is the use bothering about raising Orchids from seed; we may never live to see them flower." Suppose everyone of the numerous raisers had said the same thing we should have missed seeing some of the finest things in cultivation, for of course the two parents being imported from such wide ranges it would be impossible for cross fertilisation by insect agency in their own country to take place.

The raising of any kind of Orchids from seed is to be commended, but we would point out that we should always aim to produce something that will surpass those at present in commerce. One cannot always guarantee, though, that the hybrid will be exactly intermediate between the two parents, and often it is worth less than either of them. The natural hybrid, C. hardyana, as far as I have seen, is hardly a success. It would seem that C. gigas is merely frightened by C. aurea. Cattleya Mantinii nobilior, as shown by Mr. Little and Mr. Bradshaw, at the last meeting of the R.H.S., is a very fine thing. C. aurea has put size and fire into C. bowringiana without reducing the number of flowers on the scape.

THE BEST TIME TO DO THE CROSSING.—It has been suggested to us that there are with Orchids, as with florist's flowers, certain times in the day when the flowers are in a more fit state for the operation than others. It is quite patent to see that the bees work most when the sun is shining over here, so that it is only reasonable to infer that it is the same abroad; so that if there is really nothing in it there is no harm in selecting a bright day for the purpose.

Of much greater importance, however, is it to make sure that the flowers are in good condition; flowers that are past their best very rarely take the cross.

GETTING THE SEED TO GERMINATE.—It is easy to get seeds, but it is not so easy to get them up. No one has tried more methods, comparatively speaking, than we have. They are an unruly lot, though, popping up where you least expect them. Pots and pans, made up specially for raising the seed, have not been a success, but when sown on newly potted plants of the same species of one or both of the parents the result has been more satisfactory. We do not recommend sowing on old material, that is, on plants that have been potted a year, for no matter how careful you are to exterminate woodlice there are sure to be some about, and the young seedlings are cleared off by them as soon as germination takes place.

When the seedlings are rooting prick them off on to plants that have been newly potted. If you have not got one ready pot one up on purpose; it will pay you to do so. Always water carefully, but if the temperature and ventilation are what they should be there will be no fear of their damping off. As a matter of fact, more die through want of moisture in the young state than by an excess of it.—S. C.

HINTS FOR AMATEURS.

Malmaison Carnations.—Possibly every amateur who sees the large massive beads of pink and rosy Carnation blooms with their distinct and very pleasant fragrance during the early period of summer, wishes he could grow even half a dozen plants with such flowers. Very well, have the desire and have it strong enough, then you'll soon find means to master the culture of the Malmaison Carnation. After the young plants are taken from the layers and potted, which should be now at the latest, they only need to be furnished with some slight overhead moistenings for ten days or so. By this time they will have steadied themselves, so to speak, and will require to be root-watered. Do this with water which is entirely free from lime. Rain water is always the best, and river water the next best, for the purpose. The plants should not be in pots larger than 4 in. diameter, and their place should be on shelves, or on ash-covered stages in a span-roofed house. A constant steady temperature of from 40° to 45° maintains them in robust health and is quite sufficient to keep them moving.

Older plants which have been growing either in cool, shaded frames, or out-of-doors, must now be upon the shelves of a cool greenhouse. Some growers find it more successful to keep them almost dry throughout the winter, contenting themselves to occasional thorough waterings. The truest or safest method of treatment for amateurs, is to keep on the dry rather than on the wet side, but at the same time, to water them whenever the pots ring. If the plants have been carefully potted, a clear, ringing sound will only be heard from dry plants. Greenfly may trouble the tips of the growing shoots, and these must be got rid of, either by fumigating with tobacco paper or the cleaner and more perfect XL All Vaporiser. To dip the plants into a warm solution of tobacco and soft soap also acts in cleansing them. For mildew, use Ewing's Mildew Composition, in bottles at various prices from 1s. upwards, and sold by all seedsmen. Later on, give the plants some weak liquid manure.

Ericas.—There are many readers of these columns who no doubt greatly admire the bell-flowered hardier Heaths. They belong for the most part to the Cape of Good Hope, and are grown by us in cool greenhouses. Many of the earlier batches of *Erica hyemalis* are just on the point of flowering now, and to see really first-rate plants one would scarcely suspect that they are ticklish things to cultivate, but so they are. They are not everybody's plants. Those nurserymen who are fortunate enough in having a suitable locality with a clear atmosphere for their plants, and who have mastered the secrets which lead to success, grow Ericas by thousands, and supply other nurserymen whose places are not so happily disposed for their culture. People do not now grow such fine hard-wooded plants or take the time and trouble to train them that the gardeners of a generation ago did, yet among other classes of plants the Ericas are very well encouraged. They may be grown from seeds, but cuttings are the generally adopted means for increase. The hardest wooded cuttings are very difficult to propagate but the soft-wooded species are not at all stubborn. The soil for potting Ericas should be good fibrous peat, with some charcoal and silver sand, the potting being done very firmly. Potting should only be done periodically, not annually. Ericas dislike a heated atmosphere, preferring one that is clear, cool, and slightly moist. Then in the matter of watering perhaps greater care is needed than with almost any other plants. Rain water with them is almost a necessity. It is at least one of the most potent factors in successful culture. If hard water must be used it ought to be exposed as long as possible before employing it. As a rule, growers keep their plants almost dry when they are cut back after the flowers wither, but this is not at all necessary. The conditions for Ericas at present are a cool house, good light, and water as required. The *E. gracilis*, *E. caffra*, *E. hyemalis* and others give us a bright show.

Cannas.—Good plants able to throw large spikes of strong individual blooms can be grown in very small pots indeed, as the Messrs. Cannell's groups of these plants at various of the London shows this season amply proved. Recently they had a splendid

group in pots usually termed "small fives," and the plants were 2½ ft. high, with large and brilliant spikes. Confining them thus seems to throw all the energy into the development of flowers, though there is yet plenty of healthy leaf growth. Cannas are splendid flowering plants and are so useful for a variety of purposes that growers should be at some trouble to get crowns from reliable sources.

The Fernery.—Now that the season is so far advanced, all the shading may be removed from the house where Ferns predominate. They enjoy shade, but not gloom. This is proved by the manner in which some of the Maidenhair Ferns damp off during winter. I find that a brisk temperature, with all the light possible and no undue sprinkling or damping with moisture, the best rule of treatment during the dullest period. Cold houses and moisture cause many of the fronds to become mouldy. Might I here suggest the use of indoor rockeries? These can be introduced very concisely and without much trouble. In a small fernery, span-roofed and narrow, we had a fine array of plants of all kinds, not confined to Ferns but planted with a selection of Begonias, Cyperus, Tradescantia zebrina, Fittonia argyrea and *F. gigantea*, *Ficus repens*, *Sansevieria javanica*, and other suitable plants. The edge was a straight one, marked off with a thick iron rail something like a line from a railway. The rockwork was strongly and well planned, rising here and receding there, with two fair sized cement basins—about one yard in diameter—at a distance apart, for goldfish. Climbing plants were used at the back, and hanging basket Ferns were above the rockery. The scene in summer, when growth was full and mixed up in a natural mass like a jungle, was certainly most pleasing. The pipes, or at least much heat from them, spread below the rockery. Pockets can also be left for plants, so that every week one can have a change by merely shifting the arrangements.

Peach Trees.—All the air possible must be kept on the peachery during the period in which the leaves fall. The freedom of air and the exposure to a cooler temperature has the effect of endowing the shoots with a rough sort of vigour, which has no small influence in giving the trees whatever disease resisting powers they may possess. A strong shoot with a stout and well coloured skin, will have less chance of being affected by slight changes of temperature than a delicately matured skin. A robust shoot is likewise the first and very sure emblem for a good promise of fruit or, at least, fruit buds. Then the leaves, which in the earliest house are almost all off, ought to be allowed to fall themselves. To a careful person, where there is too much work to allow of every day cleanings, the operation of carefully switching off those which may be about to fall is a work of necessity. A smart tap upon the main branches, not on the wires, will also free many of the leaves. The borders should still be kept raked for the sake of an open surface. The free entry of the atmosphere beneath the soil has its beneficial effects during autumn and winter, just as it has in summer. The borders do not now require the constant waterings so needful two months ago, but one of the surest preventives for buds falling is to have the borders in a moist condition. There is just one condition as regards that condition of the soil to which the word moist fittingly applies. Dampness is a state of extra moistness; dryness may mean not dustiness, but a state of soil with a lesser proportion of water particles than a "moist" soil would have. A moist soil, in a word, is one which feels cool, and just slightly moistens the hand, yet is dry enough to crumble through the fingers when worked. Whenever the houses admit of it they should be thoroughly washed with hot soapy water.

Vines.—Many of the preceding notes are equally applicable to Vines in borders. Amateurs do not usually cultivate many Vines, and those they have are usually what may be termed late house Vines. The foliage may have to be taken from the spurs or shoots, but let this alone for some time yet. Pruning need not be for quite a while yet. New borders or renewals may now be prepared.

Stoking.—A good supply of fuel should be got in at once if the provision is not already made. The method of stoking should be to get a goodly heat up—in the houses which are required to be warm—by an early hour in the evening. This allows us more easiness at banking-up time, and once the pipes are hot it is perfectly easy to keep them that way. Do not allow the water to boil, else the whole working

gear of the heating system will be uselessly racked. Properly laid pipes, that is, those with a medium rise from the boiler to the houses, and a fall in the back flow toward the boiler again, with an able boiler, maintain heat easily. Watch the weather conditions, and use the damper as a regulator accordingly. Keep small clear fires, and feed from the front, baving the fire just on to the live-plate, instead of far back.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Bouvardias.—*S. Sewell, M.*: You may buy plants of those varieties you most admire; they will give you much satisfaction for some time to come. In January, however, you will have to cut them back, placing them in a close pit for cuttings. Secure these and root them. When they are grown on in individual pots, pinch them back to stout wood and so on. Ever have the aim of getting stout, bushy plants. They can be grown in cool frames from the end of May onwards. In their earlier stages the watering must be carefully gone about. Feeding helps them, especially if they are in small pots, say 5-in. pots at most. They are subject to insect pests, so that fumigating is necessary.

Liming Fruit Trees.—*S. R.*: Quite right, but although the lime acts in binding light soils we would never use lime so freely on light as on heavy soils. The light soil can be aided by manuring, and does not, as a rule, require the addition of lime, because lime increase the dryness of an already dry enough soil. On heavy lands and for the roots of Plum, Peach, Apricot, and other fruit trees the use of either quicklime, or better still, perhaps, o'd mortar and fine lime rubble, is distinctly an advantageous and proper thing to incorporate. About how the lime acts in loosening one and in binding another and entirely different soil, it is thus:—The lime cements together the rougher particles of a light soil and causes it to become more solid, to have fewer spaces and "pores," to use the word. With a heavy soil, which is just a dense mass of very fine particles, the granules of lime knit many of these particles into one mass, forming, of course, grains more like coarse sand particles, and by so doing it alters the mechanical condition of the soil by making it freer and opener.

Pruning Gooseberries.—If your bushes have been in poor bearing condition prune them hard back. Particularly open up their centres, and have good space, say 9 in., between every shoot. Top-dress the bushes with a rich compost of manure and soil. For bushes in ordinary bearing prune back the leading shoots to good strong buds and leave the end bud pointing out or up, so as to produce a balanced bush when the shoots grow. Take out all weak wood, and remove suckers.

Varieties of Cannas.—*J. Stormer*: You will find some of the older varieties, such as Queen Charlotte, F. R. Pearson, Pierson & Co., and Amie Pichon, quite as good as some of the newer ones. Still, the new varieties distinctly show that improvement is taking place, and greater refinement and variety of colour is also noticeable. Selecting a few of the novelties recently sent out, we find President Kruger to be a good thing. The colour is a deep bronze, with bright cinnamon or golden edges. Franz Buchner, a bronzy-salmon; Aurea, pure yellow, very bright and beautiful; Burbank, a large yellow; Souvenir de President Carnot, a crimson-scarlet, with dark foliage; and Maiden's Blush, a pink variety of real merit.

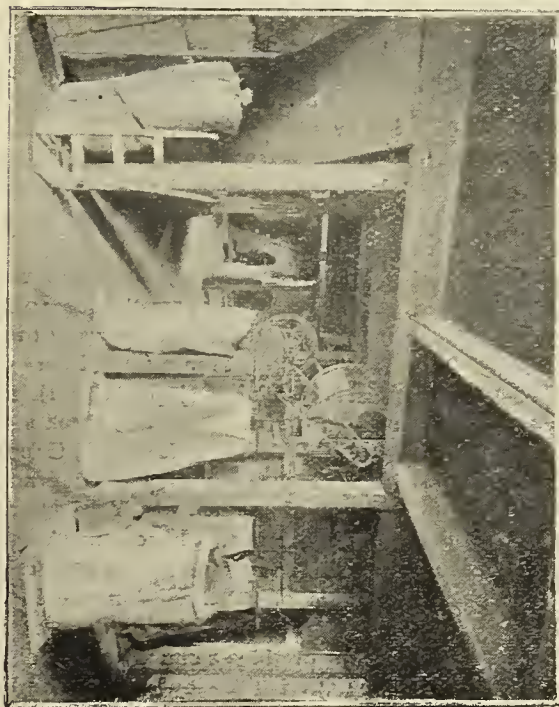
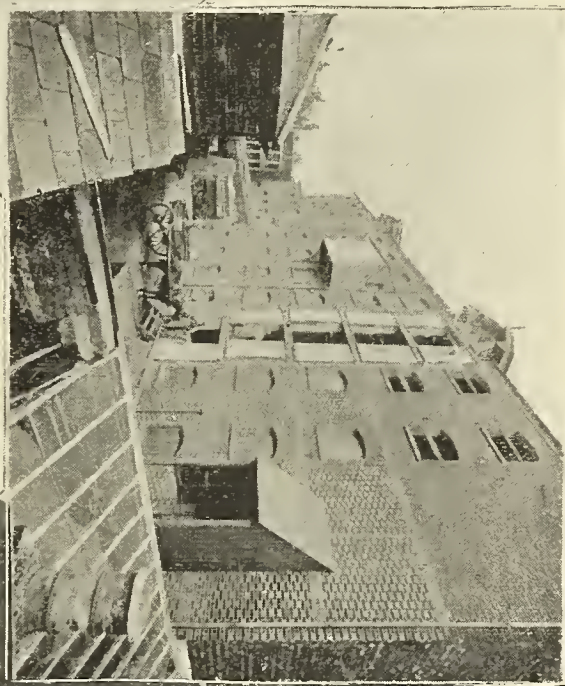
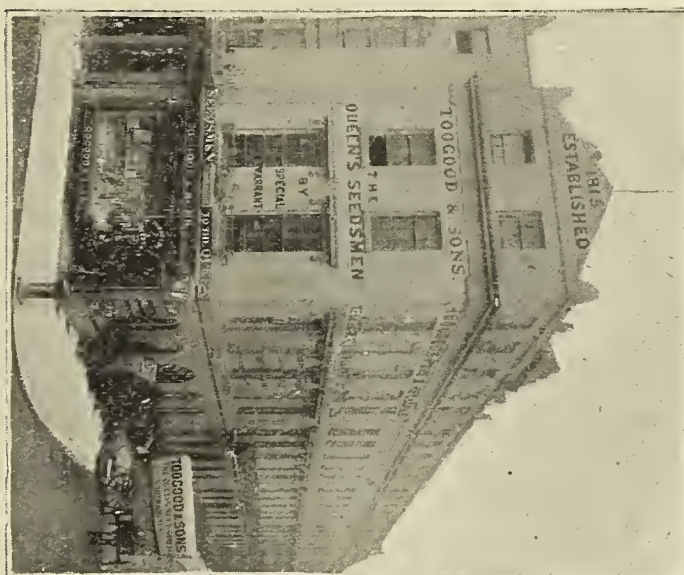
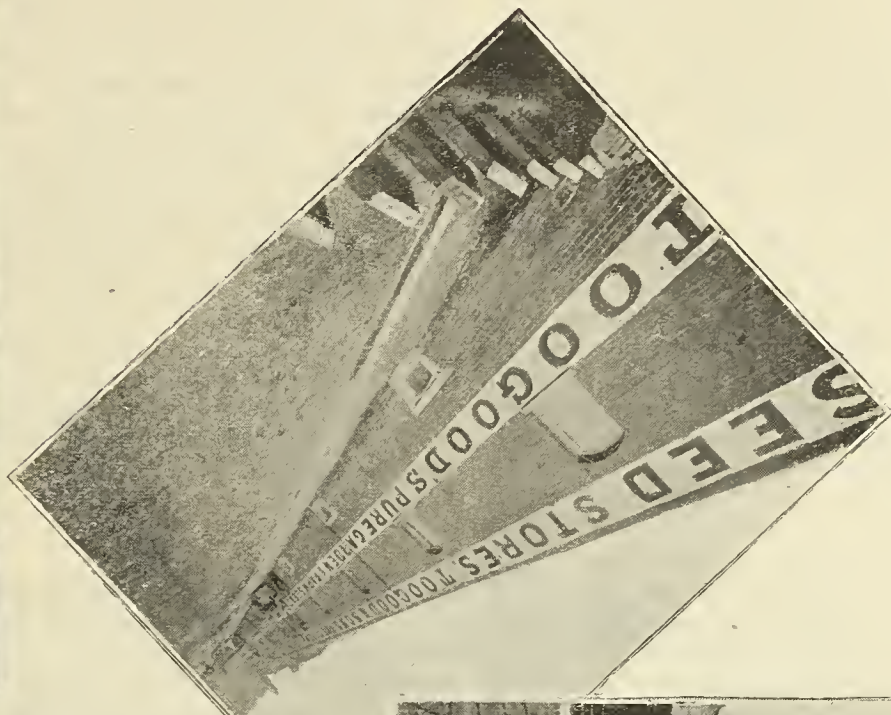
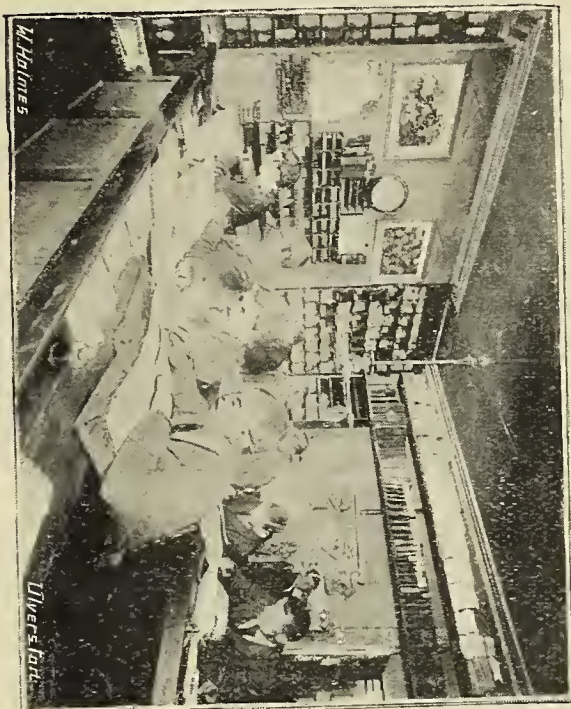
Pompon Chrysanthemums.—*S. J.*: Their chief value is that they last fairly well, bloom freely, thus yielding a good return in a small space; and probably because they require very little attention. Most of the earlier flowering ones can be grown in the open border. Miss Davies, a peachy-pink variety, would give you good returns. Alice Butcher is also a rich and lovely thing of a deep cinnamon tone, with light yellow tips; and Précocité might also be named.

Ampelopsis quinquefolia — *W. Murray*: We cannot imagine anyone not caring for so beautiful a wall climber. If you could see it in the manner it grows and colours up on hundreds, or one might say thousands, of the houses or back buildings of dwellers in all the southern districts of London, we feel sure your opinion would be converted. The

MESSRS. TOOGOOD & SONS' NEW SEED WAREHOUSES AT SOUTHAMPTON.

THIS well-known firm has secured an extensive range of warehouses at Chapel Wharf, contiguous to the docks, and near to the floating bridge crossing

opportunity of inspecting it. The entire ground floor is taken up by work involved in dispatch and packing, as many as 100 hands being employed in the season. There is ample stabling also, with a team of useful horses, which are utilised for the firm's own cartage work. An engine house is attached, which provides the steam power for driving the belt-



VIEWS OF MESSRS. TOOGOOD & SONS' WAREHOUSES.

leaves assume a rich crimson-claret or bright blood hue. Of course, it enjoys to root in a rich soil and a warm, moist border and sunny position; on a hot slate roof, for instance, the shoots grow luxuriously. But at the same time you will find it to succeed in a poor soil and on the south side of walls much further north even than your district (Roxburgh.)

the Itchen. They have there been able to make very considerable additions to their premises, which in the continuous development of their business must have become absolutely necessary for the handling of so large a trade.

The new warehouse is a building of six floors, and in passing through Southampton recently we had an

ing and straps by which the motion is continued from floor to floor above. The first floor is occupied as a pasture and grass seed store. On this floor also the mixing and blending is done on varnished, hard wood, so that each mixing is absolutely cleared away and no odd seeds likely to affect another sample are left upon the floor. Mr. Wm. Toogood has, for

many years, we understand, made the grass seed question one of his principal studies. A staircase and lift connect the floors from the basement to the roof. On the second floor Clover seeds of sundry sorts are stored.

There is an excellent machine for cleaning Mangold seed here made by Mahot. It struck us as being of somewhat peculiar action. The seeds run down a ribbed cloth, revolving at an angle, and small pieces of stick and other rubbish are caught by the ribs of the cloth, while the seed passes over several wire frames. We understand that as much as a ton a day can be dealt with on one machine. The Giant Yellow Globe Mangold Messrs. Toogood recommend for weight. For dairy work their Tankard Mangold is of larger feeding value than the ordinary, and does not impart that rooty taste to the milk so often found.

On the third floor Mangold, Turnip, Swede and other root seeds are stored. The yellow hybrid Turnip sent out by Messrs. Toogood has a peculiarly strong resisting power of the blight of finger and toe. The fourth floor is devoted to seed and corn stores, and is utilised for dressing purposes. The gable floor above is devoted to garden seeds. Sundries stores and a wholesale business in light garden implements and tools are also provided for. The packing of bird-seeds is a department in which a very large amount of business is done. In this warehouse we saw an American machine, a combination of tools—an invention which seemed to consist of a plough, digger, and hoe combined, the digger being useful in digging for Potatoes and general culture. Unquestionably the machine would be of great utility to the market gardener.

The building has a commanding elevation, and we are, by the courtesy of Messrs. Toogood, able to reproduce a picture of it (see pp. 121 and 123) in these pages. They have other stores and warehouses in the Dock Railway Station yard, where there is also extensive engine power for Clover cleaning machines for taking out Plantain from Clover seed—an invention practically entirely one of Messrs. Toogood's own.

There are also extensive stores for Potatoes, another principal department of the business. The nursery and seed trial grounds are some five miles out at Nursling, where the grounds are entirely under spade cultivation, and where the American combination tool previously referred to is in active use, one machine doing the work of three men with an ordinary hoe.

At some later period we hope to have an opportunity of writing a further note of the nurseries and of the shops and offices, which are situated above Bar in Southampton.—*Gyp.*

SOME CHRYSANTHEMUMS AT THE N.C.S. SHOW.

WHAT were the best varieties at the N.C.S. Aquarium show? is a question which enthusiasts all over the land like to know. The variety, *Australie*, might at once be first named as the bloom oftenest seen in typically fine form. Those shown by S. Smith, Esq., Werndee Hall, South Norwood, in the class for six blooms of any Japanese variety, were extra large and handsome. Many of the blooms of various varieties were very laxly built, while quite as many or, perhaps, the bulk of those in the larger classes were good samples of their kind. Mutual Friend stills holds a foremost place. Edith Tabor was generally found in fine form, and most of the blooms were full and strong. This is a variety which is capable of great development when properly treated, and good blooms are perfect pictures of dignity, grace, and beauty. Louise is a marvellous Chrysanthemum, and the compactly incurved build of the bloom, and its purity of white make it a variety worth the prizing. Belle Mauve takes after Louise in form, but can generally be got larger. It is a question whether the peachy-pink flushing of the petals is a commendation or not. It is not quite distinct enough for day-light, but under gas-light the effect is warmer and more pleasant. The new Japanese variety, Miss Alice Byron, is a white variety which, if it can be got like those shown at the Aquarium, will almost surely become popular. The incurving snow-white petals lend enchantment to the other qualities. Mdme. M. Ricoud was almost invariably beautiful and really good. W. T. Newman, Esq., Totteridge Park, Herts., had some capital blooms of

Soleil d'Octobre. The size, build, substance, and colour of his blooms could scarcely be bettered, and, as seen from this quarter, none of the yellows flowering at this early time surpass it. The only specimen of *Hairy Wonder* was shown in S. Smith's stand, and though somewhat a small bloomer and of no great beauty, it is rather a pity that it does not find more flavour, or a continuance of the appreciation it had a year or two ago. Lily Mountford was conspicuous. The blooms in a certain stand were large, and full with broad petals, a pure centre, and the outer petals recurving tipped and flushed with pink. The variety, *General Payne*, is rather a peculiar flower, having petals narrow at the base, but expanding broadly for more than half their length. They stand well up, and the deep bronze of the blooms makes it an admirable decorative flower. *Oceana* was everywhere large, and a foremost bloom. Gustave Henry in some cases was superb. Others more or less well shown were *Mons. Chenon de Léché*, *Joseph Brooks*, *Emily Silsbury*, &c. Hardy and early-flowering pompons might have been seen in far greater variety and quantity. As it was, there were only a few bunches altogether. The vase arrangements were all passable, but either we have a lot to learn or we must exercise more care before these can be called beautiful features of our Chrysanthemum shows.—*J. Harrison.*

LONDON PARKS AND GARDENS.

VII.—WATERLOW PARK.

SITUATED in a high lying region of Highgate, in the north of London, this park of twenty-nine acres commands a grand view, looking over the metropolis to the south, where innumerable spires, domes, and prominences rise up to the vision. So well placed, indeed, is the park for far views, that on clear days the great towers of the Crystal Palace, some ten or twelve miles south, can be seen quite clearly. The park was acquired in 1891, so that it still retains to a degree the appearance of a well-planned and quiet private residence. Indeed, what was a few years the home is now a ladies' cloak-room, and is used as offices for different purposes. Some of the broad old walks are still edged with box, and the old orchard trees continue to bear fruits, which now fall upon the heads of passing urchins or upon the grass, which in parts is railed off with the forbidding placards: "Please keep off."

The bedding is not extensive, but in mid-summer it was very bright. The system is more that of laying borders out in blocks of one kind of plant, so as to design a pattern. Shrubs form a background to these borders, and taller plants flowering at the time of our visit, such as Sunflowers, Phloxes, and Dahlias made a bright effect. Pentstemons, Stocks, Antirrhinums, Ageratums, and many varieties of Pelargoniums, were worked in panel-shaped blocks, together with sheets and dividing lines of *Alternantheras*, *Echeverias*, *Lobelias*, *Cineraria maritima*, *Begonias*, and *Centaurea candidissima*, *Fuchsias*, *Cannas*, and *Verbenas* were also freely used.

The herbaceous borders occupy a good deal of space, and these, too, tend to take one's mind back to the time when this present public park was a peaceful demesne. The grounds are very varied in conformation, adapting themselves very easily to the constructive skill of the garden designer or landscapist. Near the central area, the beauty of a vigorous waterfall is seen, and the stream passes in a rugged natural channel to a lake below. On either side there are thickets of suitable trees and shrubs such as Willows, Poplars, and a few Pine trees, *Eucalyptus*, *Gymnocladus*, Laurels, and such like. Aquatic fowls have been introduced. Not far off, but more to the right or west side, the band stand has been placed, and this is surrounded by flower beds. All over the place are beautiful walks with dozens of shady seats. On a hot day (it was a Saturday afternoon) it did our hearts good to see the working fathers and mothers out there with their families; or to see the younger couples not yet married, but intending to be, and making the best of the passing time by courting along the shady walks; or yet again to see how much amusement the boys and girls found at various games all about. The park is thoroughly appreciated, and as time goes by its goodly influence will be more extended. The general appearance and keep of the place was a standing certificate to Mr. J. Pallett, who is the superintendent.

A VISIT TO BEAUMANOR PARK AND GARDENS.

THIS lovely Elizabethan mansion, the seat of Mrs. Perry Herrick, is about nine miles north of Leicester, in a picturesque situation at the foot of the hanging rocks, and about in the centre of Charnwood Forest. It is surrounded by an extensive park well planted principally with English Oak, of which there are some fine specimens. The park is ornamented with several avenues of venerable Elms, which we believe were planted upwards of a hundred years ago. This park is a remnant of the dense forest which once existed, when it was said one could travel from Beaumanor to Bardon Hill, seven miles distant without seeing the sun. The present mansion stands on or near the site of a more ancient one which was honoured by being the residence of Lord Beaumont, Catherine, Duchess of Norfolk; Leonard Gray, Marquis of Dorset; and the Duke of Suffolk; whose duchess afterwards married Adrian Stokes, Esq., and died here. This lady was mother of the unfortunate Lady Jane Grey, and it is said she partook so much of the family suffering as once to take refuge a long winter's night in a churchyard. She died about the second year of Elizabeth's reign, honoured by the queen.

The flower garden and pleasure grounds surrounding the mansion are laid out in character with the architectural design. The flower garden situate on the west front is about two acres in extent and is planted with the usual bedding and foliage plants, and so arranged as to give a pleasing effect during the summer months. The beds in the autumn are filled with all the best bedding varieties of Hyacinths and Tulips, intermixed with spring flowering plants such as Violas, &c.

The herbaceous garden, which is in close proximity to the above, and occupies upwards of an acre of ground, is undoubtedly one of the finest examples of a mixed garden, containing all the best varieties of hardy herbaceous plants, Lilies, Narcissi, flowering shrubs, &c., that can be seen anywhere; and, what makes a visit to this garden the more interesting, every plant is legibly and correctly named. A list of the best varieties of herbaceous plants is appended. Amongst the flowering and other choice shrubs we noticed large clumps of the *Clematis Vitalba* and *C. Flamula*; *Crimson Rambler Rose* grown up rustic pillars; *Salisbury adiantifolia* (or Maidenhair) tree, 14 ft. to 15 ft. high; *Prunus*, in variety; *Ailantus glandulosa* (or Tree of Heaven); fine bushes of *Bambusa Metake*, 9 ft. to 10 ft. in diameter and 12 ft. high; *Lilacs*, in great variety; and *Choisya ternata* in large bushes 5 ft. through. This plant is perfectly hardy at Beaumanor. *Rhus Cotinus* (or Venetian Sumach), *Berberis* in great variety and *Spiraea* adorn the grounds. Growing amongst some of the shrubs is *Tropaeolum speciosum*, which is effective; *Piptanthus nepalensis* is a lovely Broom-like flowering evergreen shrub. At the time of our visit we noticed several symmetrical trees of the John Downie Crab loaded with lovely crimson, oval fruit. During the whole of the year this garden is interesting and attractive.

The pleasure grounds and lawns surrounding the place contain some magnificent specimens of Conifers and ornamental trees. Some of the most striking are *Taxodium distichum* (Deciduous Cypress); *Cryptomeria japonica* (Japan Cedar), magnificent specimens; *Cedrus atlantica*, *Picea nobilis*, *Wellingtonia gigantea*, Cedar of Lebanon, *Cupressus lutea*, *Araucaria imbricata*, and a most graceful and striking variety of the English Yew, spreading its branches to a width of nearly 100 ft. These are a grand picture in themselves. Altogether the surrounding grounds of this mansion are in excellent keeping. The varieties of the different ornamental trees and shrubs produce a charming and chaste effect.

On leaving the lower garden and pleasure grounds, we wended our way to the gardener's house, some quarter of a mile distant. On leaving the gardener's house we enter a large enclosure (or frame ground) situated on the west side of the kitchen garden. The various plots are well protected by Holly and Privet hedges. In addition to the brick and turf pits there is a number of glass houses. The first house (No. 1) is a large span-roofed stove, containing a grand and varied lot of foliage and flowering plants, including Crotons—all the leading varieties—*Alocasias*, *Dracaenas*, *Anthuriums*, a fine lot of *Eucharis grandiflora*, 4 ft. in diameter, *Pancratiums*,

5 ft. in diameter, a magnificent lot of *Adiantum farleyense*, *Pandanus Veitchii*, &c., &c.

No. 2. A long low span-roofed house we found contained a magnificent lot of plants suitable for house and table decorations, including beautifully coloured *Crotons*, *Dracaenas*, *Areca lutescens*, *Geonoma gracilis*, *Kentia helmoreana*, *Cocos weddelliana*, &c.

No. 3.—The Orchid house does not contain a large variety, but what there are are most useful and healthy plants. They include *Coelogyne cristata* (true Chatsworth variety). Many of the above are 4 ft. in diameter, and will produce thousands of their lovely flowers. *Laelias*, a great variety of *Cypripediums*, *Calanthe velchiana*, *C. vestita*, and others are most vigorous, and no doubt will produce spikes 4 ft. in length. There is also a fine batch of *Dendrobium nobile*. In this house we found a lovely dwarf *Gloxinia*-looking foliage plant with bright blue flowers—*Saintpaulia ionantha*. This is very effective for the front of a stage.

No. 4.—We come to a large lean-to house, the stages of which are almost entirely filled with *Azaleas*. Underneath the stages are planted *Pteris cretica cristata major*, growing most luxuriantly, and

bers and Melons. Several splendid Melons were hanging, ripe, on the day of our visit, October 6th, variety William Tillery, and a green-fleshed variety (one of Mr. Hamshire's own raising). The only variety of Cucumber grown here, for either winter or summer use is Veitch's Improved Telegraph.

An immense quantity of winter and flowering subjects is grown in brick pits in this enclosure. Two thousand *Freesias* alone are grown in pots and in various stages. Large quantities of Roman *Hyalcinths*, *Narcissi*, *Carnation Malmaison*—both the flesh and yellow varieties—*Carnation Prince of Wales*, and *Duchess de Consillo*; *Amaryllis* (Veitch's strain) *Primulas*, *Cinerarias*, &c., are grown here. Still in the enclosure we see thousands of Christmas Roses, grown in beds in the summer, taken up and placed in the turf-pits as required. These produce large numbers of flowers during the winter.

Several other turf-pits are filled with *Violets*. The only varieties used are *Marie Louise* and the old *Neapolitan*—perhaps two of the best yet for cultivation.

In addition to the above, large quantities of winter and spring flowering plants are planted out in beds and taken as required in the autumn and winter for forcing. These include *Lilac virginalis*, and *Persian*

A splendid crop of the latter was hanging at the time of our visit.

The Peach and Nectarine houses are also in three divisions, the lengths respectively being 80 ft., 60 ft. and 50 ft. In the early house are grown *Royal George* and *French Galande* Peaches, *Rivers' Pitmaston Orange* and *Lord Napier Nectarines*. In the second house are *Royal George*, *Grosse Mignonne*, *Walburton's Admirable* Peaches, and *Rivers' Pitmaston Orange*, *Lord Napier* and *Victoria Nectarines*. The late house is devoted entirely to *Victoria Nectarines*.

The Fig house (50 ft. in length) is entirely occupied with *Brown Turkey*. The first crop generally ripens early in May and a continuous supply is produced until the middle of October.

On the east side of the walled-in kitchen garden, Mr. Hamshire laid out, a few years ago, an acre and a-half of additional fruit and kitchen garden. The fruit trees which consist principally of *Apples*, *Pears* and *Plums* in all the leading varieties, are grown chiefly in bush form and produce annually large quantities of the choicest fruits. The vegetables include *Peas*, *Beans*, *Seakale*, *Broccoli*, &c.

Outside and parallel with the kitchen garden walls, and about 40 ft. removed from them, that is, except-



MESSRS. TOOGOOD & SONS' WAREHOUSE, SHOWING ELEVATION.

producing the entire season thousands of their lovely fronds. Adjoining this house is a lean-to filled with healthy plants of *Maidenhair Ferns*.

A range of Pine pits, divided into three compartments, containing suckers, succession, and fruiting, all of which are in fine form, and healthy, is situated in this enclosure. The varieties grown here are *Smooth Cayenne*, *Charlotte Rothschild*, *Black Jamaica*, *Queen*, and *Moscon Queen*.

Mr. Hamshire depends chiefly for his supply of fruit in winter on *Smooth Cayenne*. It swells well and has well developed pips during the winter. On the occasion of our visit we saw fruit of *Smooth Cayenne* 8 lbs. in weight.

Another large span-roofed house contains *Coleus*, *Bilbergias*, *Begonias*, *Bouvardias* (var. *Alfred Neuner*, *President Cleveland*, and *President Garfield*), and *Streptocarpus* (Veitch's improved strain).

Close to this is the Rose house, another span-roofed erection. The only varieties grown are *Safrano*, *Isabella Sprunt*, and *William Allen Richardson*. Underneath the Roses there is a fine hatch of *Poinsettia pulcherrima* and *P. p. plenissima*.

In still another house (span-roofed) adjoining the Rose house, is a healthy lot of zonal *Pelargoniums*—all Pearson's best varieties.

There is a low span-roofed house used for Cucum-

Lilac, *Prunus*, in variety, *Azalea mollis*, *Deutzias*, and small stocky, well-budded *Rhododendrons*. Large quantities of *Michaelmas Daisies* are taken up from the open ground in September and potted up, which are found most useful during October and November, and even in December. The varieties are *Aster Novi-Belgii* *Thomas Ware*, *Harpur Crewe*, *Robert Parker* (the best lavender-blue grown), *A. corymbosus*, *A. umbellatus*, *Purity*, and the yellow-flowered *A. Linosyris*.

THE KITCHEN GARDEN.—Leaving this ground we enter the kitchen garden—about three acres within the walls—a picture of neatness and good cultivation. The walks are broad, well made and edged with neat serviceable tiles. On the north-east and west walls we saw splendidly trained trees in full bearing condition—*Cherries*, *Plums*, *Pears*, &c. On each side of the walks are perfect specimens of dwarf pyramid *Apples* and *Pears*. A neater or better kept or cropped kitchen garden, it would be difficult to find. A long range of vinerias and Peach houses with a Fig house, occupy the entire length of the south wall. The vinerias are divided into three sections, viz., early, second and late. The early house is planted with *Hamburgh*, *Muscat of Alexandria* and *Madresfield Court*. The second has all *Madresfield Court*; the late house, all *Lady Downe's Seedling*.

ing the south wall, is a magnificent *Holly* hedge planted about sixty years ago, 8 ft. in height and 5 ft. wide at the base. This is one of the best *Holly* hedges we ever saw.

During the fourteen years Mr. Hamshire has had charge of these gardens, and through the encouragement, generosity and kindness he has at all times received from the lady, Mrs. Perry Herrick, he has been able to carry out great improvements in the gardens generally.—J. B.

[Very lengthy lists of choice herbaceous and alpine or rocky plants accompanied the above descriptions, but considerations of space prevent their reproduction in full. Many plants are also grown for the sake of cut flowers. List of *Apples* and *Pears* were also supplied. We give a few of each to show their nature.—ED.]

HERBACEOUS PLANTS.—*Adonis vernalis*, *Borago laxiflora*, *Anemone japonica* and others, *Aquilegia glandulosa*, *A. Skinneri*, *Baptisia australis*, *Bupthalmum salicifolium*; many species of *Campanula*, *Centaurea*, *Eryngium*, *Helianthus*, *Phloxes*, *Asters*, *Paeonies*, *Hemerocallis*, and *Rudbeckia*; *Chelone barbata*, *Cypripedium spectabile*, *C. Calceolus*, *Echinops Ritro*, *Echinacea purpurea*, *Epimedium alpinum*, *Amaryllis Belladonna major*, *Geum minimum*, *Liatris spicata*, *Monarda didyma*, *Ostrowskya magnifica*, *Sanguinaria canadensis*, *Tropaeolum speciosum*, *Rubecula laciniata* fl. pl., and many others, which are being added to by new things as they are sent out.

(To be continued.)

PUTNEY PARK LANE NURSERIES.

THOSE who have been privileged to see some of the great banqueting or city-dinner decorations in any of our large cities, but more especially in London, may have been just a little perplexed as to how the fine plants were arranged for, and who supplies plants of such convenient size, seemingly to suit every phase of need. It was our business lately to make an inspection of the stock grown by one of our leading London firms who are extensive furnishers—that of Mr. William Iceton, Putney Park Lane, Roehampton. He grows nearly everything by the thousand. Palms there are in every form of gracefulness or sturdy vigour. Those which are most popular with the general public such as *Thrinax*, *Kentia*, *Phoenix*, *Latania*, *Livistonas*, *Arecas*, and others are, as anyone would reasonably expect, grown in large quantities. The glass department must cover a large area, I shall not make a guess at how much, but there are very many houses serviceable for a market man's needs. At my visit about a month ago, the growers were busy top-dressing or re-potting them. It seemed rather a peculiar time in the year for the operations, but upon enquiry the intelligence was given that during the season—spring—when potting is generally done, Mr. Iceton's plants are being then most actively transported from place to place. One might be inclined to think that plants which are so frequently out about, would have before now retaliated by dropping the leaves or by ill-health in some form. Evidence of this is not observable on the plants at Putney Park Lane, for all of them were clean and growing serenely.

Bamboos, in a few favourite kinds, are also extensively cultivated. *Eurya latifolia* being a bright-leaved, half hardy greenhouse shrub, amenable to various conditions of temperature, and a reliable plant to the class of buyers Mr. Iceton caters for, is also seen in large quantities.

Then for festooning pillars, draping prominences, or for tracing among the utensils and dishes of a dinner table, the *Smilax* is cultivated. I was surprised to find some monster plants occupying a house to themselves, and there they had been for ten years! They are planted out, and annually receive a top-dressing. The shoots are led straight up to the roof, and evidently they have found "their lines cast in pleasant places, and "from their goodly heritage they are disposed to yield a full return. *Asparagus* in varieties is found in other houses, and the density and thick sheaf after sheaf—the simile answers well in this case—of fronds, fresh, bright, strong, and broad, composed a unique and beautiful "tunnel" of greenery. I say tunnel, for in a span-roofed house, with plants on each side, and arching over the top, while nearly meeting at the bottom, the view presented was indeed like what a light, draped tunnel would be.

Serviceable *Crotons* and *Dracaenas* find a home, and the stock of these which Mr. Iceton owns embraces all the tried and popular favourites grown in bushy form, well coloured, and creditable in all respects.

As a change one is taken to see the forcing sheds, and here there are as many as 30,000 "crowns" of *Lily of the Valley* in various stages. Out on the paths or by the sides of the houses the visitor may see thousands of others boxed up, and ready to be taken in at any time. The same with *Duc Van Thol* and white *Pottebakker Tulips*, and *Roman Hyacinths*; indeed, all the class of bulbous flowers which the public are always asking for. *Liliums* must not be forgotten; nor *Roses*. Of the latter there is half an acre of plunged pot plants, and as Mr. Iceton must keep his florist shops in Covent Garden supplied from these plants, it goes without saying that they are as healthy and promising a lot as an expert grower knows how to secure and retain. Flowering plants are more or less confined to *Callas*, *Azaleas*, and *Chrysanthemums*, and of the last named there are some 3,000 handsome plants, the earliest of which had begun to flower.

Tomatos are grown in all favourable spots out of doors, while at the Chiswick branch of his establishment Mr. Iceton has ten houses, each 100 ft. long, entirely devoted to these plants. The varieties which this grower depends on are *Sutton's At*, *Ham Green*, and *Duke of York*. So many as 700 lbs. of *Tomatos* have been taken from the nursery every week during the height of the season. In the house wherein the stocks of *Araucaria excelsa* and *A.*

Cunninghamii flourish, the more recent *A. e. glauca* was strikingly well shown. The angular and more rigid habit, together with the glaucous hue of the boughs give this variety a fair measure of attractiveness. *Euonymus* and other pretty and hardy, non-deciduous shrubby plants are plunged in borders around the houses ready at any call to be used either for furnishing or for supplying the market. Mr. Iceton's trade is both wholesale and retail, and from the run through his place I am sure with such plants to chose from our buying public will not have their confidence shaken, or their appreciation for plants lessened so long as they get such as those seen at Putney Lane Park.—D.

BROKEN GLASS.

BROKEN glass, and fuel, are words, the mention of which almost make a gardener's hair stand on end. Where the purse-strings are held hard and every item of expense means another growl or frown from the employer, the worry, which continuous accumulations on the debit side of accounts load upon the poor gardener, is quite disheartening. He strives and strives and strives again, making a gain here, a saving there, and thinks that things are looking better and are more satisfactory. But through no fault of his own, probably all in pure accident, the panes of glass in a door, a roof, or a frame sash are broken and at one swoop another two, five, ten, twenty shillings, or even pounds sterling, are asked for by the glazier. Now a great deal of the glass which every year is broken about gardens, might with care be altogether avoided. All doors, or those at least where traffic is for any time continuous, ought to have catches or holders put to them. It is a simple matter to place a pot in front of the door, or a stake, but it is certainly easy also to knock over the pot, and a stake is not always convenient nor infallibly safe. The catches may always be trusted and in those places at least where the work and returns have to be shown in profit and loss, the outlay for catches and rubber buffers to the doors, soon repays itself.

For insurance against very heavy losses from hailstorms for instance, one might point out the Hailstorm Insurance Corporation, Ltd. Storms of wind are responsible for a large amount of damage in some parts of the country. Across the Yorkshire moors some frightful gales sweep, and a tremendous amount of damage has been done at times to those gardens which are scattered over the county. Ventilators are burst open and here we have the hint, that whenever there is a sign of coming gales, the man on duty should be active in having ropes and cranks fastened, tied even with stout tar-twine, and frames should all be pegged down. This reads all very well; speaking and writing are generally easier than doing anything, but lack-a-day "it's just myself who has had it do!" When one hears the crash of one sash colliding through half a dozen others or even against the sides or roof of a conservatory they are apt enough then to see that things have gone far enough and that some wedges of wood knocked firmly between the sashes must very quickly be there. The task is anything but acceptable on a dark night with a gale of ninety miles an hour raging with all its strength, and panes of glass smashing themselves like bomb shells on every side. Screws which can be turned across when required are handy and generally efficient enough.

Then when covering up the frames during frost, any sort of thing which will keep the mats down firmly are used for the purpose. Bricks, and planks, even pots are employed and sometimes without much caution. The result is seen in many cracked and broken panes. Good mats can generally be kept down by running stout strings along the whole length of the top and bottom of the mats. Screw-nails, or staples may be put in for fastening the string to. So that with all precautions duly taken the risks of breaking glass are greatly mitigated.

Words of caution cannot be given with justness upon paper. Good fuel always pays itself and for comfort both to the head gardener and his men only clean and good fuel should be used. If the draught and regulators are in good order, then the whole working of the fires, and the economic use of the fuel must be left to the stoker.—J. Harris.

Hellebore sprinkled on the floor at night is said to destroy cockroaches. They eat it and are poisoned.

GARDENING MISCELLANY.

WREATHS.

CYCAS leaves are well adaptable for arranging in wreath or floral constructions of this kind. For "horse-collar" frames one long *Cycas* leaf bent upward from the base to the top is the most magnificent piece of vegetable organism the floral decorator could employ. The blooms from flowers are loosely arranged at the bottom part of the "horse-collar" frames, leaving the upper parts of the frame-work with only the said leaves as drapery. When stretched across the inner part of a wreath, that is, from below the flowers on one side right across and upward to strike among the flowers on the opposite bend, like a feather, this gives a "dash" to the appearance of a lady's hat or bonnet.

DRACAENA GODSEFFIANA.

To see this plant for the first time brings to mind a delicate specimen of our hardy Japanese shrub, *Aucuba japonica*. Though more finely maculated, softer and smaller in the colour blotches, and with darker, thinner, and more lanky stems, yet, as I say, the resemblance is at one with the *Aucuba*. For lobbies not subjected to draughts this plants recommends itself.

PHRYNIUM VARIEGATUM.

WHAT we all agree upon is that a nice decorative plant should have the qualities of grace of outline, or be strikingly exact in the counter parts. The colours should be pleasingly blended or of brilliant contrast, and should, to be popularly used, have a robustness and hardihood of constitution. The above-named plant has an artistic habit of growth, is variegated with creamy-white on dark green, grows somewhat like a *Dracaena*, and is not exacting in its requirements.

ANEMONE JAPONICA.

ALL the autumn-flowering *Anemones* are lovely, either when viewed for their form, which is all simplicity, or for their colour, which is so distinct and pure. The above-named species is more a rosy-magenta, but pale, of course, for such a union of hue. It may not probably class well along with other colours, for at this season we have not a great variety of suitable contrasting or harmonious colours to choose from. The roots may be secured through the autumn or spring, and planted in beds of rich moist soil, or in clumps either in front of the shrubbery, in beds at the verge of lawns, or in the herbaceous borders.

ONION, AILSA CRAIG.

THE samples shown by Mr. Beckett in his exhibit at the Drill Hall, Westminster, on September 26th, showed what a really good variety this is. The form is even and perfect as a rule, and the keeping qualities of really sound and well ripened bulbs are well known. The bulbs do well in a rich deeply worked soil, in a warm position; and succeed about as well from a spring as an autumn sowing. It is a very desirable method to raise the young plants in boxes from a February sowing and not to plant them out until such time as they have become toughened and able to resist the attacks of the Onion fly.

POSOQUERIA LONGIFLORA.

I do not know whether all the *Posoquierias* are equal to the above or not, but it has proved to be one of the best stove flowering plants we have. The one hard point with it is its propagation. Cuttings of the half-firmed wood take a long time to strike, but patience should be a quality with gardeners. When the plants have gained a fair size, that is, are filling eight-inch pots, the wood growth may then be subjected to flower production by keeping the roots confined. Pruning can safely be resorted to when the heads develop too cumbrously; this need not be, however, for some years. The flowers are borne in corymbs at the end of the current year's shoots, expanding at various times according to treatment. They are white, very long and sweet scented; indeed, they are not unlike a *Bouvardia* truss much lengthened. Handsome plants are very valuable.—J. H. D.

SOLANUM WENDLANDII.

SINCE its introduction in 1882 this, one of the largest and handsomest of the climbing Solanums, has made great headway in popular appreciation. Every gardener who has a rafter in his stove which he wants to profitably cover, could not do better than buy a plant or two of *Solanum Wendlandii*. The lilac-blue flowers are $2\frac{1}{2}$ in. in diameter, and droop in clusters of great profusion. The leaves are also ornamental, being bright green but varying in length from 2 in. to 10 in. It will succeed if carefully planted in a rich, loamy soil. A position where good light prevails seems to suit its requirements.

PORTULACAS.

CONSIDERING the beauty of all the Portulacas, either the perennial or annual kinds and the long displays which most of them make in all their variety of colour, it is to be regretted that they are not more frequently to be seen in the north or in Scotch gardens. The annual kinds succeed on warm rockeries in light soil almost anywhere. Seeds should be sown in boxes in springtime and the plants very carefully placed out later on. The greenhouse species require some care and are not so worthy as outdoor species.

BROWALLIA SPECIOSA.

FOR affording a neat little window plant or for producing fine and graceful sprays of bloom during the winter few things are finer than species of *Browallia*. The above is in flower in great abundance in one of the cooler houses at Kew at the present time. Seeds of this *Browallia* sown in spring or early summer are in time for producing good flowering plants by Christmas. We only throw out the hint so that those desiring a few plants in the coming year may have the seeds by them for early summer sowing.

PRIMULA FLORIBUNDA.

THERE are few gardens without a stock of this bright yellow-flowered little *Primula*. Everywhere one sees it and the few who do not possess it, very much wish they had. We do not believe in sowing too early; March is soon enough, because if the seedlings are potted up before the finer weather comes along they seem to make no headway. It is the best plan to prick them off into boxes giving them light but fibrous soil, and leave them there until they are able to be potted into 3-in. pots.

SALVIA SPLENDENS GRANDIFLORA.

AMONG *Salvias* we have plants whose flowers are the brightest in their line of colour. The old *Salvia* Blue Beard is as blue and rich as *Gentiana acaulis* or *G. verna*, while *Salvia splendens grandiflora* is almost as fiery in its redness as is *Euphorbia fulgens* (*jacquiniaeflora*). The above plant is easy to cultivate, as all know who have had it in their care. Young plants can be grown from the autumn on through the winter and will make fine large bushy plants crowned with many racemes of flowers by October or earlier. Old plants may be cut back after they are out of flower and rested for a while. If they are then shaken out and potted into a size larger pot and started these two will flower the next year at a time when such plants are most appreciated. In their growth some care must be exercised so that the plants may not become drawn or spindly, else they will never be flower producers. Used as a bedding plant beneath the white-leaved *Acer negundo variegata* no finer effect could be planned. It furnishes a handsome dwelling-room plant.

DACTYLIS GLOMERATA ELEGANTISSIMA.

IT is as a "relieving" plant I would here draw attention to the above. In lines and dotted over beds, especially beneath tall and dark foliaged subjects, it is very useful, and furnishes a harmonious union as well. But in another way it has qualities. We had a border about 60 ft. long and $3\frac{1}{2}$ ft. or 4 ft. wide against a Yew hedge, which ran north and south. The border was planted out with a mixture of *Violas* in all colours. The soil was rich and the situation suitable. These *Violas* grew apace, and blossomed thickly, but their beauty was marred because of the flatness of the border. We, therefore, resolved to dot in a sprinkling of the *Dactylis* plants. The few plants we had were divided and placed in small pieces irregularly over the area. By receiving

attention they did well, and soon were waving their long grass blades quite above the little *Violas*. After that there was no failure in the effect.—*R. S. N.*

CALYSTEGIA (CONVOLVULUS) HEDERACEA FL. PL.

IS out of the common run of what we generally think of as a herbaceous plant, classing itself rather with hardy climbing plants. Albeit, it is none the less beautiful. I think it just lovely at this time. The form to see it at best advantage from is when it is massed upon a rugged post or support. As a rule, all plants with closely fitting dark green pendant leaves, dissected or not, seem to me very effective when they have spanned upward a certain height and then grow suspended from their vantage. This variety of the Ivy-leaved *Convolvulus* has sweet showers of pale-pink double flowers, which are the more delightful when one is close by them. Given a free root run in any quality of soil and a partly shade slope the grower of this plant will find it a beautiful garden ornament.

VEITCH'S SCARLET MODEL CARROT.

THE advantage of this style of Carrot, the contracted and stout rooted form, is more evident in shallow soil; not that it does best in such a soil by any means. Where the rooting medium is contrary to deep penetration, as in some chalky districts and over hard subsoils, it becomes necessary either to make an artificial bed by constant and liberal additions, or to use a variety of Carrot which gives all its substance in a bulky mass still having good forms.

ASTER AMELLUS JOSEPH LAKIN.

THIS is a very hardy and beautiful border variety of the Michaelmas Daisy. Messrs. Barr & Sons grow this thing very well at their Long Ditton Nurseries, Surbiton. The petals are 1 in. long, and very star-like in appearance, which lend it a great attractiveness. Deep lavender is the colour of this hardy Daisy flower, and for cutting purposes nothing at this time is better, for the sprays of blooms are very long lasting.

APPLE, LADY KINLOCH.

A DISH of this splendid and comparatively recently introduced cooking Apple was shown at a recent Drill Hall meeting of the R.H.S., by Mr. James Day, gardener to the Earl of Galloway, Galloway House, Garlieston, N.B. From among the host of other dishes each with very fine samples, this variety came in for considerable attention. This resulted from the facts that the specimens were really good, in size, form, and—for a cooking Apple—in colour. The fruits much resemble those of *Mère de Ménage* when this is grown well. The Lady Kinloch was raised by Mr. John Brunton, Gilmerton, East Lothian, who placed the stock in the hands of Messrs. R. B. Laird & Sons, Ltd., Edinburgh, who now distribute it.

A PRETTY FLORAL ARRANGEMENT.

IN Moller's *Deutsche Gartner Zeitung* lately there appeared an engraving of a pretty floral design. *Cycas* leaves, as in most of these handsome arrangements formed a strong and beautiful background and from the fact of their being arranged in a curving manner, that is, the fronds arch to the right side, great piquancy was given. Lilies were used in close array in the centre, but more loosely toward the edges and top of the design. *Asparagus Sprengeri* was used, interspersed with *Polypodium* fronds round three-quarters of the base and sides.

Crab Apple Tree.—The Crab Apple leaf is affected with rust, a well-known fungus disease which is quite prevalent certain seasons. One stage of this fungus occurs on Cedar trees, producing what is known as Cedar Apples. The spores, or reproductive bodies from the Cedar Apples are carried to the Crab Apple leaves by the wind or other agencies, and by infecting the tissues produce the characteristic spots. The spores from these spots are in turn borne to the Cedar trees, where they live through the winter. There is no satisfactory remedy for the disease, and about the only way to get rid of it is to remove and destroy all Cedar trees in the vicinity.—*The American Florist.*

SOCIETIES.**LIVERPOOL ROOT AND FRUIT SHOW.—**

October 14th.

THE importance of this exhibition, which was held in a large marquee near the Haymarket, was shown by the Rt. Hon. the Lord Mayor of Liverpool performing the opening function, and by the presence and patronage of the Rt. Hon. Earl of Derby, K.G., who evinced a warm interest in the numerous and finely grown exhibits. The show is held under the auspices of the Liverpool Farmers' Club, and is unique in its production of fine tubers in many varieties. Although the dry season has generally shown itself in the smaller roots, this was not observable at the show. Potatoes, Turnips, Cauliflowers, and Celery, were fully up to the average. Apples and Pears were also of very fine quality. The merit of the exhibition is forcing its power on the gardening community as shown by their desire to enter into competition and their presence. The exhibits numbered nearly 1,000 and added to these were many known stands not for competition.

POTATOS.

Potatoes as usual were the leading feature. No less than 514 dishes were entered into competition, and owing to the length of the schedule only first prizes will be quoted except in special cases.

White Early Kidney, Mr. B. Ashton, Lathom Hall Garden, with Wehbs' Express. Sutton's Early Regent, Mr. John Halsall, Burscough. White Early Round, Mr. J. Johnson, Ormskirk, with Superb of fine shape. White second early Kidney, Mr. Thos. Alty, Lathom, with large British Queen. White second early, Mr. Thomas Percival, Warrington, with Challenge. Early or second early, any shape except Kidney or Round, Mr. Edwin Clarke, Warrington, with Royal Standard.

Snowdrop, or Lord of the Isle, Mr. B. B. Raymond, Ludlow, with the former. Lymm Grey, Mr. James Parker, Manchester. Reading Giant or Colossal, Mr. James Parker, with large tubers of the former. Sutton's Satisfaction, Mr. Thos. Reason Salop, with an even lot. Carter's Snowball, Mr. W. Foster, Shropshire. Up-to-date or General Roberts, Mr. Thos. Alty, with fine shaped specimens of the former out of thirty-five entries.

Late Maincrop, Mr. John Halsall, out of twenty-six entries. Late Bruce, Mr. James Johnson. Late Langworthy, Mr. Edward Tinsley, Ormskirk. Late Kidney, any other variety, Mr. Edwin Clarke, Warrington, who also secured Wehbs' special prize with Motor. Late round, any other variety, Mr. D. Oldfield, Altrincham, who also won the special, by friends of the society, with Goldfinder. Late, any other variety, except kidney or round, Mr. George Ashley, Manchester, who also won the specials given by R. Blezard, Esq., and friends of the society, with Syon House, of grand shape and size.

Red or coloured early or second early, Mr. B. Ashton, with Reading Russet. For a kidney variety, the same exhibitor won with Mr. Bresse, which also gained a special given by the friends of the society. Red or coloured late kidney, Mr. J. R. Newton, Warburton, with Edgecote Purple. Red or coloured late round, Mr. B. Ashton, with Vicar of Laleham. Heaviest, old or new, Mr. John Threlfall, Ormskirk.

NEW VARIETIES.—Early or second early kidney, Mr. John Halsall, with Arthur Stanley. Early or second early round, Mr. Jas. Johnson, with Express. Late kidney, or any shape except round, Mr. Geo. Ashley, with Syon House, fine. Late round, Mr. Jas. Johnson, with Sirdar (King's).

SPECIAL PRIZES.—For three distinct dishes, seven tubers (prizes given by Messrs. Sutton & Sons, Reading), Mr. B. Ashton won with Satisfaction, Abundance, and Harbinger, a fine lot. Messrs. James Johnson and Thomas Mason were second and third. For the best nine tubers bearing Sutton's name, Mr. Thos. Mason, Sandbach, with Satisfaction, Messrs. E. Clarke, Geo. Ashley, and B. Ashton the remaining prizes. For three dishes, eight in a dish (prizes given by Messrs. E. Wehbs & Sons), Mr. P. Oldfield, Altrincham, was to the fore with Motor, Industry, and Record, Messrs. J. R. Newton, and B. Ashton following.

Fidler's Queen prizes, given by Messrs. Fidler & Sons, were taken by Messrs. James Johnson, John Halsall, and S. T. Rosotham. A few other special classes were offered, but the prize cards were not on at the time of taking notes.

TURNIPS AND OTHER VEGETABLES.

Swedes, three (Bronze Medal), Mr. J. Wynne, Chester. Three Gateacre Swedes, Mr. R. Podmore, Sealand. Three heaviest, Mr. W. Sheperd, Wrexham.

Six white Turnips, Mr. P. Oldfield. Six yellows, Mr. C. Warburton.

Two Red Cabbages, Mr. R. Ashcroft, Magbull, with grand specimens. Two Scotch, Mr. J. Smith, Fazerakley.

Two stalks Brussels Sprouts, Mr. C. Warburton.

Two Cauliflower, Mr. C. Warburton, with immense grand heads, out of twenty-one entries.

Three sticks red Celery, Mr. John Wright. Three white, Mr. James Johnson. Three pink, Mr. Edward Tinsley. All were well shown.

Six long Carrots, Mr. C. Parker, Chester. Six intermediate, Mr. Jas. Fox, Kirkham. Six Shorthorn, Mr. B. Ashton.

Six Beet, Mr. R. Blezard, with six Dickson's Reliance.

Six Parsnips, Mr. Thos. Brocklebank, Cbesbire.

Six Onions, Mr. B. Ashton, with fine Ailsa Craig, weighing 13 lbs. 12 ozs.

Six Leeks, Mr. G. Taylor, Chester.

Two Cucumbers, Mr. T. Alty.

Six Tomatos, Mr. A. Bruckshaw, Tarporley. Six yellows, Mr. T. Brocklebank.

Any other root or vegetable was difficult to grasp. Mr. C. Warburton was first with Horseradish. Mr. A. Bruckshaw, second, with Globe Artichokes, and third for root of Parsley; a fine lot of Scarlet Runners being left out.

FRUIT.

Six Apples, culinary, equal first, Messrs. J. Piggott, Chester; and Mr. B. B. Raymond, Ludlow, with well coloured large Peasgood's Nonsuch. Messrs. R. Ireland, Blackburne Hale, and William Foster, Shropshire, equal seconds with Warner's King and Mère de Ménage.

Six dessert, Mr. J. Piggott, with Cox's Orange.

Six culinary Pears, Mr. R. Mackerill, Formby, with heavy Vicar of Wakefield. Six dessert Pears, the same exhibitor with Pitmaston Duchess.

Six culinary Apples, special prize, Mr. R. Mawdsley, Halewood, with Peasgood's Nonsuch. Six dessert Apples, Mr. O. Roberts, with Ribston Pippin.

Six dessert Pears (special prize), Mr. T. Tushingam, Speke.

Any other variety of fruit, Mr. B. Ashton was first, with Muscat of Alexandria Grapes; Mr. W. Richards, with Plums; Mr. C. Roberts, with Black Hamburg Grapes.

The arrangements were well carried out, but if the committee enforced the naming of exhibits, as is done in the Potatos, the value of the show would be enhanced. The secretarial duties were fulfilled by Mr. R. Mawdsley, Halewood; and Mr. A. Peppin, Anfield.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Potato Scabbed.—F. G. Brewer: The cause of scabbing in Potatos is not very well understood; but we should not think that the variety has much to do with it. In any case, many varieties are liable to be affected. Certain soils, in our opinion, are more liable to produce it than others, particularly heavy and rich soils, which might mean the presence of microbes or fungi, or both. Many cultivators regard it as a kind of disease; and some experiments have been made in America with the view of checking it. Cultivators in this country, on the contrary do not seem to have done much, if anything, in the way of experiment, at least with any pretensions to the science of the subject. Sulphur was most effective in checking the evil in America, and the plan that proved most effective was the sowing of flowers of sulphur (that is, sulphur in the form of a powder) in the drills at planting time. The sulphur was believed to kill the germs which produces the skin disease, known as Potato scab. The specimen you sent was a very bad one; so that you might try the above remedy in spring.

The Proper Time to sow Walnuts.—J. S. W.: The best plan to pursue would be to stratify the

nuts in moist sand till towards the end of February or in March when they may be planted out. By so doing the nuts are less liable to be attacked by vermin between this and spring. A simple way would be to place a layer of moist sand in a box, then a layer of nuts, and so on till the box is full. Stand it in a cellar or some cool place, secure from frost, and where the nuts will not get dried up. Prepare the ground or seed bed by trenching the soil 2 ft. deep. Then when finer weather is returning, and the soil is in a dry and workable condition, plant the seeds in rows about 18 in. apart each way. During the succeeding autumn the trees should be transplanted to 2 ft. or 3 ft. apart each way according to the growth they have made, removing the tap root. After this you should transplant them every second or third year, till finally planted in their permanent positions. The process of transplanting causes the trees to come into bearing much sooner than those placed in their permanent positions at once.

Daphne Mezereum and Fowls' Dung.—M. M'Laren: As to whether the fowls' dung, used as a mulch, was injurious or not would all depend upon the quantity used. Too much of this manure would very soon kill many plants, as it is highly concentrated. We have seen healthy plants of Lathyrus latifolius gradually dwine and die away, root, stem, and leaf, after a good sprinkling of hen manure had been put round the crowns. The Tenby Daffodil behaves in the same way when mulched with farmyard manure. We do not think that Daphne Mezereum requires rich feeding at all. Leaf mould might be used, or nothing. The condition of the roots would seem to indicate that the manure or the transplanting did not agree with them.

Insect in Fir Wood.—M. M'Laren: The specimen you sent was the female of Sirex juvenis, the steel-blue Sirex. It is pretty common in the wood of the Scotch Fir, and less often in the wood of other Conifers. It had just reached the perfect state and would soon have left the wood to lay eggs like its mother, and so multiply the pest. The larvae or grubs do much harm; but the chief method of destroying them is to cut down and destroy all trees that are badly affected, as may be seen by the holes in them pierced through the bark. Fallen and decaying timber should not be allowed to lie about in growing woods, as they invite attack. Other insects also bore into the Fir stems.

Alstroemeria haemantha.—M. M'Laren: This plant is reckoned a good species, and is a native of Chili. It is catalogued by Messrs. Ant. Roozen & Son, Overveen, near Haarlem, Holland, and is described by them as having scarlet, purple and orange flowers, the plant growing to the height of 3 ft. At least four species have been named A. pulchellus, and the figure under that name in the *Botanical Magazine* t. 2354 is A. haemantha. The address of Mr. D. T. Fish is 12, Fettes Row, Edinburgh.

Names of Plants.—J. S. L.: 1, Carpinus Betulus incisa; 2, Epimedium perralderianum, apparently, but you should send flowers and leaves in spring; 3, Quercus pedunculata heterophylla; 4, Taxodium distichum; 5, Tilia cordata laciniata.—R. M.: 1, Aster vimineus; 2, Aster multiflorus; 3, Aster laevis; 4, Aster Novi-Belgii var.; 5, Aster Novae-Angliae roseus.—J. W.: 1, Acer platanoides; 2, Cornus sanguinea; 3, Berberis Thunbergii; 4, Rhus glabra laciniata; 5, Arbutus Unedo.—W. K.: Oncidium carthaginense.—W. M.: 1, Salvia splendens; 2, Pellionia daveauana; 3, Cyperus alternifolius; 4, Carex brunnea variegata; 5, Olearia Haastii.—A. L.: 1, Begonia semperflorens; 2, Begonia angularis; 3, Pteris cretica albo-lineata.—C. S.: 1, Odontoglossum grande; 2, Oncidium Forbesi; 3, Laelia pumila; 4, Cattleya labiata var.—J. S.: 1, Chrysanthemum uliginosum; 2, Stenotaphrum americanum variegatum.

Fruit to Name.—John Duff: Apples, 1, Hornmead Pearmain; 2, Court of Wick; 3, Pott's Seedling; 4, Dumelow's Seedling; 5, Bess Pool; 6, Hollandbury.

Communications Received.—Geo. Potts.—J. McBride.—H. J. H.—Omega.—Dr. H. Bos.—T. B.—W. M.—H. J.—Alex. Herd.—J. K.—A. L.—A. P.—R. W.—A. E. S.—T. & S.—M. D.—A. S.

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Cobs	0	6	0	half sieve	
Grapes, per lb.	0	8	2	Cherries, per half	
Pine-apples				sieve	0 0 0 0
-St. Michael's each	2	6	7	Raspberries, per cwt.	0 0 0 0
Strawberries per p'ck	0	0	0	Ripe Gooseberries,	
Black Currants, per				per half sieve	0 0 c 0
half sieve	0	0	0		

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Asparagus,per hundle	0	0	0	Horse Radish, bundle	1	0	2	0
Beans, French, per				Lettuces ...per dozen	1	3	1	6
per lb.	0	9	1	Mshrooms, p. basket	1	0	1	6
Beet..... per dozen		1	0	Onlons.....per bunch	0	4	0	6
Brussels Sprouts				Parsley ... per bnncb	0	3		
per half sieve	1	0	1	Radishes... per dozen	1	0	1	6
Cabbages ... per doz.	1	0	1	Seakale...per basket	1	6	2	0
Carrots ... per bunch	0	3		Small salad, punnet		0	4	
Caniflowers.....doz.	2	0	3	Spinach per hushel	2	0	3	0
Celery.....per hundle	1	0	1	Tomatos..... per lh.	0	2	0	4
Cornn bers per doz.	0	10	1	Turnips per bun.	0	3		
Endive, French d. z.	1	6	2					

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BARRII CONSPICUUS, large yellow perianth, broad short cup, conspicuously edged bright orange-scarlet, a flower of much beauty and refinement, per 100, 15s.; per doz., 2s. 3d.

BARRII FLORA WILSON, pure white perianth, cup deeply stained orange-scarlet, a very striking flower, per doz., 10s. 6d.; each, 1s.

LEEDSII DUCHESS OF WESTMINSTER, large white perianth, long soft canary cup tinged orange on first expanding, per doz., 25s.; each, 2s. 6d.

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FREESIAS, fine bulbs, 1/9 100.

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Dwarf Rose Trees, in 12 varieties, 7/- doz.

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Florist, GUERNSEY.

National Chrysanthemum Society.

ROYAL AQUARIUM, WESTMINSTER.

NOVEMBER 7th, 8th, and 9th, 1899.

Great Show of Chrysanthemums, Fruit, & Vegetables.

MONSTER VASE COMPETITION, Fruit & Vegetables

IN ST. STEPHEN'S HALL.

Schedules of Pizes on application to RICHARD DEAN, RANELAHO ROAD, EALING, W. Secretary.

GREAT CHRYSANTHEMUM SHOW AT BELFAST.

The Ulster Horticultural Society will hold their Annual Show on NOVEMBER 14th and 15th next, when prizes value £53 will be offered in open competition for twenty vases Japanese blooms.

Entries free and close on November 7th. Schedules on application to—

J. MACBRIDE, Secretary, Victoria Square, Belfast.

Croydon Chrysanthemum Society.

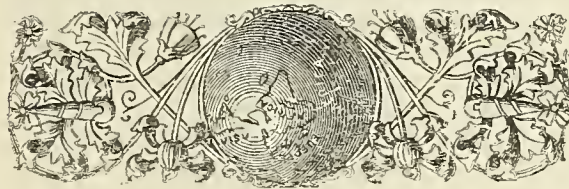
THE TWELFTH ANNUAL SHOW,

Public Halls, Croydon,

Tuesday & Wednesday, Nov. 7th & 8th, 1899.

CHALLENGE VASE, 25 Guineas,
Other Cups and Prizes, total £115.

Entries close November 2nd.—W. B. BECKETT, 272, Portland Road, South Norwood.



"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, OCTOBER 28th, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, October 30th.—Sales of Dutch Bulbs by Mr. J. C. Stevens, and Messrs. Protheroe and Morris.

TUESDAY, October 31st.—Sale of Dutch Bulbs by Messrs. Protheroe and Morris. Sale of Nursery Stock at the Hale Farm Nurseries, Tottenham, by Messrs. Protheroe & Morris (2 days).

WEDNESDAY, October 25th.—Sales of Dutch Bulbs and Plants by Mr. J. C. Stevens, and of Dutch Bulbs by Messrs. Protheroe & Morris.

THURSDAY, October 26th.—Sales of Dutch Bulbs by Mr. J. C. Stevens, and Messrs. Protheroe & Morris.

FRIDAY, October 27th.—Sales of Dutch Bulbs by Messrs. Protheroe & Morris.

AUTUMN TINTS AT DANESFIELD.—As we stated some months ago many important improvements have already been effected on the large estate of Danesfield, Great Marlow, Bucks, since R.W. Hudson, Esq., came into possession a short time ago. Other improvements are in the course of progress, and from all appearances these will continue for years to come. Many parts of the estate are richly wooded and fresh plantations of thousands of trees continue to be made, both in the vicinity of and at a distance from the mansion. Beech and Conifer woods occupy the chalky heights on the opposite side of the valley from the ridge on which the garden and pleasure grounds are situated, and the contrast between the rich brown and yellow of the Beech, with the sombre green and glaucous hues of the Conifers is strikingly marked at the present time. A few other deciduous trees offer shades of varying colour. Something of a lighter hue was wanted in front of the Conifers, so as to show up against the dark background in spring, summer, and autumn. A broad and wavy belt of Larch has been planted along the steep slope of the chalk. White Thorns, Laburnums and other flowering trees to be planted along the fringe of Douglas Firs, Cedars and dark Pines will produce charming effects during their season.

On the western slopes of the chalk ridge on which the mansion is situated improvements have been going on for some time and will be continued during the planting season. A wilderness of crowded and choked trees is being cleared away so as to open out views in various directions, both up and down the valley, as well as to rectify the slope and increase the expanse of grass. Whilst these clearances are being effected, Mr. Hudson, who has an eye for the natural beauty and antiquity of the place, preserves all the best of the trees, whether evergreen or deciduous. There are magnificent trees of *Picea Menziesii*, *Pinus excelsa*, *P. Laricio*, *Abies cephalonica*, *Cedrus Libani*, *C. atlantica* (almost as blue as *C. a. glauca*), *Cupressus sempervirens stricta*, *C. thyoides*, *Libocedrus decurrens*, *Pseudotsuga Douglassii*, and many others, a magnificent tree of the last named, 90 ft. high, carrying a heavy load of cones.

Amongst the deciduous trees fine specimens of *Quercus rubra* were putting on their purplish-red, brown and ultimately yellow tints characteristic of the Red American Oak, and to some extent resembling that of the Beech. The Norway Maple is a mass of golden yellow, more particularly where fully exposed to light and air. The English Maple is a finer yellow than we remember having seen it before. The Medlar is ripening its fruits as well as its bronzy-red leaves. Several of the Chestnuts or Pavias are also highly conspicuous in yellow shades in different parts of the grounds. The Snowy Medlar glories in bright red and bronzy-red hues that have been telling even at a distance for some time past.

There are many splendid Elms which will presently change to masses of golden-yellow; but near the mansion is a magnificent tree of the Smooth-leaved Elm (*Ulmus glabra*) about 90 ft. high, and forming a perfect pyramid, the foliage at present being of a deep green, shining and perfectly smooth to the touch. This Elm is remarkable in that it does not throw up suckers, but the large and widely rambling roots are in many places exposed on the surface of the grass. Near the western lodge is the largest tree of *Paulownia imperialis* we have seen. It stands about 35 ft. high, and has a broad spreading head, now well furnished with flower buds, which we hope the severities of winter will spare to expand in spring. The leaves are very large, gray and now falling. Needless to say other deciduous trees that colour up handsomely in autumn are to be planted, and the sylvan beauty of the place thereby augmented. Ampelopsis Veitchii on walls at the above mentioned lodge are resplendent in bronzy, red, dark purple-red and other strikingly attractive shades of colour.

THE PEOPLE'S PALACE, GLASGOW.—The eagerness with which the city authorities at Glasgow have secured open or breathing places for the people, even in advance of the actual requirements in the suburbs, is a striking and characteristic feature of modern municipal government, but particularly, we should say, of the second city of the United Kingdom. Glasgow Green is the oldest of the open spaces in the city, having been acquired at various times between 1662 and 1792. It is the second in size, running to 136 acres, while Bellahouston Park, secured as recently as 1895, runs to 178 acres. The People's Palace, however, is a recent addition to the necessities and luxuries of the people, having been opened in February, 1898. The huge building occupies an open and con-

spicuous as well as a central position, and includes a museum as well as a picture gallery and a winter garden.

Having very little time to spare, on the occasion of our visit, we directed our attention chiefly to the winter garden, which takes the form of a very high-roofed, rectangular palace of glass. Seats are freely distributed about the interior, which can be made to accommodate 3,000 people on occasion. The floor is of wood, which adds materially to the comfort of the people frequenting it in winter. The body of the building is occupied with relatively a few very large plants of Tree Ferns, Camellias, and such things as will thrive satisfactorily at a distance from the glass, and at the same time offer no impediments to the free movement of the people. There are tall specimens of *Cibotium Schiedeii*, *Dicksonia squarrosa*, and Camellias, all very healthy and well elevated in large tubs. Some Blue Gum trees, standing about 35 ft. high, are merely regarded as temporary occupants. *Acacia dealbata* stands about 30 ft. high, and must be handsome when in bloom. There are also fine trees of *Araucaria Bidwillii*, *A. Cunninghamii*, and large fruiting Orange trees. *Musa Ensete* is very conspicuous, owing to the amplitude of its red-ribbed leaves. *Stenocarpus Cunninghamii*, a member of the Proteaceae, with long and narrow lobed leaves, is grown here under the name of *Agnostus*, given to it by Cunningham himself. *Phoenix canariensis* and *Cycas revoluta* (planted out) rank amongst the foliage plants. Very striking is *Draecena australis*, 30 ft. high, being taller than we remember having seen this species. The recurving fronds of a large specimen of *Kentia belmoreana* show the characteristic features of this species as compared with the more upright *K. fosteriana*. Amongst the rarer and very distinct Palms is *Cocos Bonnettii*, with strongly recurving glaucous leaves. Many of the Camellias, Palms, and Phormium, grown in tubs, are elevated on pedestals, so that the leaves of the plants are well out of harm's way.

Around the sides of the building are shelves for the accommodation of dwarf subjects, particularly flowering plants, such as Pelargoniums, Hydrangeas, Gladioli, Fuchsias, Cannas, and night scented Tobacco. *Chlorophytum elatum variegatum* gives great satisfaction, and is grown in some quantity for affording colour. Large and bushy specimens of *Hydrangea hortensis* on the floor were laden with bloom. Probably, the largest specimen of *Begonia angularis* in the country may be seen here. It stands about 6 ft. high, and carried numerous cymes of white flowers when we saw it. The long olive-green leaves, with broad silvery veins are handsome. Climbers are held in high estimation here, including *Cobaea scandens variegata*, which has already clambered to the top of the building, proving very effective. The white Passion Flower (*Passiflora caerulea* Constance Elliott) also does well. A gallery has been constructed round the eaves of the building, merely to serve the proper working of the place, and is found to be indispensable for getting at the plants up on the roof, and for getting at the latter itself. On leaving the Palace we noted the beautiful fountain on Glasgow Green, presented by Sir Henry Doulton, of Lambeth. The People's Palace naturally comes under the supervision and care of Mr. James Whitton, the superintendent of parks.

European and American Apple Crops. — The European Apple crop being below the average this year, American Apples of the first grade will again find ready sale at Liverpool and Hamburg; so says *Gardening* (American)

In France the production of fruit trees is estimated at £12,000,000.

Mr. C. Herrin, the well-known gardener at Dropmore, Taplow, Bucks., has resigned his position there owing to extensive changes in the establishment; but he remains there till the end of the year. In the meantime we hope that so excellent a gardener will secure a fresh appointment before that time; and with the qualifications he possesses for gardening in all its branches he should not have long to wait.

Extensions to Brockwell Park.—Mr. C. E. Tritton, M.P., presided at a meeting on October 18th, of the executive which was appointed for the purpose of acquiring 4½ acres of beautifully wooded land adjoining the present land of eighty-six acres forming Brockwell Park. A letter was read from the secretary of the Footpaths Preservation Society promising £1,000 from one of its members if the purchase was acquired within two years. Various amounts up to £500 were promised from members of the temporary executive.

Jersey Horticultural Club.—The monthly meeting of the above club was held on Thursday, October 19th, at the R.A. and R.H. Board Room, Jersey, when Mr. A. Smith presided. After the opening business Mr. P. F. Le Sueur read a paper entitled "Personal Reminiscences of Horticultural Exhibitions." Mr. Sueur was the pioneer in showing fruit from the sunny Jersey isle and his remarks upon the various exhibitions since thirty years ago, were listened to with rapt attention. The visit to the Crystal Palace was commented upon, as also an instructive account of Messrs. T. Rochford & Sons' colossal market growing establishment at Turnford. The latter remarks were of advantage in so far that they showed Jersey to be largely behind in fruit culture and marketing. Discussion and votes of thanks closed what proved to be a hearty and instructive meeting.

Gardeners' Royal Benevolent Institution.—A grand concert in aid of the above institution will be held in the Constitutional Hall, Chertsey, Surrey, on Thursday, November 2nd, 1899, at which some most prominent and popular soloists and other artistes will render their services. The doors open at 7.30 p.m., the concert commencing at 8. The hand of the School of Handicrafts (of which the principal, A. J. Brown, Esq., Jessamine Cottage, Eastworth, Chertsey, acts as hon. sec. in the arranging of this concert) will play selections from 7.30 till 8 o'clock. Tickets for reserved and numbered seats may be had at 3s. (4 for 10s.); un-numbered, 2s.; back seats, 1s. The tickets and programmes may be had from Miss Wheeler, Guildford Street, and Messrs. T. E. Stevens, 58, Guildford Street, and R. J. Hunt, London Street, Chertsey. All information upon this deserving movement can be had from the secretary mentioned above.

The Dunn Memorial.—Some time ago, as our readers may remember, we announced that a memorial was being got up to commemorate the memory of the late Mr. Malcolm Dunn, than whom, no one was more popular amongst horticulturists all over the country. Nor did his talent and services end with horticulture, for botany and arboriculture in their various aspects were much indebted to him. Four societies united in issuing a joint appeal to his many friends in England, Scotland, and Ireland, for funds to commemorate his memory in a fitting way. The proposal is to erect a suitable monument in Dalkeith Cemetery, and to devote the remainder of the funds to charitable and educational objects in connection with horticulture and arboriculture. A meeting of the committee in charge of this fund was held on the 18th inst., and it was decided to close the fund on December 1st. Any of the undermentioned secretaries, of the four respective societies, will be glad to receive subscriptions towards the proposed memorial:—P. Murray Thomson, Secretary, Royal Caledonian Horticultural Society, 5, York Place, Edinburgh; James A. Terras, Assistant Secretary, Botanical Society of Edinburgh, 21, Teviot Place, Edinburgh; Robert Galloway, Secretary, Royal Scottish Arboricultural Society, 5, St. Andrew Square, Edinburgh; Robert Laird, Secretary, Scottish Horticultural Association, 17, Frederick Street Edinburgh.

In Belgium, according to the statistics of 1894, over 2,875 miles of roads were planted with 741,571 fruit trees, which furnished the large sum of £400,000.

R.H.S. of Ireland.—A meeting of the Council of this society was held at 61, Dawson Street, on Monday, October 9th. Final arrangements were made for holding the Chrysanthemum and Fruit Show at Ball's Bridge, on Tuesday and Wednesday, November 7th and 8th. Eight persons were elected members of the society.

The New Show at Birmingham.—We are interested to hear of the new departure which is being inaugurated at Birmingham. Some of our friends there have organised a horticultural exhibition to be held on November 2nd and 3rd in the Town Hall of that great city of toys and ammunition. A most liberal schedule has been issued. Prizes starting at £5 in most classes, with 4, 5, and 6 prizes in the class, should be unquestionably a very great inducement to some of our principal competitors to show here in the fruit classes or in the classes for cut blooms. A very pleasant feature in the committee's programme is the announcement of the fact that one-fifth of the entire receipts will be devoted to the Birmingham General Hospital. May the show have all the success it deserves.

A Mean Thief.—In olden times there was some principle and even honour amongst robbers and highwaymen, if we are to believe all we read, but at the present day that nobility of character would seem to have been lost. On Wednesday evening or Thursday morning of last week a thief got into one of the vineries of Messrs. Wm. Thomson & Sons, Ltd., Tweed Vineyards, Clovenfords, Galashiels, and forcibly removed one of the hoxes for contributions to the Royal Gardeners' Orphan Fund. It was the hox placed in the most prominent position in the establishment, and always contained the most money. Mr. John Thomson is extremely sorry that such a deserving institution should suffer at the hands of the low scoundrel concerned in the affair. He is also doing what he can to discover and punish the thief; and in this we hope he will be successful. A man who would rob a charitable institution is very little deserving of sympathy.

Ealing and District Gardeners' Society.—On the 17th inst. Mr. Geo. Wythes, of Syon House Gardens, entertained a good meeting of this society with a paper on "Horticulture in Switzerland." Mr. C. B. Green presided. Considerable delay and some inconvenience was caused for an hour by the partial failure of the electric light. Candles had to be obtained, and an excellent competition for six dishes of vegetables (distinct) to receive awards, after which the meeting settled down to hear Mr. Wythes on Swiss horticulture, which, he said, he was afraid would be rather barren of results, as horticulture, as we understood it, was not a strong feature of the Swiss people. Mr. Wythes, however, succeeded in interesting his audience concerning that topic, as well as with several other phases of Swiss life and history. Basle, Neufchatel, Lucerne, and other places were visited and described, the street gardening being particularly well done, and worthy of imitation. Some of the principal plants used in this class of decoration were Cannas—which were really fine specimens—Musas, Begonias, &c., while shade and effectiveness were obtained by noble avenues of Chestnuts, Limes, Walnuts, Robinias, &c. The Alpine flora was also touched upon, and the absence of anything like systematic culture of fruit and vegetables much remarked. The comments on the natural features of the country and the resultant effect on visitors was most exhilarating, for no one who has an eye to the beauties of Nature could visit Switzerland without being charmed by the scenery, and invigorated by the mountain air. On the motion of the chairman Mr. Wythes received an enthusiastic vote of thanks. The exhibition of vegetables above mentioned was, according to the judges, most satisfactory. There were six collections staged, the coveted prize—which carried a bronze medal by Mr. J. Pinches, Camherwell, with it—was obtained by Mr. H. Stiles, gardener to J. Carver, Esq., Hanger Hill; the second place, which was hotly contested, being secured by Mr. R. Green, gardener to W. Owen, Esq., Castle Bar Hill; the third and fourth prizes going to Mr. Crabh and Mr. C. Long respectively.

Weather in London.—The weather during the week has been almost of a uniform character, that is, foggy. Saturday evening was intensely thick, causing much confusion to all kinds of traffic. Chrysanthemum growers do not like such conditions. We have very little sunshine but the weather is moderately mild. Lamps have to be lit just after five o'clock.

"Cause and Effect."—America and tall stories are with some of us synonymous. Here, however, is an American epitaph said to be authentic:—

"Here lies

HARRIET AMES,

BORN MAY 10th, 1830,

DIED JUNE 4th, 1851.

"She lived a life of virtue, and died of cholera morbus, caused by eating fruit, in full hope of a blessed immortality, at the age of twenty-one years and one month. Reader! 'Go thou and do likewise.'"—*The People's Friend*.

Carpet Bedding in Fairmount Park.—The *American Florist* for October 7th presents a photograph of beautifully executed carpet bedding in Fairmount Park, Philadelphia. The designs are shown up from the fact of the beds being planned on a sloping bank. First is a Maltese Cross with six kinds of dwarf plants, mostly succulents, used in its composition. A Clover-leaf is the pattern for a second bed; then there are crescent badges, stars and a design somewhat after the style of a great harp, all most distinctly portrayed.

The Field Horsetail.—To those who know the common Field Horsetail, the *Equisetum arvense* of Linnaeus, and who have probably regarded one plant as almost the prototype of the other, may be surprised to know that a recent investigator has enumerated nine varieties of this species. Mr. Eaton in *The Fern Bulletin* has prepared a descriptive list of these nine varieties, which of itself proves how minute and penetrating the study of botany, more especially it would seem, of cryptogamic botany by the enthusiasts in this section, has become. But after all it is a disputed point whether such fine lines should be drawn seeing how varied the changes are of the same species, far less variety, in different parts of even the same land. On the other hand it marks the great diligence of a student, the minuteness of his work, and intensity of study.

Horticulture Coloniale.—It may be remembered that this establishment has been formed by the combination of the range of glasshouses at Parc Leopold (formerly L'Horticulture Internationale), the Colonial greenhouses at Linthout, Brussels, and the Orchid establishment at Mortebeek, a suburb of the same city. The houses at Parc Leopold are open to visitors every day, but a special exhibition has been organised to last for some time. The exhibition opened on the 22nd inst., and visitors will have to enter by the gate at 79, Rue Wiertz, Brussels. Orchids and fine foliage plants are grown at Parc Leopold; while plants for the colonies are reared in large quantities at the Colonies Greenhouses of Linthout, Avenue Jean Linden. These latter consist of Caoutchouc, Gutta, Cacao, Coffee, tropical fruit trees, medicinal plants, &c. All will be on view while the special exhibition remains open.

The Propagating of Roses.—Now that the budding operations are proving themselves by results, one sees whether the hot dry weather has had a prejudicial effect or not. Most likely it has, but there yet remains the method of increase by cuttings and by layers. The former is quite a satisfactory method of propagation, but the layering takes somewhat longer time—nearly a year. Maréchal Niel Rose is well-known as being successful upon its own roots, and is said to be freest from canker when not budded. The undermentioned Roses may be readily propagated from cuttings at the present time by taking them off with a heel of the old wood:—Baroness Rothschild, Ulrich Brunner, Charles Lefebvre, General Jacqueminot, La France, Jules Margottin, Gloire de Dijon, A. K. Williams, Captain Christy, Marie Baumann, Duke of Edinburgh, Duke of Wellington, Marie Finger, Countess of Rosebery, Charles Lawson, Paul Verdier, Paul Neron, and Mrs. John Laing. Good long cuttings placed well down in properly prepared outdoor borders, or placed among sandy soil in small pots, and wintered in a cold frame may be reckoned on to supply plants for late spring planting.

Poisonous Toadstools.—Dr. Peek, of America, warns against fungi (1) in the button state, or when decayed; (2) with swollen base and white gills; (3) with milky juice; (4) with cap or pileus thin, in proportion to the gills; (5) tube-bearing fungi, whose flesh changes colour when cut; (6) fungi with spider-web ring about the upper part of the stalk.

Canadian Grapes.—"British prejudice against our Canadian Grapes is absurdly strong" says the *Canadian Horticulturist* for October. The Canadians have a task before them to overcome it. The failure in securing appreciation seems to have arisen from the fact of their having invariably exported mixed varieties, of which Concord and Niagara, two varieties of poor, poor quality, were largely numbered. It is from these then that the English connoisseurs have rejected the stock. Upon good authority the above-named journal states that the Ontario Fruit Experiment Station Board have determined to make a trial of a shipment to Manchester of Roger's Grapes, which have a very much higher standard of value. The Canadian growers are hopeful that these will overcome prejudice and establish a trade. They will then deserve to succeed.

Shirley Gardener's Mutual Improvement Association.—The programme of lectures for the second half session of this well known horticultural association has just been distributed. The meetings are held monthly in the Parish Room, Shirley, and commence at a quarter to seven. The following are the titles of the lectures and names of those who will deliver them:—October 16.—"Chemical Manures for Kitchen and Garden use," by F. W. E. Shrivell, Esq., F.S.I. Certificates are offered for five each of the best dessert, and kitchen Apples; dessert and kitchen Pears. The subject of the lecture for November 20, has yet to be announced. Certificates will be awarded at this meeting for Chrysanthemums. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, lectures on December 18th, on "Raising and Producing the most useful Chrysanthemums." Certificates are offered for twelve trusses of Pelargonium blooms. W. Middlebrook, Esq., gives the "Culture of the Pear" on January 15th, 1900. Collections of forced vegetables and salads are asked for at this meeting. "The Composition of Manures and their application to various Soils," by E. T. Mellor, Esq., B.Sc., is noted for February 19th. Then on March 18th the association has its annual meeting.

Bristol and District Gardeners' Association.—We have just received the syllabus of the meetings to be held by the members of the above association at St. John's Parish Room, Redland. These are held once a fortnight on Thursday evenings. The syllabus stretches out till March 29th, of 1900. The rules of the association and hints as to its aims are printed separately on a neat folding card-board sheet. At each of the meetings the officers of the association have arranged for competitions confined on separate evenings to distinct vegetables, as an Onion competition on October, a Grape competition at the next meeting, and so on. Cauliflower, Potatoes, Celery, plants, six dessert Apples, Orchids, and flowering pot bulbs are all specified for different meetings. On October 12th Mr. W. Bound, Wokingham Park, Berks., read a paper on "Stove and Greenhouse Plants." "Grape Culture" is the subject chosen by Mr. A. M. Ross, Downside, Stoke Bishop, for October 26th; on November 16th, Mr. Kitley, of Redlands, lectures on "Management of Bees"; November 30th is devoted to "Hardy Fruit," by Mr. Hockey, Yatton, Somerset; at the meeting on December 7th Mr. J. H. Davis gives "Notes on the Culture of Bouvardia, Geranium, Begonia, Primula, and Cineraria"; "Mistakes in Gardening" is from Mr. C. Lock, Keynsham, on December 28th; January 11th, 1900, is ushered in by a discussion on "Strawberry Culture" by Mr. Garnish, Field House, Stapleton. Mr. J. J. Graham has promised "Gleanings from a Horticultural Class" for January 25th; "Tuberous Begonias" will be dealt with on February 8th, by Mr. Rogers, Staple Hill; "The Pollen Grain and its Functions," on February 22nd, by Mr. A. Moore Sara, Elmside, Stoke Bishop; "Peaches and Nectarines," by Mr. R. Stewart, Sneyd Park, on March 8th; while to wind up the half year, Mr. A. Holbrooke, of Long Reach Nurseries, Keynsham, lectures on "Tea Roses."

The Climbing Hydrangea.—Specimens of this plant botanically known as *Schizophragma hydrangeoides* are none too plentiful. It is a hardy climber and when in bloom is a wonderfully interesting plant of capital decorative value. Even when the blooms have gone, and only the plain, hard foliage remains, we have still a plant not to be despised, and for draping walls, dead tree stumps, old outhouses and other places it is equal, in the foliage state, to some of our pretty Ivies. It may be mentioned that the leaves are 5 in. to 6 in. long, are borne opposite one another, in-shape are nearly oval and have an indented margin. The flower cymes are from 6 in. to 10 in. in diameter. The *Canadian Horticulturist* gives a fine block of this Hydrangea in last month's issue.

Messrs. Cutbush & Son's Apples at the N.C.S. show, held the other week at the Royal Aquarium, were even, clean, well formed and all of good size, but the brilliant colours of them were very remarkable. Whatever may be said against the need for colour, more especially in cooking Apples, nurserymen find that good colour, other qualities being understood, impresses the public mind, and as proof of this one need only look to see how the note books are brought out and entries made, as though irrepressibly, by the gentlemen amateurs and others who, in visiting, see these brilliant fruits. Messrs. Cutbush's wire arrangement for holding Apples was neat and clever. This consists of wires, wavy or straight, radiating from a central fulcrum or rod at various distances apart along this said rod, having the longest "arms" at the base and narrowing to the top, the ends of each wire being looped, so as to hold the fruits which sit like an egg in a spoon.

Roadside Fruit in Europe.—The cultivation of fruit trees along the highways of France, says the *Journal of the Society of Arts*, is each year becoming more extensive. The Government first set the example, and the communes in certain departments adopted this practice as a source of revenue, so that to-day the so-called "roadside" fruit culture is recognised as an important branch of national industry. The United States Consul at St. Etienne, says that in Germany, Belgium, and the Duchy of Luxemburg there are also important developments going on. On the Wurtemberg roads, for instance, the fruit harvest from these roadside trees produced so far back as 1873 over £40,000, while this year, the returns are more than three times that amount. The article goes on to show how much revenue each country or department of a country gets from this source. In parts of Alsace-Lorraine, Switzerland, and the Duchies of Baden and Saxe-Wiemar the employees of the administration of roads and bridges, and the road supervisors, are instructed in fruit culture. In some of the southern departments of France the roads are bounded by Cherry trees, producing the small fruit called *merise* (wild Cherry), much appreciated for making wine, preserves, and even alcohol. Twenty years ago, many of the roads in southern France were lined with stately Poplars. They were very handsome, but their strong and long roots spread into the adjacent meadows, rising in many cases almost to the surface, and causing sterility to the grass lands and a nuisance to the plough. The villagers and farmers were ultimately so strong in their denunciations that the communes decided on their removal. The Poplars were felled, and a host of *Mirabelle* (small Plum) was planted, much to the farmers' satisfaction, and now thousands of baskets of this fruit are sent daily to Paris. These Plums are also very profitably distilled, so profitably, indeed, that a quart of the best kind of this alcohol sells in Paris at 4s. 3d.

THE PEACH BORDER.

THE state of the borders for Peach and other indoor fruit trees has always been looked upon as a primary item in their successful culture. Pages are filled yearly in arguments or expositions upon the whys and wherefores of the different phases of the subject. Yet after all that is written or preached, many there are who seem no "farrarder" than if the directions had never been launched. New cultivators are continually bobbing up and will always do so during the pleasure of Providence. For those who, not knowing of the subtle dangers so numerous studded along their path, go on in bliss, until

with a rude awakening they learn that something's gone wrong—what's the danger? The Peach stones may split, or the young ovaries after fertilisation may refuse to forge ahead, as in health they ought to do. The foliage may become diseased, and parts of the shoots and wood may become cankered, which, though by no means always originating from a defective horder, may at the same time be largely due to such a course.

The horder ought to be of size in proportion to the trees. This is very seldom thought of, or planned for. Now-a-days, cultivators are less liberal in the making of deep and wide borders. Just as for Figs for whose growth small borders are the best, Peaches will be found to succeed well in borders of a medium size, to which additional breadths may from time to time be added.

Very large trees are not to be recommended for small growers, or for those whose family needs are limited, because that the fruit ripens almost all at once, and cannot be consumed; or, at least, there is a glut for a time and scarcity afterwards.

For early fruiting Peacheries, inside borders alone are needed. The same remark applies to late houses. In the one case we desire to have power over all the conditions for favourable growth, with which we are conversant. We know that an outside border could not be affected by heat from hot water pipes within the house; therefore, while the roots in the indoor border are working constantly, and are sending up supplies to the branches, the outdoor roots would be quiescent. Then from indoor borders one can rely on a healthier and development of the proper sort of roots—fibrous, feeding roots. The case for late Peaches is in the different reasoning which says that the supply of moisture to the border in the autumn, the season of wood ripening, should be very limited, which in a wet autumn with outdoor borders would be quite the reverse from what is desired. With mid-season houses, an outdoor border is comparatively warm before growth begins and the trees are developed and matured, going to rest, in fact, before the rains of late autumn could have any effect on their ripening.

Sometimes, borders get out of sorts from having been too heavily matured, or watered too constantly with strong liquid nourishment. Topdressings of lime would in many cases be all-sufficient; in many other cases the border would have to be renewed. Artificial manures are not likely to be very lavishly used, but it is just possible that through accumulated harm from some over-doses the borders are eventually rendered disagreeable to the roots. There are a hundred and one other minor probabilities whose united or even individual influences may be the basis for the disorganisation of proper, healthy, vigorous, perfect root action.

Now is the time to renew borders. Rich medium loam, chopped up and compounded at the rate of three to one of lime rubble, dry stable dung, plus broken bricks in quantity sufficient to add "grit" to the compost, will form a soil suitable for all manner of Peaches. The operations of making, or rather of renewing the border, may briefly be stated. Choose dull weather and do the work well, remembering that scamped work must afterwards tell. With the roots be ye tender; the drainage make right; then tread the soil firmly, with the roots lying straight.

The trees should not be fastened to the trellis until the horder has settled. Outdoor trees may be planted indoors with full success. At any season of the year it will be found advantageous to dew over or syringe the newly planted or disturbed tree. If the foliage is upon it when operated on shade and slight beat may also be applied.—H. D.

PEOPLE WE HAVE MET.

MR. JOHN GILBERT BAKER, F.R.S., F.L.S.

It is with much pleasure that we place before our readers a portrait of Mr. John Gilbert Baker, F.R.S., F.L.S., late Keeper of the Herbarium, Royal Gardens, Kew. Most of those whose portraits have hitherto appeared in these pages were practical men in the field of horticulture, but Mr. Baker, at one time or other, has rendered signal service to gardening in all its branches, so that we can affirm that science and practice have joined hands on many an important occasion, and in many a field of labour. Some of our readers have been indebted to him directly for the information imparted by lectures, and a much

larger number indirectly by means of his writings and books.

Mr. Baker was born at Guisborough, on the Cleveland Moors, Yorkshire, on January 13th, 1834, and received his early education at schools belonging to the Society of Friends, at Ackworth and York,



MR. JOHN GILBERT BAKER, F.R.S., F.L.S.

but the education he gave himself as he grew to years of discretion, from the open book of Nature around him, was even more valuable in fitting him for his great life work. As in the case of all earnest students, his education could never be regarded as complete, or he has been a diligent and hard worker all his life with a mind ever open to receive fresh impressions, and thereby accumulate knowledge of his own branch of science. He commenced collecting and drying British plants at the age of twelve, and continued the study with such application that he eventually became one of the foremost of amateur British botanists.

For a period of twenty years, the subject of botany was merely a delightful and self-imposed study, till, in 1866, he was offered and accepted the appointment of First Assistant in the Herbarium at Kew. One can imagine what a wide scope this opened out to his particular genius. Previous to this, however, he had accomplished much important botanical work, and entered the field of authorship, by writing "An Attempt to Classify the Plants of Britain according to their Geological Relations," which was published in 1855. "North Yorkshire: Studies of its Botany, Geology, Climate and Physical Geography," appeared in 1863. A most erudite article on the British species and varieties of *Mentha*, a very intricate genus of plants, from his pen, appeared in *Seaman's Journal of Botany* for 1865, of which he was for a time one of the assistant editors. In that exposition he showed that *Mentha sativa* and *M. arvensis*, two remarkably variable species, were chiefly distinguished from one another by the short triangular teeth of the latter, all the other characters being liable to break down on the borderland of affinity.

The earlier years of his studies at Kew would appear to have witnessed the accomplishment of much arduous work; for in 1868 he published "A New Flora of Northumberland and Durham, with Essays on the Climate and Physical Geography of the Counties" (aided by Dr. G. R. Tate); and "On the Geographical Distribution of Ferns throughout the world, with a Table showing the Range of each Species." Later on he completed the "Synopsis Filicum," commenced by the late Sir William Hooker in 1868. A "Monograph of the British Roses" appeared in 1869. A "Monograph of Ferns of Brazil, in folio, with 50 plates," and a "Revision of the Genera and Species of Capsular Gamophyllous Liliaceae" appeared in 1870.

More recent years, however, have shown that he got through an immense amount of work, which only a labour of love could have enabled him to

accomplish. Botany has been his hobby, and his recreation, as well as his profession, for many of his holidays were spent in rambles in the north of England as well as in Switzerland, collecting, observing and noting down his observations on the spot. Independently of purely botanical science, he has laid horticulture under lasting and deep obligation to his pen and otherwise. In 1888 his "Handbook of the Amaryllideae" included many genera universally cultivated in gardens. The same may be said of his books on the Irideae and Bromeliaceae, besides the "Synopsis Filicum" or Ferns above mentioned. Monographs of various garden genera have appeared in the horticultural journals, including admirable descriptions of the species of *Crinum*, *Cyclamen*, *Brodiaea*, *Iris* and many others. Descriptions of new plants, over his signature, were frequent and valuable.

In addition to his botanical duties and studies he made his power for usefulness felt in many other walks of life. He was for some time lecturer in botany to the London Hospital; and at one time curator, then secretary of the London Botanical Exchange Club. He has taken an important part in several of the conferences held by the Royal Horticultural Society, both at South Kensington and Chiswick; and has delivered lectures at the ordinary meetings in the Drill Hall. Needless to say, his help to gardening in its wider aspects has been very great, for on many of these occasions he supported the botanical side of those conferences, thus helping to clear up difficulties and settle the vexed question of proper nomenclature.

Seeds and plants of hundreds of widely distinct subjects reach Kew every year, from private sources, and from botanical gardens all over the world; and it is remarkable what a number of them are incorrectly named. To put them straight was a Herculean task; but Mr. Baker was equal to the occasion, whether the flowering specimens were sent to the Herbarium, or named on the spot by personal and weekly visits to the gardens. None of the botanists at the Herbarium have been more familiar to those employed in the gardens than Mr. Baker, a fact due to his frequent visits of inspection amongst the living and cultivated plants. His long course of study and the love for his chosen subject, has made him familiar with a host of plants from all parts of the world, so that he had the characteristics of thousands of them at his finger ends, and their names upon his tongue. This is particularly the case with British plants, Ferns in general, and whole orders of plants of peculiar interest in gardens, because their large and showy flowers make them the objects of garden culture. Such orders as Liliaceae, Irideae, Amaryllideae and Bromeliaceae he made peculiarly his own, for which reason his works upon them are frequently consulted, and quoted, while his own personal opinions are always held in high estimation.

Kewites all over the world have a lively and pleasant recollection of their tutor, while serving at their Alma Mater, Kew; for Mr. Baker has annually given a course of lectures on "Organography and Systematic Botany" in the gardens during the summer months for over thirty years past. He has always been a popular lecturer with the students on account of his clear and lucid style, the concise manner with which he expressed differences between existing natural orders, genera and species, and the emphasis he brought to bear upon the expression of his opinions, which showed the clear grasp he had of the subject in hand. This we fully realised during the first lecture we heard him deliver, while attending his class. The tyro was not repelled but attracted to the study of botany from which he may have previously held aloof; while those who might have been floundering amongst the intricacies of the subject have been strengthened and encouraged to go forward. Cultivated plants often furnish specimens that do not accord with recorded descriptions, but this difficulty is tenfold accentuated when the student has a field day and collects for himself. A species is a collection of individuals which agree in certain particulars, but the individuals may neither agree with the description nor with one another. Mr. Baker's teaching enabled the student to grasp the salient features and the limitations of a species, that is, the boundary or clearest line of demarcation between one species and another, though this might prove a

shiftable quantity in other cases. On the score of differences between species and varieties, we have listened delightfully to his definition, that it was not so much the amount of difference between one form and another as its constancy. Garden races and varieties may differ more from one another and from the original wild type, than do species from one another; but as all their differences may be bridged over by intermediate forms it is thus shown that they have no constancy, and that their importance is thereby disproved.

Although Mr. Baker retired from the keepership of the Herbarium last spring, he still continued his lectures to the students in the lecture room and the gardens last summer, and to our knowledge he accompanied them, at least on one occasion, of a field excursion. One of the more recent acknowledgments of his services was when the Linnean Society, on the occasion of their anniversary meeting on May 24th last, formally presented Mr. Baker with their Gold Medal, in recognition of his important contributions to botanical science. It is our earnest hope, and in that we feel sure of support from Kewites and others in every quarter of the Queen's dominions, that Mr. Baker will enjoy health for many years to come, the perfect enjoyment of a useful life, and well earned rest.

The accompanying portrait is a very good likeness of Mr. Baker at the present time.

Kitchen Garden Calendar.

THE weather of the past two weeks has been so favourable as to tempt one to think that summer was not yet ended, but we must bear in mind the end of October is here, therefore any roots such as Beet, Carrots and the like that have not yet been stored should be got under cover with as little delay as possible. Celery should be earthed up to protect the roots from frost and material ought to be got in readiness for protection in case we should be visited with an early spell of bad weather. All the forward Celery ought to receive its final earthing, while the soil is dry and in a workable condition. The late lots should, however, be left, as earthing would make the leaf stalks too tender to withstand the severe winter.

LATE GREEN CROPS have made good headway this last three weeks, and though far from the average, should the weather keep open, they will still grow. While the soil is still dry pay strict attention to freeing all growing crops such as Spinach, Winter Onions, Spring Cabbage, Lettuce, &c., of weeds. If the hoe is run between them the sun has still sufficient power to wither them up. Cauliflower that are turning in should be carefully looked over each day and any that are forward enough ought to have the leaves brought together and tied with a piece of matting. This is far better than covering the hearts with leaves, as the frost causes them to fall down and thus expose the hearts to the full rigour of the weather.

The present is a good time to take a survey as it were of the season's work, while many things are still fresh in one's memory. This is also the best time to make plans for future crops that the ground may be manured and dug accordingly. In most places labour is all too sparingly employed, so that many things have to be left undone that might otherwise have been done with advantage. Where the soil is light it should be trenched for such roots as Carrots, Parsnips, Beet, Onions, &c., that it may become somewhat consolidated before spring, for when such work is done a short time previous to sowing the soil is left so porous that should a dry summer follow the root crop will be anything but satisfactory. Where it is possible to employ labour digging ought to be taken in hand.

November is usually a dull, moist month, with plenty of fogs and but little sunshine. Falling leaves accumulate very fast and are a source of great trouble in a kitchen garden situated near to a wood. Every effort should be made to clear them up from amongst the growing crops as they hold the moisture and so cause the plants to become weak and spindly. There is also far more pleasure to be derived from a well kept place even though small than from one three times the size, if such is allowed to become untidy.

SEAKALE should be lifted for forcing as soon as

the leaves have fallen. It is not advisable to use too strong a heat, as this causes the growths to be tough. Absolute darkness is essential and this with a genial moist atmosphere will soon cause growth to commence. Rather more heat is needed to induce the roots to push now than later on; but if dug up and laid under a north wall for a few days before introducing into the forcing house there will be but little difficulty experienced in getting a crisp well blanched growth. Rhubarb should also be taken up and treated in like manner.

Where winter salads have to be kept to provide a regular supply Endive, Lettuce, Chicory, Mustard and Cress, together with American Cress, Lamb's Lettuce, small Onions, Chervil, and a little Tarragon will be required. As the former will need blanching, this can be done in various ways, such as covering the plants in the open, by tying or taking up and putting in a dark house. Whichever mode is adopted allow ample time so that blanching may be thoroughly effected. Chicory is a great favourite with some, but to have this in the finest possible condition the young growth must be crisp and tender. When the foliage is dry take up and plant in frames Lettuces that are ready for use, and plant them in cold frames where lights can be put over them in bad weather. Sow Radishes on slight hot beds for drawing when small.—*Kitchen Gardener.*

HARDY FRUIT GARDEN.

APPLES.—Root pruning may safely commence at any time now. The sooner indeed, that the work of pruning is started the better the result in the development of buds, &c., next year. Trees in damp situations and whose roots are scarred and rusted like Potatoes in bad land, should be seen to, for under such conditions the trees are invariably merely making rank wood-growth without any adequate recompense in the way of fruits. Lift the tree bodily if it is not too large, and after carefully examining the bad roots and pruning the same, proceed to alter the mechanical conditions of the subsoil around the seat of the tree. Rough stones may be somewhat built in for drainage. Over these, place rough cinders, and cover the stone bottom with an inch or two of soil. Of course, these operations will necessitate some slight excavations. The tree may be raised just a slight bit higher than it was before, but not much, else not only will the functions of the tree be seriously changed or upset, but it will not have stability. Every root should be carefully spread out and fresh soil to which has been added lime-stones, and drying material of any sort which will help to make the soil freer and warmer, should be incorporated. The tree may need to be staked. Pruning of the branches may be delayed until all the leaves are off, after which a severe pruning should be given. Other Apple trees in need only of root pruning, had better have this done now. The general drainage of the land should not be neglected if it is possible at all to get an outlet for the drains.

PEARS.—Almost the same remarks apply to Pear trees. Wall Pears shed their leaves more quickly than almost any other fruit tree, so that where root-pruning in their case is needed this might be finished before the Apple trees are tackled. A good top-dressing of soot, some lime, and wood ashes, should be given over the surface of the ground in which the roots are working. Above this again, manure of a sappy nature from the cow sheds and stables might be thickly laid. The advantages of this in winter are twofold. It allows the nourishment slowly to ooze down to the roots, and it keeps the soil warm and protected, so that the roots may remain in a quietly working state.

PLUMS.—Lime along with both soot and wood ashes are largely used by many first-class hardy fruit growers for incorporating with the natural soil in which the trees—Plums, Apricots, Peaches, or Cherries—are growing. It is altogether beneficial without one drawback. Apricots are said to be benefited in some way or by the old method of loosening the branches and shoots from the wall. These are slung in bunches of four or five branches or shoots, and made secure by cords to different parts of the wall. There should be as little play given to the bunches as possible else the buds will grow gradually fewer from being knocked off. What good there is in the practice it is hard to understand.

It is bound at any rate to be harmful to the wall and to occupy much time. Some consider that it retards the development of the buds till the weather is more likely to be fine for the flowering period.

BUSH FRUITS.—The planting of these may also be gone on with. Cordon trained Gooseberries are very popular now, and the same may be said of Currants. The Cordon plants have the advantages of being very simple to manage, and of conserving their strength toward fruits and stout wood. The proportion of their roots and the amount of the nourishment given to them, must be in a like ratio to the needs and amount of branch growth. Strawberries should now be planted in the plantation rows. It is not too late yet to expect a crop from stout plants though they have been delayed in planting till this time.

Raspberries which had the old canes taken from them as soon as the fruits were past, will by now have developed strong shoots for next year. If the old canes have not been cut out, they may as well be thinned now. The plants will benefit from a good mulching.—*J. H. D.*

Gleanings from the World of Science.

THE following subjects were brought before the Scientific Committee of the Royal Horticultural Society on October 10th:—

Potatoes, with scab.—A number of samples were received with the descriptions of the manures supplied. They were forwarded to Dr. Smith for examination and report.

Fungus on Chrysanthemum leaves.—Some leaves badly spotted with a brown fungus were received and forwarded to Dr. M. C. Cooke for further examination, who reports as follows: "The Chrysanthemum disease is the 'rust,' which I refer to *Uredo Hieracis*; but I cannot tell for certain until the *Puccinia* is found. I had it two or three years ago from Slough. It is capable of spreading, and I should destroy all the infected leaves by burning, if sprinkling with Condry's fluid proves ineffective. It is better to sacrifice the entire plants, than for it to establish itself as a permanent pest, like the Hollyhock disease (*P. Malvacearum*), to which it is allied. It is impossible to give the cause, but probably infection from other plants."

Five-merous Eucharis.—A blossom of this plant, with its whorls regularly arranged in series of fives—most unusual for a monocotyledon—was received from Mr. E. Escombe. An examination revealed the fact that it originated in twin flowers coherent. The stem a short distance below the base of the inferior ovary contained very numerous and scattered fibro-vascular cords. Nearer the flower they became thirty in number, and so entered the base of the twin ovaries. These were united by a common wall, in which two of the cords normal to the ovaries were suppressed. Hence the superficial cords were now reduced to ten only. This number, therefore, laid the foundation of the supply for the four whorls (perianth and stamens) of five parts each. Apart from the two united ovaries of three cells each and six rows of ovules in each cell, no trace of the twin-origin was visible.

Chrysanthemum arrested.—Mr. E. H. Jenkins, of Hampton Hill, sent branches of the variety *Madame Desgranges* in which the majority of the flowers were very small, with yellow petals on short stiff branches. There had been great difficulty in expansion from the bud. This was considered to be due to the excessive drought. The later flowers were nearly normal on slender pedicels. It was remarked that various kinds of Chrysanthemums had behaved in the same way elsewhere, as well as other Composites, such as *Rudbeckias*. The cultural care had been quite correct, but while one plant was a failure, another in the same pot was normal. Such cases are not uncommon, some individuals succumbing to a disease, while others, under the same conditions, may resist it. Mr. Jenkins asks if the form represents the original type. It does to some extent, being like the double form of the small *C. indicum* cultivated at the beginning of the century, and figured in the "Transactions R.H.S." It shows a tendency to arrest and reversion. The actual cause is obscure, but it would seem to be most probably climatal.

HINTS FOR AMATEURS.

A Selection of Shrubs for Planting.—Even in the smallest patch of garden, such as the plots of a few square yards, which preserve the dignity of our minor villas, and allow the owners to speak conscientiously of "our garden," an additional value can be given and increased pleasure got from them by the judicious use of well chosen shrubs. I would never recommend the natural or free method of arranging these when close to dwellings. By this I mean that formal lines and formality, strict and severe, appear much more tasteful, and altogether in keeping with the surroundings. The lines of the house and the walls surrounding the front garden should be the guides. Now about the selection of what to plant. Veronicas of the taller and hardy shrubby sorts are all more or less suitable. *V. Traversii* is perfectly hardy, even far North, and their growth being moderate they do not become ungainly until after some years. Silver Box and the Golden variety are evergreens of a cheerful sort, bushy and easy to manage. Small plants of Golden Queen Holly are always in request. *Retinospora plumosa* and the yellow variety *R. p. aurea* may be included. *R. squarrosa*, likewise *Juniperus chinensis aurea*, *Taxus japonica*, or other species and varieties of Yew trees, of which there is quite a number, are all neat and very ornamental. *Cupressus lawsoniana erecta-viridis*, *Thuya occidentalis*, and *T. orientalis*, the American and Chinese Arbor-Vitae; *Berberis Aquifolium*, *Thuyopsis dolobrata*, small *Rhododendrons*, *Azaleas*, *Heaths*, *Euonymuses*, and dwarf growing, flowering or foliage shrubs, with variety in their form and colour, may all be used. The arrangements of them must largely depend on the form of the gardens, also on the taste or skill of those to whom they belong. The conventional way is to have tall, tapering plants jutting up in the background, and those of bushy, fluffy, or pendulous habit beside them, but more to the front. They should be fairly close together, for effect must be attained from the start, else the amateur's delight in his little garden will be damped for quite a while. Hedges of Yew or Holly, when well grown and trimmed, are always a handsome blind and shelter against public gaze and against winds. Privet grows very quickly, but is very common. Ivy trained to a trellis is quite efficient, and ought to become more popular.

Planting Bulbs.—I am aware of having given hints upon potting up bulbs, but I may be pardoned for referring to the outdoor planting of such as Tulips, Snowdrops, Narcissi, Hyacinths, &c. After the borders have been freed from the summer bedding plants it will be well to give a good barrow load of manure to every 4 sq. yds. Dig this in 1 ft. deep, make the border even upon the surface, then plant the bulbs. If the system of arrangement is to be in lines, mark off the distances with a measuring rod, placing in pins at either end of the bed or border. Stretch a line along in touch with these pins, making it tight. With a trowel make seats for the bulbs, placing the larger bulbs about 4 in. deep; make them firm, and cover them over. A surface carpeting of any close growing plant, such as *Antennaria tomentosa*, may be put lightly into the surface. The bulbs will grow above this, and in springtime it looks well. Or plants of *Jonquil Campenelle* may be put in along with the bulbs, so as to add grace and give relieving effect; especially does this apply to Hyacinth beds.

Sweet Peas.—Some may wonder what anyone has to say upon Sweet Peas almost at the end of autumn. But, as many already know, and, of course, act on their knowledge, Sweet Peas are quite hardy, and can be got at least a fortnight or three weeks earlier from a November sowing than those sown in March or April. Amateurs may or may not wish early flowering Sweet Peas. For those who would care to make the trial let them select the most sheltered spot or border close by a wall or hedge. Take out a trench and line it with dung. Cover the dung over with soil, leaving only 2 in. depth from the top, then sow the Peas, and cover them over. When they have advanced to a height of 4 in., earth them up. They may also be staked, but only give them scant support, because they require all the light possible. In early springtime, when growth starts afresh, give the lines another earthing up. Half a dozen good varieties are *Salopian*, crimson and

orange-scarlet; *Calypso*, crimson and purple, deeper wings; *Lady Grisell Hamilton*, pale lavender; *Sadie Burpee*, pure white; *Lady Marie Currie*, orange-pick and lilac; and *Black Knight*, deep maroon. Some may prefer, however, to get packets of good mixed kinds.

***Agapanthus umbellatus*.**—The Blue African Lily is surely known and loved by every grower of plants. Very few plants produce so brilliant an umbel of flowers, or can be relied upon to give so continuously a yearly return. Old plants in large pots or tubs simply get no care whatever in many of the large gardens, yet nothing perverts them, they are irrepressible. The best plan for obtaining one or two plants would be to get a friend to give or sell you a rooted offset. Nurserymen would sell fresh young plants for a few shillings a-piece, which they fully merit and return. Strong turfy loam, leaf mould, decayed manure, and sand, with the greater preponderance of the first compound, answers for a compost. The plants only require a cool house temperature for growth, but when they have become established in their pots a liberal supply of water must be accorded them during summer. In winter, they can even be stored away with impunity. Clear liquid manure can be given them at the time the flower spikes are developing.

***Acalypha hispida* (Sanderi).**—This plant is simple enough to grow as a bush plant, and flowers almost under any conditions. As a tall standard, however, it is a distinct success, and probably more ornamental in this form than in any other. The young plants are grown on the single stem system, the lower shoots being cut off according as others develop from the apex. These lateral shoots should not be taken away close up to the growing point, else growth may be maimed; one or two should always be left. But at whatever height it has been decided to terminate upward growth, the leading shoot should be stopped. The lateral shoots below the apex may then be allowed to grow outward on all sides, but these, too, will require to be stopped in due course. A well trained plant of this kind, when in flower, with the long hairy tails hanging perpendicularly, is very pretty.

***Davallias*.**—Among basket Ferns, the *Davallias* (Hare or Squirrel's-foot Ferns) are a graceful and beautiful class. Propagation may be effected from spores, or better and speedier, from taking parts of the rooted rhizomes and pegging them down upon a peaty or fibry loam compost. They will do first-rate in an intermediate house, but being natives, more or less, of tropical parts of the globe, the heat of a stove is more to their liking. Generous treatment all along should be given to them. After a plant has been rooted and pegged securely to a basket or a piece of bark, it ought to have a moist atmosphere and a temperature of 65° Fahr. at the lowest, in which to grow. The supply of water must be adequate, and with old established plants manure may be added to it. The soil in which to pot them should be fibrous, containing charcoal, crocks, some peat, and a liberal portion of good fibrous loam and sand. *D. affinis*, *D. bullata*, *D. fijiensis*, *D. pallida*, and others are all very fine species.

Present Work.—Make everything secure for the severer weather which we might expect at any time. Look over cuttings in frames. Remove plants from and prepare beds and borders for autumn planting. Go on with walk repairs, fruit and ornamental tree planting, renewing of grounds and returning of lawns. Lay Box, or other edging. Prepare the houses for winter by washing the glass, &c. Expose Peaches and Vines in houses where they are free from crops, so that the wood may ripen. Pot up advancing stock and keep everything clean. — *Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Coelogyne cristata—*Hortus*: A moderately cool house with a temperature in winter of 50° Fahr., at the least, will suit this Orchid. The winter is its resting period, too, so that only sufficient water is required to keep the bulbs from shrivelling. Like most other Orchids the drainage must be perfect, therefore plenty of crocks, charcoal, and the like

must be used. It does best in pots or pans, which are suspended from the roof. A compost suitable to its needs would be equal parts of peat and fibrous chopped sphagnum, with the addition of some turfy loam and leaf mould. The roots are rather impatient of disturbance, and after the plants are established and are doing well, their only need, as a rule, is an annual topdressing. Good pseudo-bulbs never fail to bloom if they receive proper treatment.

Spring Bedding.—*W. D.*: You are in time yet. Hints will appear on this subject shortly. In the meantime, get manure or ought else ready and think out whether you could not effect any improvement or change of design.

Good forcing Strawberries.—*H. M.*: A good old gardener, and one specially well up in fruits, would have none but *Vicomtesse Hericart de Thury* for his earliest forcing batches. *La Gross Sucrée* was his second favourite, and following this, *Royal Sovereign*. This latter is well regarded with very many growers because it forces easily, but others again complain that the fruits are hardly worth the eating. Try a few of the first and last named as a test of their general merits.

Plants Rooting into Soil.—*Jos. Steele*: Many plants whose roots completely fill the pots are pot-bound, in fact, will certainly root through the holes in the bottom of the pots and penetrate into the ground. To prevent this, which is as often as not harmful and undesirable, pieces of slate or wood should be placed beneath the pots. Where plants are in this condition loosen the roots, and by degrees cut them through. Some growers would cut them straight off at once, and where the after treatment of keeping them cool and in shade, probably giving them just a little more warmth, is carried out, no harm will attend them. At this season of the year it would be safe to do so.

Creepers for a Wall.—*A. Alexander, Stow*: Warm walls are generally far more to be preferred to north, or east walls for growing the best samples of climbers. A south position should always be planned for in northern gardens when planting such as *Wistaria sinensis*, the *Crimson Rambler Rose*, and others of a kind likely to be suitable, such as the *Ayrshire* and *Banksian Roses*, *Magnolia grandiflora*, and *Ceanothus azureus*, and some of the *Vitis* tribe, notably *V. Coignetiae*, may also be included. For other aspects use Ivies of sorts, *Pyrus japonica*, *Ampelopsis Veitchii*, *A. V. purpurea*, and *Clematis* in varieties. Many plants, not really climbers, can be effectively used.

Heliotropes.—*R. Jobson, E.*: For winter flowering we ourselves are very fond of these plants. The colour and their delicious fragrance are both exceptional, or at least along with Violets (which may also be grown in pots) they form a very much desired and scarce colour and kind of flowering plant. All you can do now is to make sure of having nice plants for next season. Take cuttings in early spring and grow them on slowly and steadily all summer. Keep the plants bushy and stout, two essentials to the production of beautiful and good flowering plants. They may be grown in warm houses. We have had borders in a long warm corridor planted with *Heliotropes*, and these supplied us all the year round. We kept them growing in rotation. One lot would be in flower while another was coming into flower, and a third just breaking, after having been cut back.

Repairing Walls.—*J. Stirling*: So long as good weather continues, mild and not frosty, you could safely undertake the "pointing-up" of your walls. We presume you will employ masons. All that garden walls need if seen to in season—"a stitch in time," you know—is to have some of the old mortar pricked out from between and around the stones; New mortar is then pitched in, and the whole wall smoothly finished off. To tone down the glare of white which vivifies after the lime dries, wash the surface with a cement solution. It would be well if many other garden walls were patched up a bit.

Forcing Lily of the Valley.—Secure good crowns; place them in boxes or pots among a com-

post of any humic soil, then put the pots or boxes into a pit, house, or other place, whose light should be subdued, and which is maintained at a temperature of 70° to 75° Fahr., with abundance of moisture above and below.

THE THORN APPLE.

(*Datura Stramonium*)

WHEN well grown this is a very ornamental and striking plant. The big, dull, green, neatly cut leaves and curious Horse Chestnut-like fruit render it of more than usual interest. Although hardly recognised as a native plant, yet the Thorn Apple has become quite naturalised in various parts of England. In the old gravel pit in Greenwich Park it has been known for fully half a century, and certainly nowhere else have we seen it growing in such rank profusion as amongst the decayed and decaying vegetable matter that has from time to time been deposited in this pit.

As will be seen from the illustration the plants are of giant proportions, individual specimens standing between 4 ft. and 5 ft. high, and often being 7 ft. or 8 ft. in diameter of branch-spread.

potted has yet to be determined. The plant evidently likes full exposure to sun and air." Standard plants would be very acceptable to the sub-tropical bedder.

THE LATE DROUGHT AND ITS EFFECTS ON VEGETABLES.

As we all know, a trying summer such as we have just experienced plays sad havoc on the vegetable quarters, especially where the soil is light, or shallow with a gravelly subsoil; but happy are they who have a good supply of water and strength to put it on. In such cases they have been able to alleviate the distress to some degree and kept things from a total collapse. Some people condemn this artificial watering, and even go as far as to say it does more harm than good, but I am not of their way of thinking, as experience has taught me that if I omit to make a friend of the watering can or hose utter failure would follow with many of my crops. For instance, do we condemn a nice shower of rain, however light, and say such has done more harm than good? I readily admit that rain is far more beneficial than the hose, but the latter we can use when

Celery, Peas, Beans, Lettuce, Turnips, &c., things that very soon collapse if they lack for want of moisture. Turnips were at a minimum during June, July, and August. Broad Beans filled up well though not watered once, but the rows were on the flat and had a deep root run. Early Peas were very good as well as the next sowing or so, but the mid-season's supply fell short owing to the attack of the yellow thrip; but later crops escaped this enemy here at any rate, so that we have been able to gather two or three times a week up to October 7th, the varieties being St. Duthus and Autocrat, two really good Peas for late use, and the quality superb. Here I must give those enemies of mine (pardon me, Mr. Editor) a lasting kick for this season. Those small birds, the tits, served them cruelly; in fact, I had to net four long rows or they would have cleared the lot as fast as they formed.

Early Potatoes were a fair good crop. Beauty of Hebron turned out the best; later crops in the field were rather small, but there was comparatively no disease, White Elephant being the most remunerative, a kind that is marketed around here more than any other two varieties put together. Onions are a good even crop and were well harvested. Carrots,



THE THORN APPLE (*Datura Stramonium*).

The beautifully cut leaves are well re-produced, but the fruit, which is produced in great plenty, is not so readily detected. Every Apple is about the size of the Horse Chestnut fruit, but far more prickly. At eight o'clock in the evening is the time to see the pure white Convolvulus-like flowers, which, however, are quite ephemeral as regards lasting properties. For planting in masses on a wild bank or in the woodland the Thorn Apple will lend itself admirably, but it wants a good depth of rich soil in order to attain to greatest perfection. The whole plant is narcotic and stimulant, and should not be placed within the reach of children. To Mr. Gillerrome, of Torquay, we are indebted for the photo from which this illustration was made.—A. D. Webster.

Acalypha Sanderi.—We were recently asked whether this plant would do out-of-doors in England during summer. Given such a summer as this last has been we see no reason why it should not. It does not like a moist muggy atmosphere, else the "tails" damp off. In an American paper we note that "plants of *Acalypha Sanderi* in the open ground have made better growth than those under glass. How these plants will thrive when taken up and

we like (if we have a supply of water), but the former we have to patiently wait for day after day, and week after week, and I was going to say months; but it is not the daily use of the water can or hose that is required but a thorough good soaking when at all taken in hand. To give an instance, I should have had no Sprouts, autumn Cauliflower, Broccoli, Savoys, &c., worthy of the name had I not well soaked the seed beds and the plants after being put out in their quarters, and one more watering after this put them right.

At the same time we hear others say, Oh! it is no use planting before the rain comes. This delay often means puny plants, when a little severe weather sets in and ends in destroying probably quite half of your stock. Mulching no doubt is a great help in preserving the moisture after watering, where good manure can be had, though I practise very little in this way. I did it a couple of summers, but owing to the continued drought nothing but comparatively dry straw or leaves could be found for the purpose; and this the birds constantly kept scratching all over the place, except where it was wanted, so that I gave it up in disgust and now rely on a good soaking twice a week on such things as

Parsnips, and Beet all grew away quickly and as far as I can see formed very usable roots. These will soon be taken under cover, except the last crop of Carrots sown at the end of July. These, now, are like eating melted butter when nicely cooked. Cauliflowers during June and July were poor, the weather being far too scorching for them. The Autumn Giant proved better, and began to come in very useful early in August, and now excellent heads are being cut almost daily. Runner Beans have served us well, and we are still gathering. We do not grow many dwarfs, which want to be gathered daily or they soon get stringy. Lettuces again were anything but good in the open. I happened to have a couple of long rows close against a row of espalier Apples, and these did not suffer here so much and were most welcome. Celery grew away fine, quite the reverse of last year; but I put out the plants very much smaller this year, and this I think had a lot to do with it, not feeling the removal nearly as much as taller and bigger plants would have done. Sprouts are very late with me though I put them out early during the hottest months, and in fact they are now smothered with the white fly, like those that sometimes attack Tomatos, they are also on some planta-

tions of Cauliflower and Broccoli. We want a few degrees of frost to rid them of these pests. All winter stuff looks fairly well, though the continued drought has told upon these quarters. Asparagus and Seakale have made strong growths; both appear ripening up nicely though a rainy summer certainly suits the requirements of these two excellent vegetables the best, in our light soil. Autumn Cabbages are getting established and I see fine plants everywhere somewhat different to last year; and taking things in general the past summer has been more favourable to us, Adamites, in Devon at any rate, than the preceding one.—*J. Mayne, Bicton.*

LONDON PARKS AND GARDENS.

VIII.—VICTORIA PARK.

THE visit to Victoria Park, a place so well known as one of East London's happy playgrounds, was made at a rather late period in the season. The shortened day with now and again a very cool night or windy, wet weather had taken all the brilliance from the park's great dress, but yet the colours and the pattern were there, and it took no great perceptive power to see that the garment had been beautiful and bright. Even in the cool autumn days, when the leaves swish from off the trees and tangled plants fall brokenly, the appearance of Victoria Park is maintained inviolate, seemingly impregnable to all arraignment, but this is not so without assiduity on the part of the supervisor and his helpers. Even although we cannot always see a galaxy of flower wealth we can at all times be sure of neatness, finished appearances, with the comforts and satisfaction which cleanliness impresses upon one.

Victoria Park has very few really sheltered spots. This always is hard upon a park superintendent, I think, because he never can with any confidence put out very fine or tender plants, not, at least, until the summer has well set in. Then, of course, the season is apt to be shorter, not to speak of the attentive management which has to be maintained during the run of summer. However, Mr. Moorman, who manages Victoria Park so ably, had some very well planned designs, the execution and up-keep of which had been well carried through. Many of the beds are laid out in broad grass borders which skirt the paths and carriage ways along the outer limits of the park. The sub-tropical gardening, which by the way is not extensive, lies nearly in the heart of one end of the park, where the greatest shelter and the best natural scenery or gardenesque beauty can be viewed. Round the bandstand again, which is on the south-east side, there is additional colour and form from bedding plants.

To bank up in a relieving way, the beds which were mentioned as being in grass, herbaceous plants are largely grown. Shrubs and tall trees carry back the idea and give some shelter to all within their pale. Sunflowers, Helichrysums, bedding Pelargoniums, Asters, Tropaeolums, &c., were all to be seen. In the beds themselves there was the tasty combination of *Lobelia cardinalis* above the lesser and bushy Pelargonium Mrs. Pollock, edged with blue Ageratum. A very dark flowered Fuchsia, something like *Riccantonii*, filled an oblong bed, and from having used the bright yellow-leaved Pelargonium Golden Flame, effect was developed, and a pleasing bed the result.

The early Chrysanthemums were in full flower, and of these Harvest Home, a fairly well known but beautiful variety could be seen; so with *Précocité*, with its neat yellow heads, and others were here and there used to advantage. The well known and much employed *Abutilon Thompsoni*, when growing above any pink flowering plant such as Pelargonium Christine, edged with a contrasting but rich colour such as that from Emperor William *Lobelia*, forms a very effective and pleasant bed.

Few have courage enough to use Lantanas alone. Here, however, in quite a full sized bed, a pink variety was used, edged broadly with *Alternanthera magnifica*, and the bed was charming. At the diverging point of paths and roadways, where there are rounded "corners," large beds of irregular shape having protruding corners and indented or concave sides, had been filled with decorative Dahlias, Pentstemons, and such-like, so that at the most prominent points things were rich and brighter.

Rather a refined bed was that in which *Acacia lophantha* waved over some broad-headed Cockscombs, which had beneath them again a ground

work of *Alternanthera aurea*, which also formed the edge. A dark bed of Heliotrope was effective with its white edging of the silver-leaved *Perlargonium* Mrs. Selby.

Annuals are suitable for producing a gay body of colour; and for summer bedding *Phlox Drummondii* and *Salpiglossis* should be more frequently seen. Stoutly grown plants are very able to support themselves and last well in shifty weather. The beds of *Phlox Drummondii* were fine. *Begonia semperflorens*, with dot plants of a variety of *Abutilon*, was sweet and neat. The bronzy leaves of Pelargonium Mrs. Quilter, between which was sprinkled the lavender of *Viola Lottle McNeil*, and a shining band formed from the Mrs. Selby Pelargonium for an edge, made in the united harmony a pleasant show. Cannas and Fuchsias, edged with Flower of Spring Pelargonium and an outermost edge of blue Ageratum, though past their hey-day of vigour, were still splendid in dignity, grace, and variety.

Directly in front of one of the north side entrances there were some fine succulent beds. These were made up somewhat more realistically by having introduced sandstones and other rocks and stones around and about the plants. By such beds as this a new kind of picture is presented, that of rugged picturesqueness. A very tall *Opuntia* rose prominently up as a centrepiece to the middle bed. Round it for a yard outward were huge plants of *Echeveria metallica*, some of them as much as 2 ft. across. On minor heights were poised well-grown Agaves and Aloes, specimens of these being also plunged about in the grass. Other varieties of *Echeveria* and any amount of *Alternantheras*, Thyme, Sedum, Saxifragas, &c., were employed with good effect.

Every possible corner had been made use of, being filled variously with Gladioli, Phloxes, Stocks and other plants of a like nature. Stepping to the region of Palms and other exotic plants we found them in great plenty and everyone luxuriating. In the looser banks of shrubbery, *Ficus elastica*, *Grevillea robusta*, Castor-oil plants, *Eucalyptus Globulus*, *Dracaenas* and Palms were becomingly set up. Palms, *Aspidistras*, *Dracaenas*, Bamboos, and flowering plants of a suitable character filled the beds along the margin of the ornamental water. *Curculigo recurvata* made a splendid sub-tropical plant not very frequently used.

The sub-tropical beds had been shifted from the spot they held last year and the preceding years. Changes must always be welcomed by those visitors who constantly make use of the park. *Coleus* and *Plumbago capensis* were extensively planted, the real sub-tropical effect being well augmented by the introduction of variegated Hops whose long, slender shoots crawled over the *Plumbago* bushes in jungle fashion.

The variegated Maize, interspersed with *Ricinus Gibsonii*, was handsome and pretty. The many beds of Cannas have been, as they always are, when carefully attended to, very strong, sending up gorgeous spikes. Then to finish up with there was a handsome area of carpet bedding. The usual selection of dwarf and neat growing plants were all used and have been most effectively blended together. Here we had the monogram of the London County Council, the Queen's Crown, the Prince of Wales' Feather, and other well-known objects portrayed in vegetative characters. The whole of the work was in a high degree artistic and must have been the subject of considerable thought and painstaking work.

Mr. Moorman has inaugurated a small botanical garden for the benefit of botanical students resident within access of it. The beginning is small but with such care as we know will be bestowed in augmenting the collection, and the other conveniences which will be planned, there is no doubt as to the success and the influence to which the venture will attain. Before leaving the park, the Chrysanthemums were inspected, but notes upon these, all of which were stout and promising, will be dealt with later on. The large conservatory had a gay assortment of both flowering and foliage plants but a little more space might be given to the pot plants with advantage to them. The propagating ground with its dozens of frames and pits, was already well filled with cuttings to carry on a stock for fresh work next year. So here we leave Mr. Moorman and his increasing work which, of course, demands unceasing care, which again, is yearly proved to have been given.

A VISIT TO BEAUMANOR PARK AND GARDEN.

(Concluded from p. 123.)

ALPINE PLANTS. — *Acaena Novae-Zelandiae*, *Acantholimon glumaceum*, *Chionodoxa*, *Audrosace sarmentosa*, *Dianthus Napoleon III.*, dwarf *Campanulas*, *Gentians*, *Saxifragas*, *Sedums*, *Sempervivum*, *Lithospermum prostratum*, *Primulas* in great variety, *Ramondia pyrenaica*, *Rosa alpina*, *Dryas octopetala*, *Phlox amoena*, *P. subulata* and varieties, *Draba Aizoon*, *D. Aizoides*, *Daphne Cneorum*, *Heuchera*, and many other choice and indispensable things for rockeries.

DESSERT APPLES include early and late varieties, such as Beauty of Bath, Cox's Orange, Ribston Pippin, Adam's Pearmain, Scarlet Nonpareil, Braddick's Nonpareil, Fearn's, Sturmer, and Wollaton Pippins, &c.

PEARS include such as Louise Bonne of Jersey Marie Louise, Marie Louise d'Uccle, Zephirin Grengoire, Easter Beurré, Knight's Monarch, Doyenné du Comice, Chaumontelle, &c.

CHRYSANTHEMUM NOTES.

THE full realisation of the season is not yet upon us, but before many days are over the full force of the annual contest will be making itself felt over all the southern counties, to be followed by exhibitions and competitions of the autumn flower further and further northward. Without being on the outlook for them chance threw in our way some fine collections of Chrysanthemums in an advanced stage of development, though few were really fully expanded; and we made notes of a few of the most promising varieties.

DANESFIELD, GREAT MARLOW.

Here, as elsewhere, the Japanese varieties are the most popular and in the greatest force. The earliest and more forward are situated in the greenhouse where they begin to make a display in company with a fine batch of *Salvia splendens grandiflora*, with which the contrast in colour is great. *Gypsophila elegans* is also making its presence felt along the front of the taller subjects. Amongst the earliest of the large types, *Mdme. Geo. Bruant* is notable for the great size of its blooms, which are shaded with rose on a white ground.

The finest display, however, is expected from the plants situated in the vineries and other fruit houses right and left of the central greenhouse at the top of the kitchen garden. Here the plants are bristling with giant buds in various stages of advancement. The flowers of *Mdme. C. du Terrail* are large, whorled and soft creamy-white, tinted with pink. Other promising things are *Princess Charles of Denmark*, *Mrs. White Popham*, *Matthew Hodgson*, and *Mdme. Carnot*. There is a grand lot of the latter in the finest condition, and Mr. Gibson, the gardener, has lost no buds of this rather troublesome variety. *Mrs. Barclay* has fine foliage and is dwarf and promising. *Mrs. H. Weeks* is also strong, but takes a long time to develop its splendid blooms. The beautiful *Nellie Pockett* has won favour from every grower, and is bound to be greatly in evidence during the season. *Louis Dawle* is a fine yellow, with which the public is not yet very familiar on the show boards, and the same may be said of *Mrs. T. Carrington*. *Mutual Friend*, *Edwin Molyneux*, and *Edith Tabor* are old friends here in very good form. *Marie Calvat* has broad petals, tinted with pink on a white ground. Those of *Mrs. Coombe* are rosy pink. A handsome golden-yellow variety is *R. Hooper Pearson*. Other most promising flowers were *Royal Standard*, *Lady Crawshaw*, and the rival dark crimson varieties *H. J. Jones*, and the *Hon. W. F. D. Smith*. At present the latter has the larger flowers, but a few more days are necessary for the proper comparison of those that only came before the public last year for the first time. High colour is to be a feature of the Chrysanthemum blooms here; for that the atmosphere is clear goes without saying. The gardens of *R. W. Hudson, Esq.*, are situated on a bold spur of the chalk formation, high above the level of the Thames, and about three miles or less to the west of Great Marlow, Bucks. He loves his garden and estate generally, so that no branch of modern gardening will be neglected, nor anything conducive to their welfare. Flowers are in continual request, so that Chrysanthemums are bound to be well represented, as nothing else can take their place during the autumn months.

TRINITY ROAD NURSERIES.

POSSIBLY some of our readers are unacquainted with the name of Mr. Robert Neal, the proprietor or head of the nursery firm trading under this name. The firm is a brisk one, employing many hands and with some twenty-five to thirty acres of nursery land, besides a very complete and compact area of glasshouses. The nursery lies close to the breezy Wandsworth Common, and about seven minutes walk from the railway station of that name. Then from Clapham Junction, to which anyone in London or surrounding counties can find their way, the distance is one mile. Arriving there on a business inspection some weeks ago, we found everything very satisfactory. The cleanliness of the nursery grounds was a marked feature. Another point of merit, in our estimation, was that no land is left unfilled. Even in breadths of shrubs all of a kind, be they Cupressus or Aucuba, Daisybush or Weigelia, when one plant has been sold and lifted its place is not left vacant simply because there are no more of its kind to occupy the spot. Any other plant if it is at all suitable, is put in, and so from evidence of this sort one concludes that there are business men at the head of affairs, and that having opportunities they do not waste them. So if care is taken in having the ground occupied and kept clean, is it difficult to suppose that the plants, or stock, whatever it may be, is also cared for, I mean in reference to pruning, training, budding or grafting, selecting, and in transplanting, according as they require such operations? The whole stock is in excellent condition. There is little that can be said relative to the shrubs. All that the ordinary gardener ever wants is there, some in greater, some in lesser quantity. Hardy Bamboos seem to hold their own even where the shelter is scanty. Olearia Haastii, so useful for massing on sunny slopes, or for planting as specimens in the dressed grounds, is largely patronised. Bright shrubs such as the Golden Privet, Cornus mas variegata, variegated Acers and Hollies, together with the purple-leaved Prunus Pissardi and Berberis vulgaris purpurea, Pine and Fir trees in a few of the more select varieties, all find a place.

Fruit trees are seen in many forms. Espalier trained Apples and Pears, also the bush, pyramidal and standard forms are in sufficient numbers to give one a satisfactory choice. Apricots, Plums, Peaches and Cherries are trained for walls, and the well-furnished stout wooded plants bespoke of care and timely attention in laying the foundation of the trees.

Climbing plants are represented in Wistaria sinensis, the shoots of some of which were being layered for an increase of the number. Jasmines, Magnolias, Crataegus Pyracantha, Clematis, Plumbago capensis (in the open), Honeysuckles (Lonicera), Ceanothus, and other things suitable for draping purposes, were all noted and admired. There is a full collection of coloured Thorns. Roses in the open, like the Roses in pots, were splendid samples of their kind.

The dry weather had been against successful budding, but most of what were seen at Trinity Road Nurseries were firm and set. Annuals are an extensive category; so likewise with ornamental grasses and half hardy ornamental plants for sub-tropical bedding.

Vegetables form an additional feature, and the greatest care is taken to grow good produce and to preserve it clean and true.

Coming to the glass department, almost the first house that one enters displays a batch of improved single flowered Petunias. They do not equal the double varieties, but for size, brilliance, and substance we cannot recall having seen any finer blooms than those produced by Mr. Neal's strain. Ericas, when well grown, have a charm for nearly everybody, and they have the secret of how to grow them at Trinity Road. Young Clematises in pots provide plants of which anyone might be proud, and from the fact of their being in pots they are fit for planting at any time. Foliage plants of the popular enumeration such as Dracaena indivisa, beautiful little plants in 4 in. or 5 in. pots; Pandanus Veitchii, Ficus elastica, Aspidistras, with some lovely decorative plants of Cyperus alternifolius variegatus, Acalypha in varieties, Grevillea robusta, and so on, are all specially attended to.

Palms of all kinds fill a special house. The Ferns in the better known varieties of Adiantum, Pteris, Nephrolepis, Davallia, and Polypodium, &c.,

stretch out over many stages, or hang from the roof in other cases. Begonias are not ignored.

Then out of doors one finds hundreds of bush Chrysanthemums, Azaleas, Ampelopsis, Ivies, and Roses. Vines are both to be seen indoors and out; in the latter case they are ripening off. The Roses are splendid, and promise a capital yield of blooms. Such varieties as Kaiserin Augusta Victoria, Souvenir de S. A. Prince, Bridesmaid, Catherine Mermet, General Shablekine, Grace Darling, and others were particularly strong and healthy.

Mr. Neal also has a considerable trade in Cape, Dutch, and other bulbs, embracing also agricultural seeds, besides seeds from every section of garden produce. The visit to this thriving firm brought to my mind's eye many similar firms throughout the land, striving to keep their place bright in every corner.—G. W.

NOTICE OF BOOK.

FAMILIAR WILD FLOWERS. By F. E. Hulme, F.L.S., F.S.A. Cassell & Company, Limited: London, Paris, New York, and Melbourne. In 25 weekly parts. Price 6d. each.

SOME time ago we noted the re-issue of this publication in a form within reach of all interested in our native flora. The whole of the 25 parts have now been completed, and as the collecting season is over, or almost so, those who have added the book to their library will be able to recommence their field rambles with the return of spring equipped with illustrations, coloured and uncoloured, of a large number of the more showy of our wild flowers. In Part XVII. the author gives a very good description of the habitats of the Wood Vetch (*Vicia sylvatica*), and shows that it can be familiar only in a restricted sense, that is, in the localities it frequents. Open woods in hilly districts, chiefly northern, are those it prefers, but we have also met with it on high, rocky banks on the seashore, facing the east. The Snowdrop and Snowflake, though familiar enough in gardens, are also very local in their occurrence, though often in the case of the former very abundant where it has long run wild. The Snowflake seems to be most frequent in the eastern and northern counties of England, but it is quite accessible to Londoners who frequent the upper reaches of the Thames.

The various plants with which the author deals are widely scattered over various parts of the country, according to the nature of the habitats they frequent; so that those who set themselves the task of searching for them in their native habitats will have to employ their leisure time and holidays with diligence in several successive years, unless, indeed, the collector has an unusual amount of spare time at command. A large percentage of them are, however, to be found within easy reach of London and other centres, so that the rarer or more distant ones may be added as occasion serves. The coloured illustrations, and the non-technical descriptions will readily conduce to the determination of each particular species, but independently of all this much pleasure, recreation, and knowledge can be accumulated by careful observation of the natural habitats and surroundings of the plants in the wild state, and by a study of the conditions conducive to their welfare. The woods and glens, river banks, seashore, mountains, and commons all have their inhabitants, which vary in kind and in character, according as particular spots or localities furnish the means of subsistence, meagrely or abundantly. To dwellers in towns a hobby of this nature offers the pleasureable incentive for healthy recreation of a harmless yet instructive kind.

In connection with the Field Thistle (*Carduus acanthoides*) the author revives the legend of the Acanthus leaf being much used in Greek and Roman architecture; but writers are not all agreed upon the plant which was so much copied by those ancient builders in the sculpturing of Corinthian capitals, &c. Some think it more likely that the Cardon or even the Globe Artichoke leaf was the one from which the patterns were copied, because more frequently coming under the eye of the stonemason as cultivated plants in gardens. However, as doctors differ, the point cannot be regarded as in any way affecting the study of wild plants as here propounded.

Emblematic plants, such as the Rose, Thistle, Shamrock, Cornflower, and others come in for a due share of attention, as their beauty or interest are

such that they could hardly be overlooked in a book dealing with the more conspicuous of our native flora.

Part XXIV. gives an index of the English names applied to the plants described and illustrated in the body of the book, and a separate index of the botanical names used in each of the six series or volumes of the book, that is, the indexes are common to the whole work. Then follows a table of botanical orders and genera represented in the work, so that students of the natural system may use it to advantage when desirous of ascertaining what plants have here been dealt with. The XXV. and concluding part is entirely devoted to a summary of the whole book, giving concise descriptions of each plant that has been illustrated. It is also a sort of index or rather synopsis of contents, as the page is mentioned on which the fuller description is given. The various plants described and figured follow no particular order in the book, but any inconvenience to the reader on that score is prevented by the use of these three indexes, which thus appeal to every class of readers.

The printing is very clear throughout the book, whether the type used is large or small. The quality of the paper used is excellent for a book issued at such a popular price, and would, indeed, serve for books of a much more costly nature.

EVAPORATED VEGETABLES.

THE factory of the British Preserving Company at Rayne stands on a plateau about 200 feet above the sea, on the edge of the London clay, in the county of Essex, upon a gravel bed 25 ft. in thickness, overlaying a bed of clean, sharp sand, bearing ample water of exceptionally good quality, though very hard. In the erection of the factory great attention was paid to the sanitary arrangements and the comfort of the workers, most of whom are young women. The main hall is about 80 ft. by 30 ft., and at one end is the engine and boiler room, at the other the kitchen or copper room, with store room and the workpeople's rooms beyond. On the north side runs an annex, in which are various bags for receipt and storage of the raw material and for sundry subsidiary processes. Outside there is a forge, a tin shop, and a large shed for baskets, mats, sacks, &c., which take much room. The most scrupulous cleanliness must be observed. The concreted floor of the main hall is channelled, and laid so that the constant swillings of water pass readily away.

The main feature of the large hall (apart from the shafting and numerous machines connected to it by belting, which first catch the eye) is what is called the drying canal. This runs along one side of the building, and has the appearance of an exaggerated wooden counter. Its internal dimension is about 4 ft square, and throughout its length is laid a small tram line, along which run the waggons containing ten or twelve perforated zinc shelves for the prepared vegetables. Outside the canal runs a similar tram line by which the waggons, having passed through the canal, are returned to the end to be again filled and passed through. A hot blast is driven into the canal by a powerful fan, and rapidly takes up the moisture of the vegetables, so much so that at the further end an exhaust fan with a high number of revolutions is required to extract the moisture-laden air and expel it through an upcast shaft.

The amount of moisture extracted from vegetables differs largely in various kinds, Onions being reduced to about one-tenth of their original weight, and other vegetables to a less extent. The time and the degree of heat required by each also largely differ, and in the knowledge of this lies much of the success of the process. When the vegetables leave the canal the slices are crisp as biscuit, and a slight re-absorption of atmospheric moisture must take place before they are ready for compressing and packing. For this purpose they are spread on a wooden floor, and here again experience is needful in order to seize the proper moment. It is claimed that all the natural and essential qualities of the vegetables are retained without any diminution by this process.

Having described the most important part first, we will now rapidly follow the process of preparation. Down the middle of the room are tables at which the girls stand, each with two baskets on the floor, one on either side. On the table or beneath it are the various small machines for peeling or slicing, most of them very ingenious. The idea of

peeling Potatoes in a lathe strikes most people as ludicrous, but it is true. Larger machines for washing Potatoes, Carrots, Onions, and other kinds by rotary action, and slicing them, stand round the walls, while a notable Pea-shelling and sorting machine of large dimensions makes a sort of centre. Steam-heated plunging tanks occupy one corner, and large butts of cold water another. The machinery in the conserving room is of the newest description, and being commonly used in this country needs no description. It may be well to state here that the vegetables prepared at Rayne are absolutely free from chemicals, and have passed the Government analyst as perfectly pure.

The principal feature of successfully evaporating vegetables is to wholly extract the water without burning or drying up the fibres and tissues that are in them, otherwise the vegetables will not thoroughly re-hydrate again or re-assume almost their normal size, while no matter how properly and carefully they are cooked they will be harsh and flavourless, and lose their natural aroma and colour. When properly evaporated each vegetable should retain its own peculiar aroma, essential oil, strength, goodness, colour, and flavour.

Almost every kind of vegetable and herb is capable of being preserved by an evaporating process, and if care be taken to get rid of the moisture contained in them they will keep for an indefinite period in any climate, so long as they are kept covered in a tin box, so as to prevent their absorbing the moisture contained in the air. Radishes, Lettuce, Watercress, and such like crisp vegetables cannot be done successfully, because it is impossible by re-hydrating to get back their natural crispness, which is their leading characteristic.

The time required for the drying process is from two hours and a half to four hours, starting from a gradual heat up to 45° to 75° Celsius, such heats varying according to the vegetable dealt with. It is inadvisable, as also almost impossible, to lay down a fixed rule as to temperature required, as the condition of the vegetable, whether a wet or dry season, its growth, and even the soil upon which grown, have to be taken into consideration.

The process of evaporation does not in any way alter the condition of the vegetable so treated either in making it fresher or staler. Fresh vegetables will come out from the process fresh, and stale vegetables cannot be altered, but will come out stale. The best time to put the vegetables through the process is when they are at their full growth and their nutritive qualities at the highest point. Vegetables grown upon sewage farms or on very highly manured market gardens are not the best for the factory, as in both cases they contain a much higher percentage of water than those grown upon less quickly forcing soil, and it is an open question as to whether they would have such good keeping qualities when grown on the former as on the latter. At the same time it is important to avoid using vegetables that are grown on poor soil, which consequently are a long time growing, and must be necessarily coarse and spongy, in the case of roots and such like, and stringy and tough in the case of Cabbage, &c.

By the evaporation process, all classes of vegetables as they come in season may be thus preserved and used for culinary purposes, irrespective of seasons, so that Carrots, Turnips, Parsnips, and Onions, these forming perhaps the most useful, may be obtained all the year round in their full nutritious condition and at reasonable prices. Under the old order of things during the months from April to September it is very difficult and expensive to obtain such from natural sources.

When needed for use evaporated vegetables require soaking in water for from two to six hours, according to the sort. After soaking they may be cooked in the same way as ordinary fresh vegetables of a similar nature. Vegetables required for soups need not be soaked so long as those for the vegetable dish. By adopting a sound and proper process of evaporation, and by taking great care for the cleanliness of all the surroundings and quickness in dealing with the produce from the first commencement of the process, which is the peeling, to the last, which is the pressing and packing, the colour of each vegetable and its own natural aroma and qualities may be retained without the use of any colouring matter or chemicals.

For army, navy, and colonial use, where vegetables

are scarce or impossible to obtain, evaporated vegetables form a splendid substitute for the original article, and beyond question hold their own far beyond any tinned substitute, both in flavour and quality, while they are certainly much cheaper comparing solids with solids, and very much easier to handle. By hydraulic pressure, which in no way injures them or deteriorates from their value, it is possible to confine a large quantity of evaporated vegetables in a very small compass, which very materially lessens the cost of transport both by land and sea.

As an aid to agriculture, which is still the largest industry in the United Kingdom, the evaporation business will require a little time to firmly seat itself, but as to its ultimate success, an object lesson may be learnt from France, Germany, and America, the two former for vegetables and the latter for fruit. France was the originator of evaporated vegetables, which were first used prominently by them in the Crimean war in the feeding of their soldiers. Since the Franco-Prussian war, Germany has made very great strides in their manufacture, so that now in that country, and in France, factories for evaporating vegetables may be reckoned by the score.

Dried vegetables may be seen and bought in most of the grocers' shops on the Continent, as they have now become universally used by the householders of the great cities and towns. For cheapness, saving of time and trouble in peeling and preparing, for doing away with the nuisance of the peelings and garbage stored in or near the house, evaporated vegetables should be extensively used in London and all great centres of people.

The Gold Medal and Diploma of Honour were awarded to the Rayne vegetables at the Universal Food and Cookery Exhibition, held at the Imperial Institute in March last, where they were extensively used in the practical demonstrations.—(Paper read by Mr. R. Gofton Salmond at the Horticultural Club.)

GARDENING MISCELLANY.

HYDRANGEA PANICULATA GRANDIFLORA.

It is pretty well understood, writes Mr. Joseph Meehan, Philadelphia, in *Gardening* (American), that unlike *H. hortensia*, this species may be pruned as severely as desired with no loss of flowers. The result of close pruning is to lessen the number of shoots, and increase the size of the heads of bloom. The florist or gardener will consider whether it suits him to have a few large heads or a greater number of small ones, and regulate his pruning accordingly. Left to grow naturally we get our first flowers in August, but it may be a useful hint to some, to say that a partly broken branch will bloom earlier than others. A slight twist or break given to a branch will cause the flower heads to expand sooner, and in this way the flowers can be had two weeks before the perfect ones. To prolong the season, cut back the young shoots when about a foot in length, which with us is about the first week in June. New shoots will form which will flower about the time the others are over. Still another way is to set out plants very late in spring. By the time their growth is well advanced the earlier ones will be well ahead of them, and this difference will be kept up throughout the season.

KNIPHOFIAS OR TRITOMAS.

EVERYWHERE in gardens the handsome, fiery spikes of the Kniphofias (syn. Tritoma) are at this time to be seen. In no way is their effect more fully enforced than when they are planted in beds by themselves. Then their brightness shows itself from among any amount of rival colouring. The brightest of our shrubs appear hesmudged in comparison with them. Of the fine varieties grown probably none are so truly reliable as *K. aloides*. As a rule, heavy soils are not suitable for the weaker varieties, such as *K. citrina*, for instance, but if once they get a fair start and some winter protection it is wonderful how much they will bear against. We would draw attention to these beautiful hardy plants, which are useful for all purposes of decoration.

HELICONIA ILLUSTRIS RUBRICAULIS.

INTRODUCED only a few years ago, this plant has won its way into all the best collections of stove plants.

Even minor gardens, where usually the propagating of the permanent stock (if I may so call it) is the only thing ever dreamt of, have for once opened themselves for its reception; and no wonder. It is just the style of plant which owners of gardens ought to acquire. The structural beauty of the foliage cannot fail to please the eye of taste. The crimson veins converging like the lines on a railway map towards some centre, are very pretty, and the whole plant is a combination of many kinds of beauty, a finished beauty which bears looking into, and, indeed, it appears all the more charming when it is looked into and glorified by the aid of imagination.

ROSE, FORTUNE'S YELLOW.

THIS is a Rose which requires to be once again brought to notice. We see splendid displays every springtime in the Drill Hall, displays of this Rose which make all our Press writers rush off yards of appreciative description. It has the qualities wanted in a nice, loose, graceful vase Rose; or for any sort of indoor decoration it is simply A I. It is ticklish to get it to do at times, but experience and experiment alone are the guides to its successful culture. Do not forget it when ordering new Roses.

TOMATO DESSERT.

THIS simple little fruit combines with good eating qualities the quality of attractiveness. They are borne on bunches forked in two's, and if they be taken from the plant in bunches and used upon Vine leaves or among various foliage draping, it gives the richness which may be lacking.

CAMPANULA MIRABILIS.

WE had the pleasure of seeing this prostrate growing blue flower at Kew some short while ago. Pale lilac is really the proper description of its shade. The large blooms are numerous borne in trusses and from a steep portion of the rockery the stiff, free growing branches would hang with effect. It only flowered last year for the first time in England. M. Alboff, a Russian botanist, gathered it from the Caucasus. The plant is biennial and sometimes does not flower till the third year. The flowers have the grand quality of persisting in beauty and they bear seeds freely. We would recommend it as a worthy addition to the border or rockery.

FITTONIA GIGANTEA.

As an edging plant or for covering any and many little nooks in an indoor rockery, this beautifully veined plant is a prime favourite. Older growers may specially know it by the name of *Gymnostachyum giganteum*, but this has now been changed, just as many other plants' names have been. From cuttings or from seeds, the plants can be easily raised, the main features being to keep the plants growing in a light position. If they are kept in a dull house or part of one, there is no chance of their best and highest beauties being realised. Then if the plants are kept in the fullest light and are in the least stinted for root-room they bloom too freely, thus destroying their freshness in that manner. An even medium course of treatment answers best. Leaf propagation has successfully been tried and nice plants can be raised from leaves. The rich carmine-netting of the leaves is very pretty.

ENDIVE FOR WINTER SALAD.

ENDIVE sown in early August will now be fit for transplanting to frames. This is a very elite vegetable for salad purposes and is quite as popular as Cucumbers. Frames from which summer Cucumbers have been cleared will answer very well for the Endive plants. The soil should be rich and fairly moist. Put the plants in firmly but not too deeply. During mild weather in winter, water may be given to them. When they attain sufficient size they may be blanched either by placing slates over them, or inverted pots. Other growers again lift the plants and place them in a Mushroom house, a process which results in good produce being obtained.

TOMATOS.

IT has been a good season for the out-door cultivation of the ever popular Tomato. I put out some plants of the Improved Early Evesham on a south wall at the end of May, and as the weather continued so hot and dry I allowed them to run up to the top of the wall before I stopped them, so that

instead of the orthodox "three trusses of fruit," I had a dozen. They set well, and a large quantity ripened. I had some later plants of the Perfection variety, which flowered well, and were of large size, one fruit I weighed going over a pound. But of the three varieties I grew I must give the palm to Sutton's "Eclipse," a very smooth round variety that comes to maturity quickly, and is of fine appearance and flavour. All Tomatos will have been cut by this time, the forwardest will ripen up on dry vinery shelves. Of course, the flavour will not equal those ripened on the plants, but still they are passable, and come in very useful. The very green ones may be made into jam, as follows:—Peel them carefully, to every 1 lb. of fruit add $\frac{3}{4}$ lb. sugar; to every 3 lb. of fruit the juice and grated rind of two Lemons, and boil for one and a half hours. I like it very much, and think it a capital way of utilising late Tomatos.—*Geo. Potts, St. Denys.*

SOCIETIES.

ROYAL HORTICULTURAL.—October 24th.

THE hall was very well filled on the occasion of the meeting on Tuesday last. Chrysanthemums were in strong force in every part of the hall; but there were groups of Begonias of the Gloire de Lorraine type, and its varieties and allies; also fine foliaged stove plants, autumn tinted foliage, and a good display of Orchids. Fruit, particularly Apples and Pears, were present in great quantity. Fine market Grapes were also shown.

J. Bradshaw, Esq. (gardener, Mr. W. Whiffen), The Grange, Southgate, N., exhibited a fine lot of Cattleyas, including several fine varieties of *C. labiata*, *C. Mantinii nobilior*, *Laelia autumnalis atrorubens*, and *L. praestans*. A variety of *Cattleya labiata* was notable for its white sepals and petals, and a crimson blotch on the lip. (Silver Flora Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited a group of Cattleyas, including *C. labiata*, *C. wendlandiana*, *Laeliocattleya wellsiana*, *L. Hermione*, and the charming *Sophrocattleya Eximia*, with crimson-carmine flowers, and intense crimson lip. The hybrid *Cattleya Eurydice* was shown in fine condition, as was *Oncidium incurvum*. (Silver Flora Medal.)

Mr. Ed. Cromer, Roraima Nursery, Bandon Hill, West Croydon, Surrey, exhibited a group of *Cattleya labiata*, amongst which we noticed several fine forms having a large rich crimson lip. He had a very singular freak in a variety of *C. labiata* with almost the whole flower of a uniform pink, and the lip spread out nearly flat. *Laelia elegans* and *L. pumila* were also staged. (Silver Banksian Medal.)

The Duchess of Northumberland (gardener, Mr. Higgin), Hawick, Darlington, showed a splendid raceme of *Vanda caerulea* bearing twenty-one highly-coloured flowers.

F. Knight, Esq. (gardener, Mr. E. Marston), Thundersley House, Thundersley, Essex, exhibited a showy and well-flowered group of Orchids, conspicuous amongst which were *Dendrobium Phalaenopsis schroderianum*, in variety, *Cypripedium Charlesworthii*, *Dendrobium formosum giganteum*, and others. (Silver Banksian Medal.)

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited *Laeliocattleya gottoiana marmorata*, *Laelia pumila magnifica*, and *Cattleya Lowiae*.

Amongst new Orchids, Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited *Laeliocattleya Duchess of York*, *Cattleya Princess*, and *Laelia Mr. M. Gratrix*, a remarkably distinct hybrid.

Mr. E. Stanley Clark, Oak Alyn, Wrexham, staged *Cattleya Mantinii nobilior*. H. Little, Esq., The Barons, Twickenham, had some grand spikes of *Cattleya bowringiana*. A variety of *Cypripedium Charlesworthii* was shown by Messrs. G. W. Moore, Ltd., Cragg Road Nurseries, Rawdon.

Messrs. Thomas S. Ware, Ltd., Hale Farm Nurseries, Tottenham, London, made a splendid show with their large and varied group in all colours of early-flowering Chrysanthemums. These were in pots, and all were fresh, stout, full of bloom, and well set up. Bouquet de Feu, Alice Butcher, O. J. Quintus, Notaire Grog, M. A. Herlant, and Gloire de Mezin were each very pretty varieties, and

would compose a good selection. (Silver Banksian Medal.)

Messrs. John Laing & Sons, Forest Hill and Catford, Kent, were strong in ornamental shrubs, and in samples of the topiary art. Box and Yew bushes were neatly executed in various forms such as birds, vases, basins, columns, &c. They also had a fine collection of Apples in most of the best known varieties. The colour of the fruits was superb, so likewise was size and outward appearance. (Silver Knightian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, arranged in replete array a collection of cut Chrysanthemum blooms. M. Gatellier for 1899, a handsome Japanese incurved variety; Mrs. S. C. Probin, Lady Buller, a beautiful seedling from Sunshine and out rivaling that variety in brilliance was also staged; Gen. Paquie makes a fine decorative bloom, while Ella Curtis and Sydney Brunning each were marvellously fine.

Mr. W. J. Godfrey, Exmouth, Devon, staged in artistic fashion a large variety of Japanese and early flowering decorative Chrysanthemums. Queen of the Exe, large white; Le Grand Dragon, lately receiving Award of Merit; Major Matthew, Mrs. Probin, Mrs. White Popham; then of the smaller Japanese reflexed forms, Mrs. E. V. Freeman, Ettle Mitchell, Miss Marie Godfrey—this latter a splendid new one—Queen of the Earlies, Emily Grunerwald, were all A1. The tracery of Smilax and the edging of Ferns was most effective.

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, staged Nellie Brown, a pretty little decorative variety. His large Japanese blooms in the varieties Rayonante, Henry Weeks, Marguerite, L. Silkot, Major-General Symons, Mr. E. G. Hill, and Lady Phillips were each very fine. Mytchett Beauty, a deep yellow decorative variety was very pretty. (Silver Banksian Medal.)

Messrs. Wm. Paul & Sons, Waltham Cross, Herts., had hybrid Tea Rose Exquisite, the Tea Sulphurica, and Tea Boadicea, each very fair.

Messrs. R. & G. Cuthbert, Southgate, Middlesex, showed a splendid group of the beautifully coloured and gracefully blooming Chrysanthemum Mrs. Wingfield. The variety is well taken to. In good light it is a charming variety. (Silver Banksian Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, S.E., had one of his superbly finished groups or rather three groups in one. The central and larger group was composed of very finely bloomed Chrysanthemums, of which Mdme. C. Terrier, Rayonante, Lily Boutroy, R. Hooper Pearson, Gabriella Debie, among others were very conspicuous. The end groups were made up of handsome foliage plants, for which Mr. Jones is becoming famous. (Silver Gilt Banksian Medal.)

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., showed foliage plants in very fine array and in large variety. The finest of the known Crotons, Dracaenas, Cocos and such other plants were put up. *Daemonorops fissus* was another plant well shown and not very frequently seen. *Sonerila Souvenir de Louis Van Houtte* was well shown and made a very effective edge to the group. This is another of those plants which ought to be more frequently employed in gardens.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, was strong in his show of Begonia Gloire de Lorraine, Adiantum Ferns and *Isolepis gracilis*, each of which were sample plants arranged in an exemplary style. The depth of colour and the quantity of bloom were the most striking points of the fine Begonias. (Silver Banksian Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, had a stand of Japanese Rhododendron trusses, which proves the great value of these as a race of stove flowering plants, for the Messrs. Veitch have had trusses of these Rhododendrons at various Drill Hall meetings since the year started. *Carminatum*, *President*, *Hercules*, *Luteum roseum*, and others were very sweet.

Mr. Norman Davis, Framfield, Sussex, again showed a group of Chrysanthemums and showed them in the very best possible manner. Great tall vases were used, so in the lower parts baskets were tastefully filled, while other vases and epergnes of all sizes and heights were placed about to give height or depth here and there. Herbaceous Asters and a few foliage plants were also used interspersedly. Mdle. Elise Dordan, a sweet little pink pompon, and others of the decora-

tive Chrysanthemums, as well as a number of fine large Japanese blooms were all to be seen in good style. Miss Alice Byron, Miss Maud Douglas, Amy Ensoll, and others of this latter section were superb. (Silver Gilt Flora Medal.)

N. R. Hoffman, Esq., Thurlow Lodge, West Dulwich (gardener, Mr. T. Tomlinson), showed a collection of Caladiums, all of which had resulted from one plant, namely C. B. S. Williams, fertilized by Harry J. Veitch and Alfred Bleu. The diversity of the young plants was immense, showing some nearly all green with white spots only, others pink, and again others cream-like.

Messrs. Wm. Cutbush & Son, Highgate, London, N., staged a beautiful and very effective table of handsomely berried Pernettyas, *P. mucronata macrocarpa*, a dark blood-red variety. *P. m. rosea*, *P. m. atro-purpurea*, *P. m. alba*, *P. m. lilacina*, and others were very fine. It is a wonder that these are not far more frequently grown. (Silver Banksian Medal.)

Her Majesty the Queen, The Royal Gardens, Windsor (gardener, Mr. Owen Thomas), staged a very representative, high-class selection of Apples and Pears. The former predominated, and these were exceedingly fine. Emperor Alexander, Stone's Apple, King of the Pippins, Adam's Pearmain, Hoary Morning, Transparent du Croucelles, and others were superb and good. Vicar of Wakefield, Duchess d'Angouleme Pears also helped the effect of a first-rate group of fruits. (Gold Medal.)

Mr. John Forbes, Nurseryman, Hawick, Scotland, had a neat little group of a fine new Begonia named Caledonia, a pure white variety of Gloire de Lorraine. Though smaller plants than the parent, this is almost sure to make a splendid companion for the older one. The plants were stout and healthy. Ferns were used to relieve the general effect.

John Warren, Esq., Handcross Park, Handcross (gardener, Mr. Marcham), put up a collection of roo dishes of Apples and Pears, which though of a somewhat smaller size than many already shown, was equal to anything in finish and colour. (Silver Knightian Medal.)

The Duke of Northumberland, Syon House, Brentford (gardener, Mr. Geo. Wythes), had a large assortment of Apples and Pears, of which Blenheim Orange, Wellington, Lady Henniker, Red Colville, Lord Suffield, Gascoyne's Scarlet, and others were of very fine proportion, and well finished on a whole. (Silver Knightian Medal.)

Messrs. Cannell & Sons, Swanley, Kent, had a giant collection of vegetables, in which were seen some very fine Carrots. Cannell's Prize Crimson, Cannell's Mammoth Leek, Masterpiece Onion, Cannell's First Prize Parsnip, Cannell's Coconut Onion, Cabbages, Cauliflowers, and Potatos in about forty varieties, all clean and good. (Silver Gilt Knightian Medal.)

Lord Carnarvon, Castle Gardens, Newbury (gardener, Mr. W. Pope), showed what can be done in his district, drought and all else considered. The collection on the whole was very clean and good. Onions, Cucumbers, Potatos, Cauliflower and Tomatos were superbly shown. (Silver Gilt Knightian Medal.)

Mr. C. Herrin, Dropmore, Maidenhead, staged a very fine collection of thirty dishes of Apples and one dish of Plums, Braby's Late Gage. The table was most pleasingly relieved by the use of Acer leaves, small plants of *Grevillea robusta* and other grasses. (Silver Knightian Medal.)

Mr. Geo. Munro, Covent Garden Market, London, set up a selection of Grapes in baskets, bunches of Bananas, Apples in boxes, and Pears likewise, all shown as samples of the fruit he sells at Covent Garden and also the manner in which it is packed.

Mr. Wm. Taylor, Osborne Nursery, Middlesex, received an Award of Merit for six bunches of Grapes, ripened out of doors; the variety was Reine Olga and the bunches very fine ones.

Lord Llangattock, Monmouth (gardener, Mr. Coomber), set up a very fine collection of sixty dishes of Apples and Pears. The high colour and general worth of these were commented on all round. The varieties Cellini, Annie Elizabeth, Golden Noble, King of the Pippins, Cox's Orange Pippin, Taylor's Kernel, and Peasgood's Nonsuch were particularly fine. (Gold Medal.)

Blue and white go well together in bands of colour.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargonium, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Coelogyne cristata showing Flowers—W. S. W.: The flower spikes are premature, and we should suspect that you have kept them too long in the warm house, at the same time giving a supply of moisture that has caused this early growth. However, as the spikes are so few, it may be that the plants yet contain many more hidden away at the base of the leaves, so that your best plan would be to place the pans containing them in a cooler house. Very little water will then be necessary, in fact, just sufficient to keep the pseudobulbs from shrivelling. Although you have been keeping them drier lately it is just possible that an undue amount of moisture has been lodging about the roots of those crowns which have proved so precocious. In any case a cooler house, with less water, will retard the remainder of the crowns till the temperature rises in spring or till you again move them into warm quarters.

Top-Dressing a Vinery Border—J. E.: You may treat the vinery border much the same as that for Peaches. It would be superfluous to use superphosphates and bone meal at the same time, as they both supply much about the same chemical ingredients. In place of bone meal we should use 3-in. bones, or even more finely crushed bones, as they would be more lasting than either bone, meal or superphosphates. About a 6-in. potful of bones would be sufficient for a barrow-load of the compost you make up for top-dressing. As to the general nature of the top-dressing it might consist of two-thirds of old potting bench soil, and one-third well decayed stable yard manure. The more concentrated manure such as superphosphates should be used at the rate of 3 lbs. to the square rod of ground or a little less, that is, if you decide to use this in place of crushed bones. Lime rubble you could use at discretion; cotton cake about the same as superphosphates or half as much again; and wood ashes as for Peaches. Take off 3 in. of the old soil, place on as much of the compost and point it in with a fork. If you cannot get sufficient potting bench soil, then use the other ingredients, and point it into the surface of the border with a fork. This should be done at once.

Best Time to Plant Anemones—Omega: You do not mention the particular species of Anemones which you desire to plant, but we suppose you mean the Poppy Anemones (*Anemone coronaria*). If so, they are perfectly hardy, and may be planted at any time from September till March. You may, therefore, plant at once in prepared soil, if it is of a clayey or wet nature and requires special treatment. By planting the roots now they will come into bloom in April and the beginning of May, lasting till the middle of the latter month, or thereby, according to the state of the weather. Should you desire a succession then plant a second batch about the end of February and the beginning of March, and they will flower from the middle of May till about the middle of June.

Plan to keep Begonia Tubers—Omega: The first thing to see to is that the tubers are thoroughly ripened. If you are obliged to lift them before the leaves fall, or the stems break away naturally or are cut down by frost, then you should lay them in sandy soil with the foliage fully exposed to light and air to ripen off. If they are cut by frost you should lift them at once, and before the injured stems have time to affect the tubers. Then lay them in a dry, airy shed or similar place where they can be protected from frost till the stems practically fall away of their own accord. After this you can rub off the soil adhering to the tubers, and after letting them dry for a little, pack them away in boxes in layers alternately with cocoanut fibre just sufficiently moist to prevent shrivelling, but not so wet as to cause the tubers to decay by dampness. The boxes can then be stood away in a greenhouse where they can be kept dry, and safe from frost. Avoid getting them shrivelled, however, by having them too near flues or hotwater pipes. You should keep them quite cool so that no moistening will be necessary till it is time to pot or box the tubers in spring to start them into fresh growth.

Value of Agave americana variegata—Botan.: There is no regular supply and demand for this plant so that there would be considerable difficulty in stating the actual market value of plants of certain sizes. Small stock plants sell at prices ranging from 2s. to 10s., according to size. The smallest of your plants would be worth the last named figure as a retail price and the largest about £1 or thereby; but the difficulty is in finding a customer for large and costly plants. There is really no market for very large plants so that you would have to be content

with a relatively small price from a trader who would have to wait for his customer.

Peaches Dropping from the Trees—J. E.: From what you say it would seem that you have been over-cropping and, at the same time, not giving them sufficient nourishment to sustain the load of fruit. We should suggest, however, that you ascertain the condition of the lower strata of soil in which they are growing. You say that you have been giving them plenty of water; but that in itself would be an evil if the drainage is bad or the soil become worn out and inert owing to the complete decay of the fibre in it, and possibly water-logged during the growing season. Dig down to the bottom of the border carefully with a fork to ascertain its condition, and if in proper order you can then think of feeding. At the same time you should see that the branches and leaves are not too crowded by the laying in of too many of them, as that would weaken the shoots and foliage. In the absence of good loam you should make up a top-dressing of a mixture of potting soil that has been once used, mixed with well decayed stable yard manure, cotton cake or even night soil, and lime rubble. To the above mixture you should add two or three spadefuls of wood ashes obtained from the burning of prunings, thinnings, &c., of trees and shrubs. We should have no objection to the addition of some superphosphate and soot. If the borders are high at present then you could remove 3 in. of the old soil, and apply as much of the dressing. This should be done at once, and the trees will get the benefit of it before spring, or, at all events, the top-dressing will be more ready to supply plant food when you apply water in spring.

Names of Plants—Omega: 1, *Aster laevis*; 2, *Aster diffusus horizontalis*; 3, the Sunflower is *Helianthus giganteus*.—W. Keen: *Euonymus europaeus*.—Botan.: 1, *Agave americana variegata*; 2, see separate paragraph; 3, Apple next week; 4, *Selaginella emiliana*; 5, *Heuchera sanguinea*.—T. M.: 1, *Eulalia japonica variegata*; 2, *Calathea zebrina*; 3, *Maranta bicolor*; 4, *Begonia corallina*; 5, *Oplismenus Burmanni variegatus* (usually called *Panicum variegatum*); 6, *Pteris tricolor*.—W. M.: 1, *Pernettya mucronata alba*; 2, *Symphoricarpos racemosus*; 3, *Ligustrum vulgare*; 4, *Euonymus europaeus*.—H. C.: 1, *Masdevallia tovarensis*; 2, *Oncidium incurvum*; 3, *Dendrobium Phalaenopsis schroderianum*; 4, *Laelia pumila dayana*.—R. M.: 1, *Aster Novi-Belgii*; 2, *Aster Novi-Belgii densus*; 3, *Aster ericoides*; 4, *Solanum jasminoides*; 5, *Gasteria verrucosa*.—A. L.: 1, *Oncidium Forbesi*; 2, *Cattleya bicolor*; 3, *Oncidium ampliatum majus*.—H. Carr: 1, *Euonymus latifolius albus*; 2, *Euonymus latifolius aureus*; 3, *Asparagus medeoloides*, usually called *Smilax*, though erroneously; 4, *Arbutus Unedo*.

Communications Received—Omega.—R. H.—W. Y.—G. C. B.—A. M.—Reader.—W. H.—A. R. N.—Western.—T. H.—R. L.—A. C.—R. H.

TRADE CATALOGUES RECEIVED.

WM. WATSON & SONS, Clontarf Nurseries, Dublin.—Catalogue of Roses, Fruit Trees, Evergreens, Ornamental and Forest Trees, Climbers, &c.

J. C. SCHMIDT, Erfurt, Germany—Novelties for 1900.

HARLAN P. KELSEY, Tremont Building, Boston, Massachusetts, U.S.A.—Kelsey's Hardy American Plants, and Carolina Mountain Flowers (wholesale); also Some Information about Sang or Ginseng, and Cultural Directions.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Catalogue of Ornamental Trees and Shrubs, Fruit Trees, &c.

FRANK CANT & Co., Braiswick Nursery, Colchester.—Rose Catalogue.

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Cobs	0	6	0	7	0
Grapes, per lb.	0	8	2	0	0
Pine-apples					
—St. Michael's each	2	6	7	6	0
Strawberries per peck	0	0	0	0	0
Black Currants, per					
half sieve	0	0	0	0	0
Red Currants, per					
half sieve				0	0
Cherries, per half					
sieve				0	0
Raspberries, per cwt.				0	0
Ripe Gooseberries,					
per half sieve				0	0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.			
Artichokes Globedoz.	2	0	4	Herbs per bunch	0	2	0	0
Asparagus, per bundle	0	0	0	Horse Radish, bundle	1	0	2	0
Beans, French, per				Lettuces ...per dozen	1	3	1	6
per lb.	0	9	1	Mushrooms, p. basket	1	0	1	6
Beet..... per dozen		1	0	Onions..... per bunch	0	4	0	6
Brussels Sprouts				Parsl y ... p. bunch	0	3		
per half sieve	1	0	1	R. dishes... per dozen	1	0	1	6
Cabbages ... per doz.	1	0	1	Peas, small, per basket	1	6	2	0
Carrots ... per bunch	0	3		Small salad, punnet	0	4		
Cauliflowers.....doz.	2	0	3	Spinach per bushel	2	0	3	0
Celery.....per bundle	1	0	1	Tomatoes..... per lb.	0	2	0	4
Cucumbers per doz.	0	10	1	Turnips per bun.	0	3		
Endive, French d'z.	1	6	2					



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Owing, however, to the distance from London, and consequent inconvenience to many, I have pleasure in stating that I have made arrangements for exhibiting a large number of my best blooms, both Exhibition and Decorative varieties, at the National Chrysanthemum Society's Show, at the Royal Aquarium, on Tuesday next; likewise at the great Shows of Edinburgh and Dundee, when Novelties of great merit will be shown.

Notwithstanding the unprecedented success of my last year's selection of Novelties, certainly the finest set of Novelties ever distributed, I have much pleasure in announcing that I shall be able to place before the public this next season a set fully equal, if not even surpassing, that unique collection. The selection will include the two grand seedlings raised by Mr. Henry Weeks: "Madame R. Cadbury" and "Miss Alice Byron," the two most beautiful whites ever raised.

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National Chrysanthemum Society.

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NOVEMBER 7th, 8th, and 9th, 1899.

Great Show of Chrysanthemums, Fruit, & Vegetables.

MONSTER VASE COMPETITION, Fruit & Vegetables
IN ST. STEPHEN'S HALL.

Schedules of Prizes on application to RICHARD DEAN,
RANELAGH ROAD, EALING, W. Secretary.

GREAT CHRYSANTHEMUM SHOW AT BELFAST.

The Ulster Horticultural Society will hold their Annual Show on NOVEMBER 14th and 15th next, when prizes value £53 will be offered in open competition for twenty vases Japanese blooms.

Entries free and close on November 7th. Schedules on application to—

J. MacBRIDE, Secretary, Victoria Square, Belfast.

FOURTH ANNUAL SHOW OF
CHRYSANTHEMUMS, Winter Flowers, Fruit, and
Vegetables, will be held in the Sale Public Hall, on Friday and
Saturday, November 10th and 11th, 1899. Upwards of £80 in
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MOORE, 22, Railway Street, Altrincham, Hon. Sec and
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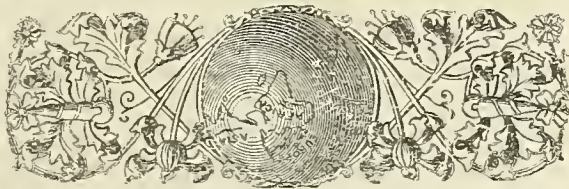
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17, FREDERICK STREET, EDINBURGH.

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CHRYSANTHEMUM SOCIETY. November 7th and
8th. Open class for 24 cut blooms, 12 Japs. and 12 incurved.
First prize, £5.—Write for schedule to the Secretary, Sidney
Cooke, Tup's Hill, Sevenoaks.



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refreshment to the spirit of man."—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, NOVEMBER 4th, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, November 6th.—Sales of Dutch Bulbs by Mr. J. C.
Stevens, and Messrs. Protheroe and Morris.

TUESDAY, November 7th.—Sale of Dutch Bulbs by Messrs.
Protheroe and Morris.

WEDNESDAY, November 8th.—Sales of Dutch Bulbs and Plants
by Mr. J. C. Stevens, and of Dutch Bulbs by Messrs.
Protheroe and Morris.

THURSDAY, November 9th.—Sales of Dutch Bulbs by Mr. J. C.
Stevens, and Messrs. Protheroe and Morris.

FRIDAY, November 10th.—Sales of Dutch Bulbs by Messrs.
Protheroe and Morris.

For Flower Show Fixtures see page 159.

COMMERCIAL HARDY FRUIT CULTURE.—

An address on this subject was delivered by Mr. S. T. Wright, superintendent of the Royal Horticultural Society's Gardens, Chiswick, at a very full meeting of the Chiswick Gardeners' Mutual Improvement Association, on the 26th ult. Anticipating questions as to the prospects of a market for British grown fruit, he quoted some statistics furnished by Mr. G. Munro at the Drill Hall on the previous Tuesday. In 1871 there were only three fruiterers in the City of London; but the number in that restricted area alone, at the present day, would give an answer in the affirmative as to whether there was a market or not for hardy fruit. In 1867 Spain sent us something like £1,250,000 worth of fruit; now the value of it from that source is £3,500,000. About 30 years ago New York commenced to send Apples, and Canada followed the example soon after. The supplies of Apples alone that reach our shores now reach £2,000,000 in value; and France and Italy send us thousands of tons, annually, of Apples, Pears, Plums, Gooseberries, Currants, Raspberries, etc. Pears and Plums are also sent us from California, a distance of 7,000 miles. The lecturer here gave it as a pretty well ascertained and certain fact that we could not compete with France and California in the matter of Pears. Climate is against us in this respect as most gardeners are well aware. For home consumption we can certainly grow good enough and well flavoured samples, but from a commer-

cial point of view the fruit would not compare in size with Pears from the more sunny climates of those countries.

In reference to the supplies of Apples that reached us from the United States of America, the lecturer could speak with more confidence. It must pay to send them otherwise such immense quantities that reach us annually would not be sent. The rent of the land had to be taken into consideration, the cultivation, grading and packing of the fruit as well as the freight; and that Apples could be a success commercially after that spoke volumes in favour of the possibility of a market for Apples grown in this country. Foreigners have been quick to perceive that the British market is the best in the world for fruit. As to the quality of British fruit the opinion is freely expressed by many that there is no better in the world. Against this there are some who get their supplies from the market and are of opinion that no better Apple than the Newtown Pippin exists. The supply is limited to a small area of the United States in which it succeeds well; and even then we doubt if it could hold its own against Cox's Orange Pippin, if the public generally could make its practical acquaintance. The lecturer had no doubt that Apple culture could be made to pay well in this country. Really good fruits could be grown over a wide area in Britain, from the Carse of Gowrie to Land's End and in Wales. The outlet for British Apples was widening every year for the best as well as the worst samples. He quoted samples of Cox's Orange Pippin having been sold for 6d. each. To our knowledge this Apple has been sold to the Fellows of the R.H.S. at 3d. each; and they were supposed to have precedence and favour over the general public. This, moreover, must be partly the result of education, for only those acquainted with the splendid qualities of the variety would be carried away by its sober appearance and moderate size. Many gardeners cannot fathom the reason for the preference given by the public to size and colour, particularly the latter. The varieties of British Apples recommended for planting were Prince Albert, Worcester Pearmain, Warner's King, Dumelow's Seedling, Cox's Orange Pippin, and White Transparent. Other good sorts included Yorkshire Beauty (always a very heavy bearer), Golden Spire, Ecklinville Seedling, Cox's Pomona, King of the Pippins, and Frogmore Prolific, concerning each of which he pointed out the qualities that recommended them for extended cultivation. Cultural details were given concerning soil, situation, aspect, and when to plant; and the audience was advised to study the markets and the subjects of grading and packing.

Other hardy fruits came in for detailed attention as far as the time at disposal permitted. The lecturer recommended the planting of select varieties in quantity rather than a few trees of many kinds. A continuous supply was more a desideration than a great glut at any one time. Prominence was given to such Plums as Early Prolific, Czar, Victoria, Pond's Seedling, and Coe's Golden Drop. Naturally, he was not very pronounced in favour of Pears, but mentioned such varieties as Marie Louise d'Uccle, Louisa Bonne de Jersey and Doyenné du Comice (the latter being generally considered the best flavoured British Pear). The stewing varieties mentioned were Catillac, Verulam and Vicar of Winkfield. The relative merits of Norwich Wonder, Semper Fidelis and Superlative Raspberries were stated. Black Currants are always a paying crop under favourable conditions; and the varieties recommended were Lee's

Prolific and Carter's Champion. Strawberries also came in for favourable comment as might have been expected, considering the large area under cultivation, and the number of people to whom they furnished employment. Royal Sovereign, Sir Joseph Paxton and Stirling Castle were reckoned the best market varieties. Gooseberries were peculiarly a British fruit, with which there was no question of holding our own. Those receiving favourable comment were Whinham's Industry, Keepsake, and Lancashire Lad. Suitable situations could be found for Nuts and Filberts, the varieties most suitable for cultivation being the Cosford and Kent Cobs, Prolific and Kentish Filberts. The first named was very rich in the production of pollen, thereby ensuring the fertilisation of the flowers in that respect. Red and White Currants were not a profitable speculation, as the demand was small and easily supplied. Cherries constituted a profitable crop in those districts where the soil and climate were favourable, some parts of Kent being generally considered most conducive to their welfare. River's Early, Black Circasian, Amber Heart or Kentish Bigarreau, and Black Eagle were put forward as the most profitable varieties to plant for market. Outdoor Vines were not overlooked, whatever the future may have in store for them as a British Industry. Some of those recommended for outdoor culture were Black Cluster, Moore's Early and Millar's Burgundy.

A lengthy discussion ensued, and many questions, relating to fruit culture and marketing in their various aspects, were asked, to which the lecturer gave well considered replies. He has known as much as £190 per acre being obtained for fruit; but, of course, that was very exceptional. On an average of ten years' working there would be a profit of £40 per acre from a fruit farm. The land should be taken on a lease of 21 years. Another answer to a question was that the fruit growers for the future would not be farmers, as he considered it a hopeless task either to instruct them, drive them off the old beaten track, or out of the deeply indented ruts of old time custom. He had been frequently asked for young men capable of managing a fruit growing concern, but had been obliged to turn the enquirers away unsupplied. The fruit growers of the future have yet got to be trained.

The Camberwell Beauty Butterfly is so called because specimens seen in this country were first caught at Camberwell (London). They are believed to come over from the Continent.

Webb & Sons' Barley Competition.—Messrs. Webb & Sons, of the Royal Seed Establishment, Wordsley, Stourbridge, offered valuable prizes for the best bushel of their varieties of Barley, grown with the aid of their special manure. The competition was keen, whilst the samples exhibited were of very high quality, and testified not only to the value of seed and manure, but also to good cultivation. List of awards:—Class I., for Barley grown in any part of the United Kingdom; Champion prize, cash or plate, value £25—Mr. J. E. Kimber, Southmoor House, Abingdon (Webbs' Golden Grain); Reserve—Mr. William Sbears, Lees Farm, Pyrford, Woking (Webbs' Burton Malting). Class II., for Barley grown in the Counties of Salop, Stafford, Hereford, Worcester, Gloucester, or Warwick: First prize, cash or plate, value £15—Mr. Frank Horne, Bobbington, Stourbridge (Webbs' Klover Chevalier); Second prize, cash or plate, value £10—Mr. A. Ernest Day, Orchard Hill, Stratford-on-Avon (Webbs' Klover Chevalier); Third prize, cash or plate, value £5—Mr. Albert E. Day, Clifford Bank, Stratford-on-Avon (Webbs' Klover Chevalier). Judge: J. E. Mitchell, Esq. (Director of Messrs. Mitchell's and Butler's, Ltd., Birmingham).

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, November 7th, in the Drill Hall, James Street, Westminster, 1—4 p.m. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Prof. G. Henslow, M.A., V.M.H., at 3 o'clock.

Fungus Foray in Epping Forest.—On Friday and Saturday last the Essex Field Club held a fungus foray, when a very great number of specimens were gathered. They were on show in a large room at Theydon Bois, and were named by the veteran scientist on that subject, Dr. M. C. Cooke, and by Mr. Massee, head of the Cryptogamic Department at Kew. On Saturday evening each of these gentlemen gave an address to those who were present—Dr. Cooke stating that it was over ten years since he had seen so good a show, and that there were 129 different specimens named—Mr. Massee saying that although autumn was generally looked on as the season for fungus, yet that it was found to be at all seasons in abundance and he offered to name any specimens that might be sent to him. He has lately written a book on "plant diseases," describing the fungi which attack plants.—*J. C. S.*

A Big Potato Crop and How It was Grown.—A certain crop of Potatoes on Lord Rosebery's estate at Dalmeny has been unusually heavy. Mr. Drysdale, the manager of his Lordship's farm lands, states his method of procedure. The field on which the crop in question had been grown received 30 tons of farmyard manure applied to the stubble in the autumn. In the spring, when the land was being grubbed, it got 4 cwt. per acre of ground lime. Following this, it was further given a dressing of 4 cwt. of superphosphate, 1 cwt. fermented bone-meal, 1 cwt. sulphate of potash, 1 cwt. muriate of potash, and 1 cwt. of sulphate of ammonia per acre applied in the drill at the time of planting. Of course, this is very heavy manuring, and all lands might not need so much. The average yield of marketable Potatoes ordinarily obtained at Dalmeny is 18 tons per statute acre.

The Royal Gardeners' Orphan Fund.—At the first meeting of the committee after the recess, held on the 27th ult., W. Marshall, Esq., in the chair, it was arranged that the annual general meeting shall take place on February 16th next, when there will also be an election of candidates for the benefits of the Fund. The following special receipts were announced:—By sale of flowers at the Wimbledon Horticultural Society's Show, £6 10s.; Sandringham Estate Cottage Garden Society, £5 5s.; Betchworth, Brockham and Buckland Horticultural Society, £4 6s.; Harvest Thanksgiving Collection at Rangmore, Burton-on-Trent, per the Rev. A. Lowe, £4 10s.; one-half of the "gate" obtained by throwing open the gardens at Ragley, Alcester, per Mr. A. D. Christie, £2 9s.; by the sale of fruit at Worcester, per favour of the Agricultural Sub-Committee of the Worcestershire County Council, £1 17s. 4d.; and by sale of flowers at the Chislehurst Flower Show, per Mr. J. Lyne, £4 6s. Candidates' nomination forms can be obtained from the Secretary, Mr. B. Wynne, 8, Danes Inn, Strand, London, W.C.

Tits Eating Fruit.—That tits and all the host of small warblers whose throats are so frequently in need of lubrication, judging from the amount of fruit they devour, are a pest, there is no room for doubt. Most of them do a good deal of harm, but they again repay us in another and quite satisfactory manner. These we are not so severe against. We are, however, down upon the sparrow, and probably others which are known to far out-do their good qualities by their destructiveness. Then some writers take up the case in favour of the birds all round. The birds peck the fruits, they say, because they are after the Codlin Moth's larvae, or the larvae of some fly or insect pest. These men do not generally have any fruits themselves for the birds to peck at, therefore their sentiments have nothing to retard their flow. The larvae are very often mythical. Probably the tits, as mentioned by a correspondent in a contemporary, do have an eye to the concealed larvae, but this cannot always be made the excuse. Mr. Mayne, of Bicton, complains badly of them down his way, and he knows it's not for larvae they peck.

Green Lane Recreation Ground, Ilford.—The first prize of 50 guineas for the best design for laying out the Green Lane Recreation Ground at Ilford has been awarded to Messrs. William Barron & Son, Landscape Gardeners, of Elvaston Nurseries, Borrowash.

National Chrysanthemum Society.—The following are the dates for the exhibitions of the above society to be held at the Royal Aquarium next year, 1900:—October 9th, 10th and 11th; November 6th, 7th and 8th; December 4th, 5th and 6th.—*R. Dean.*

A Correction.—In the second paragraph from the bottom of the middle column on page 132, we referred to Mr. A. J. Brown, of the School of Handicrafts, Chertsey, as the principal. He should have been described as gardener and bailiff of the school.

The Stolen Collecting Box.—We are pleased to learn that the thief who stole the Royal Gardener's Orphan Fund collecting box has been caught. He pleaded guilty in court, and received punishment for his crime. Part of the stolen money has been recovered. This is the box which was stolen from one of the vineries of Messrs. Thompson and Sons, Clovenfords, and which we mention on page 132.

Brewers' Exhibition, London.—At the Brewers' Exhibition, now being held in the Agricultural Hall, London, there are upwards of 200 samples of Barley shown in competition, representing nearly every county in England and Wales, and also many foreign countries. The champion prize, open to the world, is won by Webbs' Kinver Chevalier (for the seventh year), and in addition to this Webbs' Barleys have secured four challenge and other cups; two Gold and Silver Medals; ten first and other prizes, and twenty-two Diplomas.

Tuberous Begonias.—The public of Lewisham are fortunate in having a Begonia specialist as one of their citizens. The specialist in this instance is Mr. H. J. Jones who, not having space enough to grow his seedling Tuberous Begonias at the Ryecroft Nursery, plants out some thousands of young tubers yearly at a branch nursery bordering the High Street, Lewisham, S.E. The grounds happen to occupy a central position, having roadways along three of the sides. What with a dainty little cottage, Jasmine and Rose embowered, together with a rustic arbour, a couple of conservatories, a selection of Conifers, and some specimens of topiary art neatly and clearly executed, all of which were encircled with white, cream, orange, red, yellow, cerise and scarlet-flowered Begonias, whose conjoined effect made a dazzling show recently, a bright oasis in a region of dwellings, a sweet garden for the industrial community.

Ealing District Gardeners' Mutual Improvement Society.—The twelfth annual session of the above society opened a month ago, September 26th, when the annual meeting and election of officers took place. On October 3rd, Mr. C. B. Green, who is chairman, gave a lecture on "Some Wild Westmoreland Representatives of Garden Flowers and Fruits." Other weekly lectures to be or have been given, up till December 19th, are as follows:—October 10th, "Hybrid Streptocarpus," by Mr. A. Pentney, Worton Hall Gardens; October 14th, "Horticulture in Switzerland," by Mr. Geo. Wythes, Syon House Gardens; October 31st, "Orchids," by Mr. John Mackay, Kew Gardens; November 14th, "Discussions"; November 21st, "Zonal Pelargoniums for Pot-culture," by Mr. D. Cooper, Hanger Hill House Gardens; November 28th, "Profitable Apple Culture," by Mr. Edward Miller, Kew Gardens; December 5th, "Insect Enemies of the Apple and Pear," by Mr. J. Fraser, F.L.S., Editor of THE GARDENING WORLD; December 12th, "Chinese Primulas," by Mr. W. J. Dack, Lothringen Gardens; December 19th, "Palms," by Mr. F. L. Miles, Hanger Hill House Gardens. The meetings are held on Tuesday evenings in the Municipal Buildings, Ealing, the room being open for exhibitors to prepare, and the meetings commence at 8 o'clock. On November 21st, there will be a competition for a small group of plants (5 ft. by 3 ft.), the prizes ranging from £1 is., down to 5s., four prizes being offered. On December 12th, a competition is announced for "Table Decorations." Besides these, there are smaller weekly competitions.

The Japanese consider *Lilium rubellum*, with pink flowers, the coming Lily for forcing.

Dublin Chrysanthemum and Fruit Show.—The great annual show at Dublin held by the R.H.S. of Ireland, promises this year to be favourable on the whole. Excellent entries have been received in most of the principal classes. Competition for the several valuable trophies offered by the society is expected to prove keen. The show will be held in the R.H.S. premises at Ballsbridge, and lasts for two days.

A London Roof Garden.—*Chambers' Journal* for the present month in a note says: "An important addition to one of the new theatres now being built in London, is a garden to its roof, which is covered in with a construction of glass and iron. This new kind of conservatory will be a welcome change to visitors, furnishing as it will, a nice place wherein to rest, or promenade between the acts of the play. Access will be given from the stalls, dress circle, &c., by means of a lift. The House of Commons has its terrace garden but very few other places have their open-air refuge whereby to obtain relief from the confined atmospheres of crowded halls."

Bute Botanical Society.—On October 24th the opening meeting of a new session was held in the Y.M.C.A. Rooms, Rothesay. There was a respectable turn out of members, among whom were a number of ladies. Miss Douglas as vice-president occupied the chair, and upon despatching the preliminary business, she called upon Mr. M. Cuthbertson to deliver his presidential address. The tenor of Mr. Cuthbertson's remarks was hopeful of good work being accomplished in the future just as help and edification had been spread abroad from the society's influence in the past. References were made in the speech to the various systems of botany, and more particularly to Jussieu's natural system. Messrs. Ballantyne and Whyte both made remarks at the close of the president's address. The meeting was most enjoyable. The society meets once a fortnight for discussion and for the reading of papers or giving of lectures, practical demonstrations being made in conjunction with the oral explanations. The following ladies and gentlemen will deliver addresses during the session:—Misses Annie M. Douglas, and Burnle, and Messrs. M. Cuthbertson, Ballantyne, S. Jones, A. G. Burgess, R. D. Whyte, and others. The principles of elementary botany are fairly well embraced.

Reading and District Gardeners.—The fortnightly meeting of the Reading and District Gardeners' Mutual Improvement Association was held in the Club Room of the Old Abbey Restaurant, when Mr. C. B. Stevens presided over a good attendance of members. The subject of the paper for the evening was "How to Keep a Greenhouse Gay from October 1st to March 31st," by Mr. Blake, foreman, East Thorpe Gardens, Reading, who said the first and chief consideration was a suitable house in which to display the plants when in flower. Preference should be given to a span-roof structure standing north and south in a fairly open position. It should be built on modern principles, having a sufficient amount of piping to maintain a temperature of 60° to 55° by day and 50° at night. This would be found sufficient for the following plants, of which full cultural notes were given, viz.:—Arums, Bouvardias, bulbous flowering roots, Marguerite, and winter-flowering Carnations, Chrysanthemums, Cyclamen, Cinerarias, Freesias, Lily of the Valley, Primulas, zonal Pelargoniums, &c. An exceedingly interesting and animated discussion followed, Messrs. Fry, Lever, Townsend, Davidson, Pigg, Exler, Hinton, Dore, Bright, Wilson, House, Durrant, Cretchley, W. Smith, Woolford, Bryant, and the President taking part; the latter proposing a hearty vote of thanks to Mr. Blake for his very practical paper. It was unanimously decided by the members that a memorial should be raised to the memory of the late Mr. James Martin, and that it should take the form of providing for a Gardener's Orphan Child to be placed on the Gardeners' Orphan Fund to be known as the "James Martin Memorial Orphan," and a committee was formed to carry out the scheme. During the evening, Mr. William Baskett, for many years head gardener to the late Mr. W. I. Palmer, was made a life member of the association, this being the first occasion the life membership rule had been acted upon.

Calla Pentlandi.—The first hint of this yellow so-called Egyptian Lily or "Arum" was furnished by a Zulu. This Zulu had come from a great distance to visit a relative of his who dwelt toward the coast region of Zululand, and who was in the employment of a Capt. Allison. He furnished news of such a plant being native in his land, whereupon enterprising collectors pushed inland and got hold of it. From the Kaffirs, word comes of blue and scarlet species having been found. In many cases natives have been the means of guiding the searches of collectors—also often misguiding.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the society was held at St. John's Parish Room on Thursday, the 26th ult., Mr. C. Lock presiding over a large attendance. Mr. A. M. Ross, of Downside, Stoke Bishop, read an interesting paper on "Grape Culture." He dealt with the subject from the making of the Vine border to the colouring of the fruit, stating his opinion as to the method of procedure most likely to secure good results. The Vine border, he said, should be partly inside and partly outside the house, well drained, and 3 ft. in depth, made with a compost consisting of good loam, lime rubble, wood ashes, bone, and a small quantity of Thomson's Vine manure. The young Vines were to be planted in a growing state. Mr. Ross gave details respecting space which should be allowed each Vine, the best method of heating houses, pruning, and watering. A brisk discussion followed the paper, chiefly on the question of making borders, and the best way to colour Madresfield Court Grapes; and Mr. Ross was heartily thanked for his paper. Prizes for the best bunch of Grapes were awarded; first, Mr. Edwards; second, Mr. Sutton; third, Mr. Shelton. Certificates of Merit were awarded to Mr. White (Pitcher plants); Mr. Jones (*Cattleya labiata*); Mr. Iggulden (basket of Grapes); and Mr. Lock (three dishes of Apples).—*W. E. Groves.*

Important Light and Air Case.—In the King's Road, Chelsea, S.W., there is a nursery consisting almost entirely of glasshouses for the growth and production of a varied class of plants for market, &c. This nursery belongs to Messrs. J. W. Wimsett & Son, and is known as Ashburnham Park Nurseries. The Wimsetts have occupied the place for over forty years, and have an extensive business as furnishing florists in the city, and are well-known nurserymen. Now it seems that from buildings which have been erected towards the south side of their nursery, one-third of the glasshouses is more or less in continual shade, even in summer. The rental runs to £400, and the depreciation in value caused by the shadowing buildings is reckoned at about one-third (⅓). Mr. Wimsett served notice of motion for an injunction with a writ of summons, but the owner of the property evaded this, and proceeded with its erection. Latterly an order for substitute service was posted to Mr. Richard Nurse and Mr. Edwin Henry Tubbs (co-defendants), the latter being the freeholder of the adjoining land on which the dwellings are erected. The case has not gone to court, but was brought before Mr. Daniel Watney, P.P.S.I., who acted as umpire at The Surveyor's Institution, Great George Street, S.W., on Thursday, October 19th, and again on Monday, October 23rd, the Messrs. Wimsett suing for damages. Messrs. H. J. Wimsett, the plaintiff, H. J. Veitch, Herbert J. Cutbush, and W. Icton gave evidence and opinion upon the effects and damage likely to accrue. The opinion of all set down the loss or appreciation in value at one-third per annum. Counsel for the defendants, Mr. Kerly, said the buildings would be extended. Mr. Ingpen, plaintiff's counsel, quoted the case of "Martin v. Heaton," and of "Lazarus v. Artistic Photographic Co.," to show that it was no answer to an injured owner to say there would be no damage because he could erect his glasshouses elsewhere, and that the plaintiff was entitled to the same quantum of light as if used for a special or extraordinary purpose, and contended that the claimant was entitled to the actual damage sustained through reduction of rental value. Evidence for the defendants was given by Mr. Kerly, Messrs. Gill Knight (architect), Thompson (nurseryman, Wimbledon), and an official from the Meteorological Office. The learned counsel having summed up the evidence adduced on either side, the Arbitrator reserved his award.

Tomato Pulp, we hear, has been asked for from Canada by an English house.

Hot Water as a Fungicide and Insecticide.—Mr. Joseph Meehan, of Philadelphia, one of the foremost men of the American horticultural world, wrote in the August 5th issue of *The American Florist* upon the usefulness of hot water in the respects named. In his recollection thirty years ago he used (and others also) to destroy "all insects of whatever kind," and also fungus attack, such as mildew, by dipping his plants in buckets of water at 130° temperature. Just a little kerosene was used, enough to be able to see upon the Azaleas or miscellaneous greenhouse plants after they were drawn out. There never was any injury done to the plants so treated.

Tobacco-plant Culture in Italy.—The monopoly in Tobacco cultivation and Tobacco manufacture belongs to the Government in Italy. Cigarettes are now so largely consumed that much attention and great extensions have and are being made by the Italians to the growth of the variety or species of Tobacco plant, which has hitherto provided such agreeable material to the Turkish dealers. The culture is more largely attended to in the province of Lecce, whose soil and climate are particularly well adapted for such an industry. One great point in the production of the best Tobacco is that the land shall be exclusively manured with ovine matter; and for the fine "Oriental" Tobaccos nothing but sheep-dung was to be employed. Experiments are being kept up in manuring, &c. The keeping powers of the manufactured article, the aroma and the flavour have been found to vary greatly according to the amounts and differences of manures. The Italians are great economists.

THE HOLLYHOCK.

THIS fine bold autumn flower is not grown so generally as in years gone by. Disease attacked them so badly that many growers gave up their cultivation in despair. I have some old stools that the fungus attacked, and the consequence was the loss of bottom foliage. Some young plants in a seed bed were planted out in May. They did not make rapid progress, owing to the very dry weather, but with a few good waterings they went ahead and produced good, stout spikes that needed no staking, and they kept their foliage well. I have just cut them down as they are over. Our soil is too light for Hollyhocks. They do best in a good, cool, loamy soil. As the young plants kept their foliage so well it suggests the idea that the Hollyhock would well repay a little extra labour by treating them as annuals, raising a batch of young plants every spring by sowing the seed thinly in good soil on a gentle hotbed in February. When the seedlings are large enough to handle they should be pricked out 4 in. apart in a cold frame; gradually harden them off, and plant out in their flowering positions in good, deep, rich soil at the end of April. They will flower later than established roots already in the borders, but the result would be more satisfactory, and well repay the extra care and attention.—George Potts, October 25th.

RIPENING TOMATOS.

I HAVE had a very good crop of Tomatos out of doors against a south wall, one plant having over four dozen of good sized fruit; but now the summer has left a large number of yet unripe fruit. Most people, I see, now gather off the fruit and place under glass; this gives the Tomatos an insipid, dry flavour, instead of the piquancy, the greatest property of the fresh Tomato.

I think I have a better method, at least as far as keeping more of the fresh flavour goes, I simply turn a light over the plant after the manner of the lean-to greenhouse, putting an old sack or anything at the ends. The difference in the flavour of those treated thus and those gathered is very distinct. I have also tried placing the fruit in large-mouthed glass jars, which has improved the colour, and prevented their cracking; but the first method is the best I know of and much less trouble. However they are treated, keep the fruit on the plant as long as you want to eat it raw.

Some time since you published a letter of mine on garden tools. There was a little mistake (perhaps mine). Though my garden is only a small one it is a little larger than there represented—"forty square yards"—and should have been 840 square yards.

By the way, about this time of the year when one does a little work in the fruit plantations, a most useful tool is the strong, ordinary, long garden hoe, made with about a 3-in. axe at the back. The right weight and shape are difficult to get; and if asked for at the ironmongers, they offer the ordinary moor axe and know nothing else; but I believe such is still made.—C. Mullins.



MR. J. H. WITTY, F.R.H.S., F.N.C.S.

PEOPLE WE HAVE MET.

MR. J. H. WITTY, F.R.H.S., F.N.C.S.

MANY gardeners will recognise the accompanying portrait as that of a member of the fraternity who is very much in evidence on the occasion of flower shows, but particularly when Chrysanthemums are on the exhibition table. We have known him for many years, and whether we meet him at London or Edinburgh we have always found him—and many others will agree with us—characterised by the same geniality, joviality, and good fellowship. He is built that way, some will say.

Mr. John Henry Witty was apprenticed in 1864 to Messrs. E. T. Dickson & Sons, Beverley, Yorks., and after serving his time there he found his way to the gardens of the Duke of Newcastle, Clumber, Worksop, Notts, where he gained considerable insight in the methods of gardening. Being of an inquisitive frame of mind, and eager to learn he soon gravitated to London, like hundreds or thousands of others. Here we first find him turning up at Videon's Nursery, Maida Vale. After a time he took charge of Grosvenor House, the town residence of the Duke of Westminster, at the time Mr. John Fleming was gardener at Cliveden. His next move was to take charge of another London house, namely, that of Stafford House, the residence of the Duke of Sutherland, where he was under Mr. Stephens, the head gardener. This was at the time when the Prince of Wales was staying at Stafford House while Marlborough House was under repairs, so that young Witty had plenty of opportunity to study the duties incumbent upon the gardener where Royalty had to be served.

At Stafford House he conceived the idea of learning the art of furnishing; and with that intention he moved from thence to Wimsett's Nursery, at Chelsea. While engaged there he had the luck to assist in the furnishing with floral decorations of many an important place, including the Guildhall, Fishmongers' Hall, Drapers' Hall, and Buckingham Palace. After serving for some time, and having a good insight in the art of furnishing, he wanted to study or learn the art of bedding out from practical experience, and had the opportunity of serving under Mr. Rogers at Battersea Park, when the carpet

bedding there was in the height of its fame. He was so contented with his occupation here that he stayed four years.

From thence he was appointed as head gardener and deputy superintendent at Highgate Cemetery where he stayed for twelve years, giving great satisfaction to his employers and those with whom he came in contact in the course of his duties. A man of his disposition and activity could hardly fail to make many connections and friendships, as well as accomplish much useful work in the neighbourhood. He was father of the Brookfield Horticultural Society, Highgate, whose object was to encourage and assist cottagers in the tilling of their allotment holdings, and in growing useful fruits, flowers and vegetables. Upon leaving the district he was presented with a handsome clock, as a small but well meant token of the esteem and thankfulness of his friends, for his free and unremunerated services. He was also one of the founders of the Highgate Chrysanthemum Society.

After a stay of twelve years at Highgate he was appointed superintendent of the Nunhead Cemetery, by the same company who employed him at Highgate. He has now been at Nunhead for 10 years past last February, and there we find him still, as full of gardening as if he had a large garden under his charge. There is, moreover, a considerable amount of gardening, bedding and floral embellishment of the place, which extends to 54 acres, and was originally a park belonging to a private residence, and is still adorned with many tall, umbrageous, beautiful and in some instances rare trees. There is a magnificent tree of the cut-leaved Turkey Oak (*Quercus Cerris laciniata*.)

About the beginning of last month we had the pleasure of walking through the place with Mr. Witty when many of the trees were in their autumn glory of ruddy tints, the Cock's-spur Thorn being very handsome. On either side of the central walk was a considerable amount of bedding, consisting largely of Pelargoniums Raspail Improved, Silver Queen and Golden Harry Hieover. A golden variegated Fuchsia raised here is named Pride of Nunhead. A lilac variety of Lobelia, named Nunhead Beauty, and raised from Magnifica, was much admired by visitors last summer. There were also fine beds of Tuberous Begonias, and the name of the place done out in golden Euonymus for the winter. Near the entrance was a large and bold bed of succulents including Agave Americana variegata, Aloes, Gasteria, Haworthia, Echeveria secunda glauca and the hybrid E. glauco-metallica, all on a groundwork of Mesembryanthemum, Alternantheras and Spargelia pilifera aurea.

There are several well built, and useful glass-houses, largely occupied with bedding plants, and some for propagation. The early Chrysanthemums were past their best and stood in a temporary shed; but the main batch occupied a span-roofed house forming bold banks. Mr. Witty is also a raiser, and here we noted his singularly formed decorative varieties What Oh, and Golden Shower, which were objects of much curiosity and prominence at one of the R.H.S. meetings last autumn. The next house contained Palms; but the succeeding one was devoted to Chrysanthemums arranged so as to form a winding path through the mass. Here were some of the earliest and some of the latest and useful varieties. Niveus, under raised lights, was intended for flowering in January. Another house contained a fine batch of Begonia Gloire de Lorraine, some of which were placed there in January last, and along with younger stuff, were still in flower. Chinese Primulas are found useful; and Maidenhair Fern grown in wooden racks along the back wall furnishes much material for cutting. Out-of-doors early flowering Chrysanthemums were grown in considerable quantity, and amongst them we noted the rare, beautiful and dwarf La Petite Marie, with miniature white flowers.

Mr. Witty has gained many medals at the meetings of the Royal Horticultural Society, National Chrysanthemum Society, Dulwich, Peckham, Highgate, &c., for groups of plants. He has the Silver Cup of the Surrey Chrysanthemum Society, now the Dulwich Chrysanthemum Society, now thriving under his care as chairman. He has, till recently, been connected with the N.C.S., since that body held their shows at Hackney. During the spare time of a busy life he has found time to contribute to THE GARDENING WORLD, so that

readers have had the benefit of his experience, unwittingly it may be. Furthermore, he has been connected with hospital work for twenty years, with the Gardeners' Royal Benevolent Institution for eighteen years, and with the Royal Gardeners' Orphan Fund from its commencement. He is still in the prime of life, and we wish him many more years of busy, useful and enjoyable life.

DIVERSITY IN TASTE.

THERE is no other calling or profession, I believe, which affords the same scope as that followed by the reputed father of our race. I have been led in part to this line of thought from the inspection of what at first sight appeared to be baskets made from string in the forms of men, baboons, and tortoises, with a *Davallia* growing upon them. Closer inspection showed that what looked so much like cord was really the rhizomes of the Fern tied and trained in the various forms desired. One, by-the-by, was made to represent a man beating a drum. These are samples of the ingenuity of the almond-eyed Japanese—has the shape of the human eye any influence upon individual and national taste?—and are in keeping with their dwarfed *Conifers* and other trees. Whatever else may be thought of these abortions they are certainly extraordinary samples of patience and ingenuity. These have come a long way from home; but here, anyone with an observant eye, will see much in confirmation of the leading of this short paragraph.

In some places there are most intricate designs with Box edgings for carpet bedding; others go in for rockwork, from the tiny attempts of the cottager and artizan to the splendid artificial rockeries in natural stone, covering acres of ground, and planted with an almost infinite variety of plants. In suburban districts the variety of tastes and styles of gardening are almost endless, and an observant professional may often pick up a lesson of some value from among them. I was much struck once with a villa front laid out, as so many are, with the ordinary sweep round from the two side gates but planted with Bamboos, strong plants, 8 ft. to 12 ft. high, evidently well cared for. The effect was unique, giving the place in summer quite a tropical aspect. On the one side was a flaring bedding arrangement, and the other mainly evergreen trees and shrubs.

Many owners of gardens are ardent politicians; but I think that a political garden is something rather seldom met with. At least, I have only been privileged to see over one, nothing being attempted to make it either beautiful or interesting apart from political associations. Here were trees and shrubs planted by many of the leading men in the world of politics during the present reign, principally on the liberal side with a few of other nationalities, notably Prince Bismarck. A garden of this kind would attract but little attention apart from what may be called its *in memoriam* aspect. In itself it is a most informal affair, and quite the opposite to the squarely clipped Yew hedges, with their accompaniments of peacocks, crosses, chairs, foxes, spiral staircase and serpents, once very much in vogue, and, it would seem to some extent, coming into use again.

Possibly the best thing in this way we know of is an avenue of Irish Yews, some twelve or more feet in height, fashioned very much like an acorn, the dimensions of the cup and the acorn being pretty well balanced. The cups are clipped quite level on the top and are some 10 in. or so in width around the supposed acorn. The whole thing is very well done; and to those wishing to go into this style of things it is a good object lesson.

Again, I know a very retired spot where the worthy owner cares neither for effect nor keeping of his garden, but delights to see his choice plants growing in a state of nature. Examples, and choice ones too, from other temperate climes, surrounded with the natural flora of the district in which he resides, are growing at their own sweet will. It would be easy to extend this short sketch in various directions, but at present I forbear.—W.B.G.

THE PLANT HOUSES.

The Stove.

At this season of the year perhaps more so than any other, cleanliness should everywhere be striven

for. Flower pots must be washed with hot water, all the stages should be refurnished, the gravel rolled about and washed, perhaps watered with lime-water to kill earth worms and slugs, and all decaying stuff no matter how insignificant in bulk, even if only a pinnae of a Fern frond, should be cleanly cut or snapped off.

No syringing is really needed, although plenty of successful growers still like to freshen the plants by a slight overhead dewing after breakfast. But the weather all over the country, from accounts, is dull and has a "drippy," shivery atmosphere. Under such conditions it is better to have the evaporating troughs daily replenished and to rely upon atmospheric moisture arising from them, of course also from the damping down. By giving the paths a thorough wetting at banking-up time, there is a sufficiency of humidity sustained throughout the night. The damping-down may again be the first work of the morning provided the temperatures are high enough. Nothing is more foolish than to rob the air of its warmth when the heat is already below par.

STOKING.—We have not had any very cold nights or days yet. About a fortnight ago when the weather was frosty and strong winds prevailed, the matter of keeping up the standard of warmth necessitated diligent and careful stoking. It will be found that the blinds which in some cases, as on the *Phalaenopsis* house, Fern-houses, and probably one or two others, still remain in case of need, that if these be lowered during the night the heat is greatly conserved and much hard firing is done away with. A few frame mats, bast mats rather, placed over the windward side of heated pits, is of very great assistance. Clear fires even though small, need it be said, have a greater heat giving power than an intense body of fire which does not burn so speedily.

Full draught may be allowed for an hour or more to start with in the morning, no fresh fuel being added to the furnace until the live fire has gathered itself together after the clearing and raking out. All the body of fire should be raked to the front part of the live-plate and the bottom doors opened while the top or furnace doors are closed. Very few coals or shovelfuls of coke are required until a thorough circulation has been set up. When the pipes near the boiler have become intensely warm, the dampers may be lowered to a degree which will keep the fire going evenly, but not fiercely. A glowing heat is wanted not a smelting heat. The one is a steady burning, the other fierce and intense. Once the day temperature has been nearly gained, the fires may be calmed down considerably. I say nearly gained, because when the temperature is within a degree or two of what it is to be maintained at, the potentiality already in the pipes will lift the heat to the level. Of course all depends on the weather and the probability of changes. Given normal conditions, an even flow may be kept up till about four in the afternoon. It is then advisable to slightly push the fires so that the temperatures may be safe for banking up at ten o'clock or so, at which time a quantity of fuel and banking of ashes will be placed in the furnace and the dampers left well down. Where there are two boilers one may be left to burn freely while the other is checked.

ADIANTUM FARLEYENSE.—Every gardener grows this, the most lovely of all Maidenhair Ferns, but with varied successes. One thing specially needful to its welfare, is that the temperature of its surroundings be steady and rather warm. A cosy, still air must be maintained. For this reason some gardeners grow the plants in cases where the proper supply of moisture, steady, warm air, and other necessary conditions are maintained accurately. A side stage with a bottom of cinders which helps to retain moisture must be provided. No moisture should be if possible dewed upon the fronds, and all decaying fronds or parts of them should scrupulously be removed. *A. farleyense* enjoys a fair abundance of light, indeed more than it usually gets. The full softness of its fronds and the beautiful pink is only brought out to the full by care in the shading. The roots probably more than anything else should be well preserved. Warmth they assuredly like, as the free, healthy growth of young plants when plunged in the propagating pit amply proves. The water used should be, at all times, chilled and no half dribbles given, but a full supply when it becomes needful. The centre of the plant should be somewhat open, for the dense plume-like fronds

grow thickly. Very neat stakes are necessary to support the fronds. A good potting compost will be found in equal parts of turfy peat and loam, the loam to be somewhat solid, one part of Oak or Beech leaf mould, a fair quantity of charcoal, rough bone meal, and silver sand. Increase is by division of strong plants which after being divided and potted up may be placed in a propagating case for some considerable time.

CLIMBING PLANTS upon trellises such as *Stephanotis floribunda*, *Hoya carnosus* and *Allamandas* may be pruned at this time. The two former are almost sure to be in need of a wash, after which the young shoots may be replaced in position. Any other foliage plants may be looked over during the dull days.

The Greenhouse.

Some pot Tea Roses are still in bloom. These when past, which will not be long now, may be shifted to any cold frame for the winter. *Cinerarias*, *Calceolarias*, zonal *Pelargoniums*, *Cyclamen*, *Solanums*, *Eupatoriums*, and other plants brought from the frames and pits are either coming into flower or already they are blooming. The *Pelargoniums* and *Cyclamen* pay for having a small house devoted to themselves. The other plants mentioned may be used as they develop for the decoration of the conservatory. With *Cinerarias* on shelves in the cool greenhouse some feeding but not a great deal, will at this time be a help. Plants in small pots generally throw the best heads of bloom.

Pits and Frames.

Growth being so slow at present and for the next while to come there is little or nothing to do in the frame ground. Mats for covering up should have been brought or got out ready for cold weather. Frames wherein are cuttings of bedding stuff may on all dry days be left well open.—J. H. D.

The Orchid Grower's Calendar.

Cool House.

ONCIDIUM FORBESII.—This is a lovely cool house Orchid, producing good strong spikes on comparatively small plants. A few dozen grown in small pans and suspended near the glass over the *Odontoglossums* will almost to a certainty grow and produce spikes, the first or second growth after importing. The compost should be rough fibrous peat and moss in about equal parts with good drainage.

They are very little trouble grown in this way for the houses, of necessity, being kept rather moist it just suits them, and all they require is a wetting with the syringe when damping down, and perhaps a dipping once a week according to the weather.

ONCIDIUM SARCODES too is another which does well under similar treatment, and one that reaches the flowering stage in a very short time. It produces its yellow and chestnut brown flowers during the early spring months and forms a fine contrast to the white forms of *Odontoglossum crispum*. When grown cool there is an absence of white scale which infests them when grown in heat. Then we have the pretty primrose yellow *O. concolor* which also does well in this division. It is not much good as a cut flower and on that account it does not fetch much in flower; but for making a show at home it has few equals.

CATTLEYA HOUSE.—It has been a grand season for *Laelia anceps alba*, for quite small plants have produced strong spikes. Still there are others with large pseudobulbs that have again failed. Just about this time the newly made up growths begin to send out large fleshy roots, and growers are fully alive to the advantages derived from a little fresh material that may be afforded them at this season, and act accordingly. Amateurs would therefore do well to make a note of this and do likewise. It may not be advisable at this time of the year to pull the plants out of the pans or baskets but we remove as much as we can of the old material and thus get rid of the woodlice. Top dressing I detest and only when the moss is dead and the peat still good do we practice it.

L. ANCEPS AMESIANA.—This is almost if not quite as shy in flowering as the white forms. We have a few spikes on plants that have been very much exposed and that have not been over watered. Shade and too much water are death to all varieties of *Laelia anceps*.—S.C.

HINTS FOR AMATEURS.

Hardy Rhododendrons and Azaleas.—When the months of May and June come round again one will hear the rapt exclamations of pleasureable surprise, not unmixed with envy, when a bank of Rhododendrons in bloom, or a bed of the brilliant and sweet-flowered Azalea mollis appears in view. There may then be mental resolutions passed by a few that they may have a show of their own during another year. And what is to hinder anyone? True, if there is no garden you can hardly grow a Rhododendron successfully in a flower pot, but then where anyone has half a rood of land, why not plant half a dozen good Rhododendrons? There is no special need for a peaty soil, although no doubt this is more to their liking. Any good loam will suit them and give you capital, bushy plants, which will remain healthy and flower freely. The one great point to remember and to make sure of is that no lime be incorporated, or that none has previously been in the soil. This is like poison to them. Stiff, dry clay, of course, is also unsuitable. No one will be wrong in planting them in a loamy soil. Decaying moss and peat can also be added if the cultivator has it to spare. Bracken fronds and leaves are also useful. After a year or two the Rhododendrons will have hidden or screened the spot under which their roots are, for they seem to like shade or coolness at the roots, like many other plants. The branches may be pegged down and rooted for the propagation of fresh plants. Plants can be bought at this time, the ground for their reception having been prepared beforehand. Plant them firmly but not too deeply.

Rhododendrons are very hardy, especially the old parents of the race, so to speak, *R. ponticum* and *R. catawbiense*. Occasional top-dressings with cow manure is a beneficial thing for them. They must also be kept fairly well supplied with water during summer. Sometimes I have known Rhododendrons die completely off from an unknown cause. The first symptoms are seen in the drooping foliage, then in its drying up and in shrivelling. What the cause is in certain cases it is difficult to determine. Certainly it is not always drought. The roots may, however, penetrate into poor or even hurtful soil. This could be largely or altogether prevented by making a deep station in the first instance, and building the bottom level with stones. A few good varieties which any of the advertisers of hardy plants in THE GARDENING WORLD will be able to supply, are Charles Dickens, dark scarlet; The Queen, blush, changing to white; Blandyanum, deep rose-crimson; Snowflake, pure white; Mrs. Holford, salmon-pink; Moat Blanc, dwarf and white flowered; Mrs. John Clutton, one of the best whites in cultivation; and Sefton, maroon-crimson. Some of the finer new varieties sent out recently are Kate Waterer, W. B. Elliott, F. B. Hayes, Michael Waterer, and Mrs. Tom Agnew. The latter one has trusses of lovely pure white blooms.

Begonias—These in the southern counties have now been lifted and stored. The dead and decaying stems must be carefully cleaned from the crowns, which may then be packed closely in single layers in boxes among dry soil. Any cool and dry chamber will do for storing them in.

Chrysanthemums—Many growers and ardent lovers of these handsome flowering plants err in keeping the houses too close and warm, being under the impression, no doubt, that the plants require some extra warmth during the flowering period with such unpropitious weather out of doors. After housing the temperature should be kept just a little warm, because of the attacks of mildew, which follow when there is a cold, damp, and stagnant atmosphere. But when the heat is turned on, and only slightly, there ought to be some top and bottom ventilation given also. No more water than that which is unavoidable should be spilt about, and the watering of the plants should be most cautiously attended to. When the flowers are fully expanded, as a great many of them are now, the watering with clear water alone, and even that only sparingly, is all that is required. Whenever the blooms fade remove them, and this will help to lend strength to the others.

Pelargoniums and Cyclamens.—I place these two classes of plants together, because at the present time their treatment is the same. Private gardeners

usually devote a house specially to them. The Cyclamen may be made to fill one side, while the Pelargoniums or zonal Geraniums, as they are also named, may occupy the other.

The flower trusses on the Pelargoniums, which have till recently been kept off, have started to develop and are strong. By only growing really fine, named varieties, bought from the best sources, one can have a splendid supply of cut blooms all through the dreary months of winter. The Cyclamens are grown annually from seeds sown in August of the previous year. In one summer where they can be relied on to do well, they furnish capital flowering plants by autumn. Both the Cyclamens and the Pelargoniums may have liquid manure about three times a week. It is well not to confine them to one kind of solution, but to use either Canary guano, Ichthemle guano, or Thomson's manure, at one time, and various natural manures at others. When plucking the Cyclamen blooms take hold of the stems half way down, and then give them a straight upward jerk to detach them. The Pelargoniums should have their trusses cut off, not broken or snapped off. A temperature of about 60° at all times, although it may fall somewhat at night, must be maintained. Slight ventilation should be kept on night and day, and the plants should have plenty of space.

Vine and other coloured leaves may now be collected for pressing and drying. When properly prepared these are very pretty, and may be used for making patterns on draught screens, designs on windows, or for pasting upon books got for the purpose, and they also may be bunched as decorations for the corners of a room. They are very effective on the white table cloth at some of the winter parties. Even if they are strung and made to wave in neat curving trails between the lamps or candles, they show off their colours beautifully. The special preparatory processes for preserving the leaves, which certain people adopt, are not generally known, therefore they have the monopoly if they preserve them for selling.

Winter Cucumbers.—Probably not many amateur gardeners care so much for Cucumbers as to attempt to have a houseful for the winter supply. They grow very slowly at this season, and are much too expensive for any but the wealthiest. Where old plants still linger a stray fruit may be got from the younger shoots, otherwise if there is no show the plants should be bundled out. Young plants must be kept in a comfortable house with sufficient, but not too much, root room.

Mushrooms.—These are a crop which one might the rather expect an amateur gardener to indulge in, if only in a small way. Autumn directions for the culture of this edible Agaric have appeared at various times during the past summer. Good stable dung is the first necessity. This should be thoroughly prepared, and when it has lain for some time it should be pressed firmly into either a pot, a deep box, a section or bench in some cosy, though not necessarily heated, dark out-house. If the bulk of the dung in the receptacle is not great, spawning should take place immediately. On the other hand, if it is a bed into which the Mushroom spawn has to go, the better plan is to place a thermometer in among the dung, and when the heat coming from the fermented mass has subsided to about 80° Fahr., it is then safe enough to spawn. Pieces the size of a Walnut may be put in at a few inches deep and wide all over the bed. After this, spread a layer of soil (loam), 2 in. in depth all over the surface, and water with tepid water whenever needful.

Indoor Fruits.—The trees in the earliest houses are altogether defoliated, while the late house is also almost bare. Pruning may or may not be done at this time. The houses, unless they are filled with Chrysanthemums or other plants, should be washed thoroughly inside. The outside glass may be in need of a look over as well. Where fogs have been prevalent this will be a work of necessity, for nothing besmears and darkens glass structures more than a thick falling fog, which brings down soot in large quantities. It is very often inconvenient to properly wash the houses, inside I mean, at this season when so much space is required, and again gardeners find that their houses get begrimed before the early months of spring arrive. Still, if one cannot wash or scrub them now, they should at least try to give every seam and corner a forceful syringing with hot water, soap, and paraffin. At this season the insect

pests have barely gone to rest, and probably a thorough drenching of soapy paraffin around them or their cocoons, would cause their death. The borders should not be utterly neglected, especially those parts beneath the pipes, which have to part with much moisture.

Miscellaneous Work.—The potting up of lately lifted bedding plants still continues to be a fairly heavy item in the routine of garden work. Cleaning up all outdoor corners and gathering leaves as they fall in all the more frequented parts of the garden, also occupies much time. Re-turfing and edging, also road-making and mending, tree planting and some pruning, looking over wall trees to make them secure against winter winds and snows, and the preparations for covering and protecting of things not absolutely hardy, are items which must all be seen to. Amateurs should delay no longer in securing bulbs for spring flowering. A thousand bulbs of many kinds of bulbous plants can be got for £1 2s.; therefore, nobody should complain of not having bargains offered them. Plant cleaning will be work for the indoor gardener.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Monstera deliciosa.—*Junio*: The plant is certainly handsome and peculiar from the fact of its having large leathery, perforated leaves. It is not one we would recommend to any gardener, however, whose space for growing indoor plants is limited. The long cone-like fruits are generally freely enough borne on large well nourished plants and they are splendid for eating. It is propagated from suckers or offshoots and may be planted cut into rich narrow borders by the wall of a stove corridor.

Palms for a Cool House.—*S. Cochran, Clacton-on-Sea*: Much depends on the past circumstances under which the plants have been growing. Kentias in one or two varieties can generally be got hardy enough to withstand the temperature of an unheated dwelling room with impunity. *Chamaecyparis excelsa* in a very young state is ornamental. Larger plants of this will be serviceable for corridors. *Livistonas* are also worth the noting. *Latanias* are suitable and so on. It is a great point not to allow them to stand in draughts; neither should the soil be kept cold and wet.

Pteris tremula.—*Mrs. L.*: The cause of your plants ill-health or drooping appearance, we imagine to arise from the fact of a cold draught down the chimney. The hawker's buy them from the growers, who in their turn have grown the plants on the "express" system, which means that they give such Ferns plenty of heat and moisture. They slightly harden them off and then they sell them. Thus, having made a fire-screen of your tender *Pteris*, you see the consequences. Cut off the withered fronds or parts of them and place your plant and all like it, in a warm room with fairly good light, free from injurious gases and keep the roots agreeably moist and the atmosphere as well, if this can be done.

Window Plants: Protection for.—*S.*: The facts from S. are that he has an abutting window case in which is a miscellaneous collection of Cacti, Ferns and one or two soft-wooded flowering plants. These must be preserved during the cold weather and yet, if possible, nothing unseemly is wished for as protective material. Well, Bracken fronds closely packed about the pots and covered over with some fine cinders and a top-dressing of sand would be a help. For top protection a couple of mats, packed with bay between them, sandwiched as it were, could be made and this could at any time be fastened upon the outside of the case. During severe weather a small oil lamp kept huring for an hour or two would prevent too low a temperature.

Asparagus Sprengeri.—*Oliver, Wigton*: It can be grown either as a hanging plant or as a climber. In the latter case, of course, you would have to train it to strings or wires. It is one of the most useful plants of recent introduction, supplying greenery dur-

ing winter, and greenery such as we want. Your local nurseryman may supply you.

Lilium rubellum.—*Saynor*: We are glad to have notes of such successful treatment of what has been regarded as a most difficult Lily to cultivate. It came from the north of Japan, so that it is hardy enough. The soil it prefers is a dry, rather sterile one, with a cool bottom. It does well as a pot Lily.

Horse Raddish.—*L. M. O.*: Good, stiff land is best when deeply worked and in a good position, that is, not banished to any odd corner or out-of-the way place, as the Horse Raddish so frequently is. Nice succulent roots, clean and straight, are surely better than ragged and coarse samples. Plant the roots about 1 ft. in the rows, the latter being $1\frac{1}{2}$ ft. apart. Straight and even pieces of from 4 in. to 6 in. long should be used, making holes for their reception by use of a dibbler.

EUCHARIS GRANDIFLORA.

THIS, the most popular and most widely grown species of *Eucharis*, was introduced to cultivation in

flowers, so that we estimate that there were 780 blooms on this batch of *Eucharis* when the photograph was taken. This addition to the cut flower basket at that season was very acceptable, and much appreciated by the gardener's employers. The compost used for potting consisted of sandy loam, mixed with road scrapings to make it more solid, and a little peat to make it more durable, the loam being rather light in character.

WILD FLOWERS IN THE GARDEN.

THE following lecture was delivered by Mr. George Bunyard, V.M.H., at a recent meeting of the Horticultural Club:—

The subject which I am allowed to introduce to-night was suggested by an incident which occurred last summer. A foreign visitor to my nurseries in the leafy and floriferous month of June remarked frequently, when specially beautiful objects were brought to his notice, "Yes, pretty; but weeds, mere weeds."

Well, "weed" is, after all, but another name for a plant which is out of place in garden and farm crops, however beautiful it may appear in its own element,

I shall rather call to mind some wild British plants that seem to me deserving of garden culture, if not in the herbaceous border, yet as masses in the wild garden and woodland walks where often masses of introduced exotics seem to mock the natural sylvan beauty. It has been noticed that masses of the same colour frequently follow each other, yellow being the prevailing late spring colour, while blue is the first in the series and yellow returns again in autumn. One reason for the neglect of wild flowers is doubtless the difficulty of collecting the plants at the right season for transplanting, when many are lost among the surrounding herbage and grasses; but probably the best method would be to collect their seeds and sow them in nursery beds for transplanting afterwards. One knows from experience that very few plants collected on holidays ever come to perfection.

It may be as well to start with spring flowers, among which the blue Hyacinth before named holds a conspicuous place and may well be massed in the front portions of shrubberies or underneath deciduous shrubs, as they will there be at home and not in any way interfere with garden flowers. The Primrose can be naturalised in any moist position



EUCHARIS GRANDIFLORA AT GLAMIS CASTLE.

1854 by M. Triana, and put into commerce by M. Jean Linden under the name of *E. amazonica*, by which it is best known to gardeners. It had previously been described, however, by Planchon, under the name *E. grandiflora* (which must therefore be regarded as the proper appellation) in the *Flore des Serres*, t. 957. The species is a native of the Andes of New Grenada, in South America, a statement we make in view of the remarks given below, and which might be otherwise misleading to those who may not have looked up its native country, or history.

The accompanying illustration was prepared from a photograph of a fine healthy batch of bulbs which flowered about the middle of July last, with Mr. Thomas Wilson, gardener to the Earl of Strathmore, Glamis Castle, Forfar. In September, 1897, Mr. Wilson received twenty-nine bulbs from a friend in India, and potted up each bulb separately. They, with the offsets since developed, now completely fill 8-in. pots. Both the bulbs and leaves are of excellent strength and vigour, with no trace of the bulb-mite which has ruined so many bulbs in this country. In the course of less than two years the original twenty-nine bulbs increased so as to produce 130 spikes of bloom, each carrying, on an average, six

and it then struck the floricultural part of my conscience whether we as gardeners had not neglected many beautiful British subjects in our eagerness for exotics for enriching our gardens, which "foreigners" were, of course, weeds in their native lands. Then a vision of many lovely combinations in Dame Nature's landscape gardening rose before me; for instance, next my farm is a Chestnut wood, on sandy soil, where the background was the tender young foliage of the Spanish Chestnut, while the foreground was a mass of the wild Hyacinth—the Bluebell of one's childhood—which for some three weeks kept up its lovely and enchanting display, and as it faded a graceful crop of Campion (*Lychnis diurna*) succeeded it, and formed an equally charming effect. In another case, for some half mile ahead, while travelling in Wilts, I saw a mass of rosy-purple peeping out between the dark green foliage and nut-brown boles of a Scotch fir grove. Here, to my surprise, the ground was covered with *Epilobium angustifolium*, and my driver said it was thus glorified every season. These are but two examples of many hundreds, as before a body of horticultural experts I need hardly mention the Buttercup fields and the Primrose and Anemone woods.

and should not be shocked by contact with the coloured garden kinds, as its simplicity and its modest beauty need only its own foliage as a relief; we must not omit Violets and the later Dog Violets, while the Germander Speedwell (the cat's-eye of the children) is a weed with striking blue flowers, and patches on the rockery will not be out of place. The yellow nettle (*Lamium Galeobdolon*) is one of our first spring flowers. I have noted in a park entrance large masses of the Bugle (*Ajuga*) produce a pleasing effect, and I have noted a white form and one of a pinkish shade. While on the subject of woodland drives and grassy-edged roads leading to mansions, I may mention that much of the beauty of the natural flora is destroyed by two close mowing, and would suggest that a twelve feet bordering is enough to be mown, and beyond that, if cut over or cleared once a year the natural flowers would flourish in the grass and lend a charm to the scenery, and in a small way reproduce an alpine meadow. Here Cowslips, Cuckoo flowers (*Cardamine*), the Centaury, Bugle, and Prunella, with the Primrose and yellow Toadflax, are seen to advantage with patches of wild heather and Foxgloves,

In summer the wild Orchises give us both striking

flowers and interesting species for massing in special positions. *O. mascula* and its numerous varieties are good, and I have seen *O. maculata* in Scotland called *O. magnifica*, which was specially grand. The Butterfly Orchis (*Habenaria*), with its elegant spikes of pale scented primrose flowers, delights in a shady nook. The Twayblade, the Man Orchis, and the less common *O. fusca*, *O. pyramidalis*; while *Ophrys apifera*, *O. muscifera*, and *Orchis latifolia* are worth close inspection, and for shady places the species of *Epipactis* are well worth prepared stations in the garden, giving them leaf-soil chalk, or sandy loam as required. *Trollius europæus* is already an established garden favourite, while the Foxglove (*Digitalis*) is one of our grandest natives, and can be easily propagated by seed, and forms glorious masses for backgrounds. The Mulleins are worthy of culture, with their flannel-like foliage and long, conspicuous flowering spikes of yellow blooms. The Teazle is a bold subject for a bed, and is not only pretty in flower, but fine subjects for winter decoration are provided by its honeycomb-like heads of seed-vessels. What shall I say for the Corn Poppy, with its glorious scarlet flowers all too evanescent? We must always have a tender remembrance of this as the parent of our super-elegant Shirley Poppies. In the west the yellow Welsh Poppy is frequent near streams, and there is nothing in rich blue flowers that can approach the Viper's bugloss; seen in masses on sand and shingle near the sea it is superb, and deserves a prepared spot in the garden, where its gorgeous racemes can be thoroughly enjoyed. For a border plant *Geranium pratense*, with its lavender flowers, is well known. The various Hawkweeds—Mouse and Cat's Ears—are pretty yellow and primrose flowers. The wild Balm is a fine subject for banks, and runs into many varieties. For positions under trees the Periwinkles, major and minor, are suitable, and look well all the year round; while *Melampyrum sylvaticum*, the wood Cow Wheat, is fine in masses. In North Wales there seems to be a larger variety than is found in Kentish woods. The Woodruff also makes a pretty carpet plant, and in early spring the yellow Celandine is very bright.

Among the thistles are many worth a position in gardens, some for foliage, as the Carline Thistle, others for noble growth, and others for flower. All can be readily raised from seed, and if care is taken to remove the flower heads before they become downy they will not become a nuisance. There is also the Musk and Plume Thistle. Columbines are not infrequent on our chalk hills, and are attributed to the Romans, who esteemed the plant because the upturned flower resembled eagles nestling. Among maritime plants the Sea Holly and the Horned Poppy take readily to gardens, and are distinct both in foliage and flower; while *Mathiola incana* is a lovely subject, with its lavender-pink flowers. The Thrift is well known as a neat border edging, and the white Popweed, *Silene inflata*, is useful. For hanging vases the small Bindweed and the Creeping Jenny or Moneywort are worth attention. Among the low growing gems of our flora the yellow Cistus holds a first place for arid soils and rockery, and the various coloured forms of the Milkwort claim our attention. *Hypericum humifusum* is also a small pretty subject. The Eyebright (*Euphrasia*) is interesting, and the pink Celandine (*Erythraea*) always strikes me as a good garden flower. The Sea Campion just named with its white flowers is not averse to rock garden culture.

For sandy soil the Rest Harrow with its rosy flowers is worth culture, under which it assumes a bush form. The yellow Anthyllis and its relatives the Hippocrepis, with *Lotus corniculatus* (Bird's-foot Trefoil), and *Tormentilla* are admirable creeping plants for chalky soils. *Saxifraga granulata* is one of our best subjects for dry sandy banks. *Chlora perfoliata* (yellow) is a gem on the chalk in August. The Chicory is a grand blue flower and will succeed in any dry soil. *Campanula glomerata* is not uncommon on downs, while for old walls the common Celandine is a good subject, its apple-green foliage being light and elegant. The Harebell is always a welcome flower and the ivy-leaved Lettuce (*Lactuca*), with the yellow Wallflower and some of the Stonecrops and native Sedums, all make an old wall interesting; nor must we forget the red Valerian, which is quite at home where nothing else can grow, also the Cornish Moneywort. The wild Roses, either the Sweet Brier of our hills or the small

bushes of single Burnet Rose (*R. spinosissima*), which are common on all our chalk hills, are well worth culture, and few subjects in our wild garden are more esteemed than our Dog Rose, elegant in its simple flowers, and striking when its haws become ripe. For a climber few subjects equal the Woodbine or wild Clematis (*C. Vitalba*), and those who have seen the way it grows at Belvoir Castle grounds over the gardener's house and surroundings can never forget the pleasing effect produced; it is at all times beautiful in leafage and flower, and especially when set with its silvery grey masses of feathery seed vessels in autumn. The Honeysuckle, Bryony, and the climbing Vetch are all good trailers, while the white *Convolvulus* (Moonflower) is a fine subject over shrubs and low trees.

It is, however, I fancy, when we come to our natural aquatics and riparian plants that we find especially striking subjects suitable for embellishing our streams and pond margins and the damp spots in our gardens. The glorious Loosestrife (*Lythrum*), the pink *Epilobium hirsutum*, with its pretty but evanescent cup-shaped flowers, the long spikes of *Lysimachia vulgare* (Moneywort), the Tansy, with its handsome foliage and golden umbels of flowers, our water Forget-me-not (*Myosotis palustris*), with its amethystine umbels, are all universal favourites. There are also the Yellow Flag (*Iris*), Water Plantain, Figwort, the Flowering Rush (*Butomus*), with its head of rosy purple flowers, the Bog Bean, the elegant Arrow Head, and the glorious Reed Mace or Bulrushes. The White and Yellow Water Lilies, the Water Hyacinth (*Hottonia*), with its soft blush spikes resembling some choice Orchid, are worth care to establish. The white water *Ranunculus* is a striking floating plant. The tall masses of the Meadow Sweet (our native *Spiraea*), the King Cup (*Caltha*), with its golden masses of intense yellow flowers set on showy green heart-shaped leaves, are all beautiful for water gardens. All these water-loving subjects respond to careful treatment, and many of them are freely used, but why not more?

In autumn *Hypericum perforatum*, with its foliage and golden flowers, is one of our best plants, and in sandy wastes the Ragwort is quite a feature, equal to many cultivated plants of its colour. The tall *Campanula Trachelium* is handsome, and the rosy-bloomed Soapwort (*Saponaria officinalis*) is a grand subject for masses and flowers over a long period. The Mallows are also striking, and the tree form does well near the sea, while the Musk Mallow makes a grand show, and the commoner striped *M. sylvestris* is not to be despised. The Marsh Mallow is also suited for the garden. *Achillea Millefolium* (Milfoil) as a red garden plant is well known, and the wild forms range from white through blush to rose colour. The Scabious tribe are very good border plants, and affect our chalk hills in the species *S. arvensis* and *S. Columbaria*; the Devilsbit Scabious (*S. succisa*) is a feature with its tall stems and blue flowers. The Harebells continue to flower until October. *Spiraea Filipendula* is often found on upland pastures. The blue Cornflower (*Centaurea Cyanus*) is in flower all the summer and autumn, and the yellow Corn Marigold is a showy flower. *Inula Conyza* (Shepherd's Spikenard) is very striking on chalk or clay pastures, and rises some three feet covered with pretty yellow starry flowers. All these come to us annually, and we welcome them as old friends. May we not hope to see them tended and cared for in our flower gardens, where they will respond readily to loving care and attention?

NOTICES OF BOOKS.

THE STRAWBERRY MANUAL; an Illustrated Up-to-Date Work on the Strawberry. By Laxton Brothers, Bedford. Price 1s. Bedford: Hulatt & Richardson, 6, Silver Street, and Newnham Street.

In the preparation of this manual, which runs to 139 pages, including a good index, the writers, Messrs. Laxton Brothers, Bedford, have endeavoured to carry out the desire of their father, the late Mr. Thomas Laxton, to whose memory it is dedicated. The book is certainly not a large one, but a great number of facts have been compressed into small space so that those who desire a cheap and handy book to study the subject will find this well worth the money.

The history of the Strawberry commences with a

mention of the wide distribution of our native *Fragaria vesca* or Wood Strawberry which is found widely distributed over the Old and New World in a form that is very constant, and precisely identical with the British plant; while there are closely similar forms usually regarded as distinct species by botanists. Some interesting history of strongly marked varieties, often grown in the gardens of the curious and in botanical gardens, is quoted from the great French historian, M. Duchesne, the author of "Histoire Naturelle des Fraisières," published in 1766. Several of the ancient varieties are mentioned by name, including the Plymouth Strawberry and the One-leaved Strawberry, both occasionally met with in collections. The Alpine Strawberry and the Hautbois also come in for separate notice as being usually regarded as distinct species, though the authors have their doubts about the former. It is supposed that the Hautbois reached us from central Europe, probably from Germany, though it is more or less naturalised in several parts of England. The Green Strawberry is considered a form of the last named, and was known to Gerard and Parkinson. The Scarlet, Chili, Pine and Indian Strawberries are all noted in due course, with the history of many marked forms belonging to each, including some of the earlier varieties that have been raised in gardens. Under hybridisation a deal of history in small space is given concerning the different workers in this country, who have all more or less contributed to making the Strawberry and its culture what they are at the present day.

A chapter on seedling Strawberries gives the qualities that should be aimed at in the raising of new varieties; the modes of operation; how and what to cross; and what may be anticipated amongst the seedlings. It is not very encouraging to the hybridist and cross-breeder to be informed that only a few varieties of average importance were fit to send out after labouring amongst them for thirty-two years and raising some 10,000 seedlings all of which had to be tried.

Chapters are devoted to cultivation in gardens, sites, soils, manures, natural and artificial or chemical manures, forming plantations, methods of planting, protecting, fruit gathering and keeping, &c. Altogether a considerable amount of time and conscientious work must have been spent upon the book, so that we can heartily recommend it for the great amount of information it contains. Chapters on Strawberry culture for market, market garden methods and forcing Strawberries will interest many of the rising generation as well as growers. The book is well printed and there are several useful illustrations.

VEGETABLES OUT OF SEASON IN EVERY GARDEN. By E. Kemp Toogood, F.R.H.S. Price 6d. Published in 1899 by Toogood & Sons, Southampton.

The title of this small book or pamphlet suggests that vegetables are forced or urged into growth by artificial means; and this is what it proves to be. The author sets himself the task of showing how to produce a constant supply of vegetables for kitchen use during the autumn and winter months. In the chapter on forcing structures and appliances the amateur is shown by means of illustrations and directions how he may set about the task of forcing various vegetable crops; or merely protecting those that are full grown but cannot withstand the severity of our climate at this period of the year and later without cover of some sort. Frames in some cases are merely used for protection, but in other cases litter is placed round the frames. For the purpose of forcing by means of fermenting manure several methods are explained by means of illustrations. Asparagus, dwarf Kidney Beans, Beetroot, Carrots, Chicory and other things of that sort come under review. The culture of Watercresses during the winter months, under various conditions, is discussed. The whole run of salad vegetables and herbs for various purposes is placed under review, and the methods of obtaining them described. The instructions are by no means lengthy, but the amateur kitchen gardener will receive many hints and new ideas which are put before him by means of simple but very good illustrations which bear upon the subject in hand.

BEAUTIFUL BEDS FOR EVERY MONTH. By E. Kemp Toogood, F.R.H.S. Price 2d. Toogood & Sons, Southampton.

The plan of this pamphlet of 32 pages is to show

what plants are in flower in beds and borders in the open during each month of the year. A commencement is made in February, which in the south and west of England at least may be regarded as the opening or spring of the floral year. Bed No. 1 is to be planted with *Saxifraga crassifolia* in the centre, followed by a line or band of *Blue Hepatica*, then by a row of the large double pink *Primrose*, and the whole edged with double white *Daisy*. *Polyanthuses*, *Wallflowers* and *Snowdrops* are also mentioned for use in various combinations during the same month. As the year advances flowers become more and more plentiful so that many more combinations of them for beds and borders are given. The pamphlet is intended for the benefit of amateurs, so that easily obtainable flowers are tabulated in the many lists, which can be scanned at a glance on the successive pages of the brochure. The second half of the latter gives examples of ornamentation to last from June till autumn; also beautiful beds for summer.

RUSSELL'S BRENTWOOD NURSERY.

WHEN one reads or hears of "The Stately Homes of England," there arises in the mind the picture of a mighty mansion, noble in its conjoined proportions, serenely beautiful and with a mystic, everlasting dignity. Yet a house alone, however beautiful architecturally and with any range of history it could sum up, would scarcely impress itself upon our British conception that it was a stately home if it lacked handsome environs. It would simply be a stately house, not a stately home. The grand old Oaks, Elms, Pines, and Conifers must be furnished over the surrounding lands as furniture for the home without, and then, no one gainsays that the estate comprises a stately home of England. The aristocracy are one and all lovers of handsome grounds and lands around their mansions which form the centre piece. Knowing the taste and demand in this respect, the requirement for ornamental trees, or trees for the landscape, to guard against the too boisterous winds which very often play upon our islands, or for mere adornment, many nurserymen have made it their business to propagate and grow acres and acres of all manner of flowering trees and shrubs, not excepting all the finest of evergreen and deciduous forest trees.

A firm which almost entirely devotes its energies to this business is that of Mr. John Russell, of Brentwood, Essex, and Richmond Nurseries, Surrey. Of late years the prosperity of this firm has been evidenced in the great extensions which have been and are still being made to the nursery lands. At Brentwood, a rural district in one of the finest parts of Essex, the Messrs. Russell (for though the original name has been maintained the firm is now comprised and worked by three sons of the late Mr. John Russell) have their hardy plants, and general coniferous and forest tree sections. Here, indeed, are trees and shrubs of every sort. The Brentwood nursery extends to ninety-six acres off and on, and is bounded by Lord Headley's extensive woods on the west side, and partly surrounded by those of Lord Petre on the south. On the north side of the nursery the ground is high, and here the wild Bramble luxuriated until a few years ago. At the outset it may be stated that the nursery has only been planted and tenanted for three years, the grounds having previously been further south on Lord Petre's land. Yet though the work of laying out has been so recently completed, unless one was emphatically told so by those in charge of the work, the writer would lay big odds on the probability of scepticism at the statements from anyone less than very experienced practitioners.

Scarcely a single plant, bush, or tree in the whole ninety-six acres showed the faintest sign of disturbance. The few exceptions were older plants of the Holly, which is a subject difficult to handle at any time. The great secret of such universal success on these extensive transplantings lies in the fact that the shrubs and trees at all times are well treated, are regularly shifted, pruned according to the requirements of the species, and in planting the ground is thoroughly prepared, and the plants are put in thinly. The thin dispersal of the plants was a feature of standing note throughout, and the results fully rewarded the liberal treatment. Indeed, so strongly apparent was the result of this freedom in planting, that the phrase, "false economy," came to mind in the mental pictures of some overcrowded

nurseries from which emanate weakened plants. One feels a heartiness in writing from conviction, and the state of things at Brentwood forces us to say that such stock as is to be seen there would be proudly accepted by the most fastidious or critical, and will succeed and flourish anywhere. The foreman here is a Mr. Smith, a hale and hearty man of very wide experience—indeed, over fifty years—among the class of stock he yet attends. It was under his supervision that the Brentwood nursery was planned and planted, and so long as Mr. Russell has so able a "right hand," his property we feel sure will not decline from its present high level.

Well, then referring to the statement made that the north side was good Bramble land, this area has been converted for the use of Ghent Azaleas, *Rhododendrons*, and other plants for so-called "American gardens." The *Rhododendrons* were splendid bushes, all of them being bushy, clean, stout, and studded over with fine buds. The Azaleas too, had every shoot set. *Skimmias*, *Osmanthus Aquifolium*, and healthy *Retinosporas* in the varieties *squarrosa*, *pisifera*, *p. aurea*, occupied succeeding breadths of land, and the appearance of each sample proved them to be in congenial stations. *Cupressus lawsoniana argentea*, and other varieties which furnish the south lying undulations of the north side territory, were models of their kind. The same can be said of other varieties and species of *Cupressus*, *Retinospora*, *Biota* and the various other ornamental *Coniferae* of a like kind which receive distinctive names in nurseries. Plants of *Retinospora erecta-viridis* in long straight lines were simply marvels of healthy, symmetrical and well-developed growth. That bright and handsome non-deciduous shrub, *Aucuba japonica*, is grown at Brentwood in thousands, and from careful treatment from the propagating stage upward they, too, are all that can be desired. Another plant which seems to find much favour with buyers, judging from the quantities that are grown, is the *Euonymus japonicus latifolius-aureus*, and other varieties of *E. japonicus*; *E. ovata picta*, &c.

In passing through the "stool ground" we noted the usual nursery stock for propagating purposes. *Rhododendrons*, *Laurels*, and other plants which layer readily, were fixed down for the increase of young plants.

At present the Mr. John Russell firm have a lease at Isleworth, Middlesex, where the major portion of their glass is, but in time, both from need and for convenience, they hope to erect a range of pits and propagating frames at Brentwood, for which purpose they have reserved land at their Essex nursery.

Mr. Smith, who was our guide throughout, then showed a fine brake of *Pinus sylvestris* (Scotch Pine or Fir), and upon further perambulation we found him able to supply Pine trees almost in as great variety and quantity as the more cosmopolitan *Cupressus* and *Aucubas*. *Pinus austriaca* was seemingly at home, and such sturdy plants would make capital stuff for shelter purposes. They are grown in thousands, all standing thinly on clean, well kept land. *Laurel* or *Common Bay* for screening or covert planting, also amounted to thousands. The oval and round leaved varieties were there, and the whole stock was exceptionally fine, ranging in height from 2 ft. to 8 ft. Then the ever popular *Mahonia Aquifolium* or *Berberis Aquifolium*, as botanists call it, made a stretch of very pleasing colour, for in the Brentwood soil the leaves assume a bright but deep sealing-wax-red colour. Some of the foliage is more intense than the rest, but looking at the break of plants the red tone shimmered over the whole surface of the mass of plants. For the making of wreaths, not long festoons or foliage ropes, but circular wreaths with a diameter of about 16 in., these rosy and ruddy leaves are unique, and most beautiful in the finished effect. For an ornamental shrub we have often advocated a far more liberal use of the *Mahonia*. Grown either as a small specimen alone, and kept small, or in clumps and allowed to spread; grown for its beautiful dark and shining foliage or for the colours which evolve within these leaves; grown for the brilliant though small yellow flowers which produce nectar for the bees in early summer; or grown for the loads of berries, grey-blue or blue smoke colour, and resembling miniature bunches of Grapes, what have we more useful, ornamental or simpler to cultivate than the *Mahonia Aquifolium*?

Herbaceous plants enjoy a considerable space all to themselves. *Tritomas*, *Michaelmas Daisies*, and *Iris*es were largely represented, while in their own good time all the multifarious members of our hardy plant classes may likewise be viewed.

(To be continued.)

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 24th ult.:—

Orchid Committee.

LAELIOCATTLEYA DUCHESS OF YORK.—The progenitors of this fine bigeneric hybrid were *Laelia crispa* (female) and *Cattleya gaskelliana* (male). The sepals and petals are of the faintest tint of blush. The lamina of the lip is rich crimson-purple, giving place to a paler and clearer purple in the throat. The side lobes are pale lilac. The hybrid may be regarded as a pleasing and attractive form, intermediate between the parents. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

CATTLEYA PRINCESS.—The flowers of this hybrid are of great size, particularly the petals, which are oval and lilac, the sepals being of the same hue. The bifid lamina of the lip is of great size, crisped at the edges, and carmine-purple, slightly marbled. The eye spots on the sides of the throat are small and yellow. These fine proportions have been derived from *C. luddemanniana* (female) and *C. Trianaei* (male). (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

LAELIA MRS. M. GRATRUX.—A very strange combination, indeed, is presented by this hybrid, derived from *Laelia cinnabarina* (female) crossed with the pollen of *L. digbyana*, with its huge fringed lip. The sepals and wider petals are buff-orange. The tube of the lip is apricot, the interior and the throat yellow; but the deeply jagged and toothed lamina is of an old gold hue, and strikingly distinct. The fringe of the lip is derived from the male parent. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

Floral Committee.

ADIANTUM BURNII.—The fronds of this garden form are very slender, drooping, $2\frac{1}{2}$ ft. to 3 ft. long, and of a light green. It has the appearance of being an evolved form from *A. cuneatum*, or may be the result of a cross with some closely allied form. Basket work is the most useful purpose for which this can serve.

CHRYSANTHEMUM FLORENCE MOLYNEUX.—The bloom of this incurved Japanese variety is about 7 in. in diameter, and massively built. The florets are broad, pure white, and slightly bristly at the tips. It is certainly a handsome variety. (Award of Merit.) J. C. Garnier, Esq. (gardener, Mr. N. Molyneux), Rookesbury, Wickham, Fareham, Hants.

CHRYSANTHEMUM MISS E. PILKINGTON.—This, in gardener's phrase, would be a full Jap., the huge blooms, of a clear and bright yellow, having spreading and recurved florets, beautifully curled at the tips. The bloom would measure 7 in. to 8 in. across. (Award of Merit.) J. C. Garnier, Esq.

R. HOOPER PEARSON.—All are agreed that this is a splendid new Japanese variety, with massive blooms of a rich golden yellow, with a softer yellow reverse. The florets are somewhat incurved at the tips. (Award of Merit.) Messrs. W. Wells & Co., Earlswood Nurseries, Redhill, Surrey.

CHRYSANTHEMUM LE GRAND DRAGON.—Here we have another grand Japanese variety, which though golden yellow, is densely built up and distinct in form from other yellows. The florets are of moderate width, but of great length, distinctly dropping, and refined in appearance. The bloom measures 7 in. to 8 in. across. (Award of Merit.) Mr. W. J. Godfrey, Exmouth, Devon.

CHRYSANTHEMUM MISS ALICE BYRON.—The pure white and the massive build of this variety impress one in its favour on first seeing it. It is an incurved Japanese variety of great refinement, and will certainly be popular if its cultivation offers no serious difficulty. (Award of Merit.) Mr. H. Weeks, gardener to Lady Byron, Thrumpton Hall, Derby.

Fruit and Vegetable Committee.

APPLE PARROQUET.—The history of this variety is rather peculiar. The mother of it was a chance seedling, that was thrown away because its fruits were cracked. Seeds were saved, however, and two out of a batch of five trees bore yellow

fruits. A third seedling is Parroquet, under notice, which produces fruits varying from oblate to oblong-conical, and of a deep crimson-red, over most of the surface. The eye is nearly closed in a slightly wrinkled cavity. It is a good keeper and will make a handsome dessert Apple. (Award of Merit.) Mr. Charles Ross, gardener to Captain Carstairs, Welford Park, Newbury.

GRAPE REINE OLGA.—This variety bears small, round berries of a reddish colour, and of good flavour for outdoor culture. (Award of Merit.) Will Tayler, Hampton, Middlesex.

The following Chrysanthemums were awarded First-class Certificates by the National Chrysanthemum Society at the Floral Committee of this body held at the Royal Aquarium, Westminster, on October 25th:—

FLORENCE MOLYNEUX, MISS ALICE BYRON, and MISS EDITH PILKINGTON were shown and awarded Certificates the previous day by the R.H.S. See description above.

MISS GODSMARK is an incurved variety of large size, and of a dull copper or buff colour; the petals are of the characteristic breadth and slightly hairy. Mr. Robert Owen, Maidenhead.

MRS. A. H. HALL.—The flowers here are larger than those of Edith Tabor, from which it came as a sport in Mr. Jones' collection. The florets droop and twist, being bronzy in colour. Mr. R. Kenyon, Monkham's Gardens, South Woodford.

CHRYSANTHEMUM NOTES.

GREENLANDS, HENLEY-ON-THAMES.

Amongst the many things to be seen at Greenland, Henley-on-Thames, the residence of the Hon. W. F. D. Smith, is a fine collection of Chrysanthemums, of which some 2,000 pot plants are grown, including early varieties. About seven houses, chiefly lean-to, have been filled with them for some weeks past, in different stages of development to meet the requirements of the establishment.

The more advanced varieties on the occasion of our visit included many of the best or standard exhibition sorts, and most, or all, of them Japanese sorts. Mr. H. Perkins has fine buds and blooms of Phoebe, Mutual Friend, Mdme. A. de Galbert, M. Chénon de Léché, Australian Gold, Lady Byron, President Bevan, Mdme. Carnot, Soleil d'Octobre, Mrs. White Popham, Calvat's Golden Dragon, Bride of Exmouth, Mdme. G. Bruant, Mrs. Mease, Nellie Pockett, and others of that stamp which have proved to be of first-class merit during the past or preceding years. All are clean, and have come along vigorously and full of promise for some time. Yellow International is a sport of which we are likely to hear again in the course of the season. Mrs. Coombes may be regarded as an enlarged Wm. Tricker. The coppery-bronze of Duke of Wellington is striking in the bud state. The white Mary Molyneux is a sport which originated here, and Jane Molyneux is almost white. Mme. Gabriel Debie is a creamy variety of a pleasing and promising character.

Mrs. Henry J. Jones is pale pink in the bud state, but ultimately becomes almost pure white. Very peculiar in its way is Miss Lili Boutroy, which has very broad and massive-looking florets, tinted with amber in the centre of the bloom, at least during expansion, but otherwise white. There are also some grand blooms of Mrs. H. Weeks, of fine and massive build. The early blooms of Mrs. J. W. Barks are yellow, but the proper tint is bronze. A handsome variety is Hon. W. F. D. Smith, with massive crimson blooms, and one of Mr. Perkin's productions. Distinct in its ways is M. Pfitzer, with soft yellow flowers. A rich bronze is Mr. H. Crawford. Samuel C. Probyn is a crimson of some merit. Wm. Seward is almost after the same style as M. Chénon de Léché, but is a finer thing in the way of colour. Another good crimson is Royal Standard, and the same may be said of H. J. Jones, which should make its appearance in force upon the show boards.

Mr. Perkins only started to raise seedlings from his own seeds three years ago, and though only Hon. W. F. D. Smith has been sent out, we expect others will follow. A large number of the seedlings of 1898 are again on trial, and many of them were highly promising when we saw them. Mr. Perkins, the gardener, is so unassuming that he hesitates to

pronounce upon the merits of his own productions, and prefers to wait for results. This year's seedlings were sown in February last, and number about 200. The dwarf habit of many of these seedlings is a striking feature of them at present, and the buds, or half opened blooms, of several seemed to indicate something really valuable, and of superior merit, which the next week or two will partly prove. One of these was a true incurved variety derived from a cross between Oceana and C. H. Curtis, the broad petals being rounded at the tips, and of good substance. Another striking lilac variety was obtained from Mdme. Carnot, crossed with Marie Calvat. A deep yellow and bronzy variety, about 18 in. high, was derived from Edith Tabor. A pink variety from Mdme. Carnot is in the style of John Pockett. There are also some very promising things from a cross between Edith Tabor and W. F. D. Smith, one of them having purple blooms. Another white incurved variety is notable for its size in this section. Another seedling we noted had salmon-crimson florets, with a clear yellow reverse. We hope to see a good many of them before many days have passed.

ROYAL EXOTIC NURSERY, CHELSEA.

The above nursery, as everybody in the British horticultural world, and everyone else of any experience in horticulture throughout the world knows, is the oldest and still remains the business centre and chief nursery of the many owned by the Messrs. James Veitch & Sons, Limited. We would draw the attention of the reader at this time to a few notes respecting the newer Chrysanthemums which the Messrs. Veitch are sending out this year, and also to the others which are old favourites. The entire stock of Chrysanthemums at Chelsea, which is considerable, is under the very capable charge of the departmental foreman, Mr. Henry Weeks. Those who have been through the houses for soft-wooded plants at any time of the year will understand that under the circumstances for growth no one could better be trusted with the management of such plants. All who understand anything of the likes and dislikes of Chrysanthemums, will readily understand that show blooms of perfection can hardly be expected from a stock of plants reared and grown through the length of their life history in the atmosphere of London. Still, hardy, vigorous, and very stout plants with good constitutions are developed even in London. It is a notable fact that cuttings from these plants when sent out to customers in favourable parts of the provinces produce most meritorious plants. The inherent force and vigour being unhindered and encouraged by cultural care, builds up the handsome blooms which can be seen. But let us introduce those newer varieties which were seen.

One of the most decorative, and this is a test of the merits, their decorative value, is George Luckman. The flower is very similar to *Australie*, but differs in being of a faint, but pretty, rose-purple, with silvery reverse. The habit is all that can be desired, and the plant is a good enlistment to the new Japanese varieties. H. J. Jones is another novelty of a dark, rich, glowing crimson, with long, drooping petals, forming altogether a large and very handsome flower. It is a variety which requires some skill to grow well, just as that old favourite, Edwin Molyneux, tickles the novice. For this reason it ought to become an interesting subject for those who grow for competition. Little Nell is, oh! such a sweet little thing. I say little, but that is more because the term is endearing, not because the flower actually is small. It is neat and very modestly built, of moderate size, and of sparkling white purity. It is a capital bloom for lasting a time.

Then comes the most glowing and intensely golden-yellow Chrysanthemum at present in cultivation, and that is R. Hooper Pearson. One feels as though to stare for half a day into the depth of colour would not be tiresome, nor would it kill out the pleasure which so rich a flower incites. I need do no more than ask any lovers of Chrysanthemums to make a point of finding this variety. Another grand new yellow Japanese variety, only certificated at the last R.H.S. meeting, is *Le Grand Dragon*. Here the build of the flower is entirely different to the preceding, for that is one of the surest points in the continuance of popularity of the Chrysanthemum, that it presents so many changes, and most of them acceptable. *Le Grand Dragon* has a flower of

mighty size, huge, in fact, and when properly used in decorations it deserves its place. The colour is deep mustard yellow. Madeline Davis may be described as a clear white, tinted with violet, a union or suffusion of hues most pleasant to the eye. Mrs. Coombes, somewhat after the style of Madame Carnot, and quite as large, is a splendid bright rosy-coloured bloom.

A plant with a capital habit, and spoken of as an exceptional novelty, and ranking with H. J. Jones, R. Hooper Pearson, and one or two others presently to be named, is Mrs. Barkley. The blooms are enormous, and most handsomely built. The colour is exquisite, being of those shades so much admired—soft rose-lavender, with bright peach or silvery reverse. The plant has the additional quality of dwarfness. The Hon. W. F. D. Smith forms another of this year's introductions, which growers must make a point of seeing and securing. Deep crimson is a description of the colour which we may give.

Then Henry Weeks is a capital thing, being an improvement upon G. C. Schwabe, which pictures it to the mind of those who know that good variety of its day. The mixture of colour is rose-crimson, flushed with carmine, which, if such a union is difficult to comprehend, may be simplified by regarding it as a cheery and worthy bloom.

Upon calculation I find that there will have to be some "slumping" introduced in introducing others of these introductions! In alphabetical order we may mention Amy Ensoll, a quiet coloured pink variety of much beauty; Annie Provost, one of the purest, virgin white blooming Chrysanthemums; Emily Towers, another of the rosy-pink and silver-tinged novelties which intensify their beauty when seen in gas-light, if they are used as cut blooms; Kathleen Rogers develops an immense bloom, and has the quality of being pure white. We can always do with pure white varieties. Lady Crawshaw is yet another pinky-white, and makes a very fine plant. The above are all new Japanese varieties of English raised Chrysanthemums. The newer Australian varieties of Japanese 'Mums and the incurved varieties are greatly in the minority. It is rather strange that the latter named kinds should not be kindly taken to. Of course, the culture of them has much to answer, for yet they are very sweet. Major Matthews was noted as a good incurved pale mauve. Brookleigh Gem was also fine; so with Empress of India, Baron Hirsch, and a few others.

I visited the large span-roofed show house, along whose sides, and covering a large part of the middle portion, the bush plants are arranged. Mr. H. Weeks pointed to some 200 plants which had to be cut down after the recent fogs had cleared away. Nearly all the bush plants are hurt, which is discouraging, for Mr. Weeks is universally successful in producing champion bush plants, and it is a point to be noted that hardly any pots exceed 8-in. or 9-in. in size; in fact, the bulk are in sixes and sevens. Half-a-dozen of the most useful and beautiful of those grown for cutting and hall decorations may be mentioned. First may be placed the *Souvenir d'Une Petite Amie* (*Souvenir of a little friend*), Lady Selborne, both the pink and creamy forms; Wm. Seward, Amiral Avellan, Queen of the Buffs, John Shrimpton, O. J. Quintus, &c., &c. Many of the known varieties, such as N.C.S. Jubilee, incurved Charles H. Curtis, Phoebe, Mrs. Dr. Ward, M. Fatser, Marie Calvat, and host of others must only be referred to. Visitors are always made welcome, and the time spent at Chelsea will be well repaid.—D.

LIVERPOOL.

THE City Council have opened the autumn exhibition of Chrysanthemums, which are receiving the same appreciation of their patrons as in former years. The numbers grown, both at the Botanic Gardens and Sefton Park, are slightly below those of last year; but with from 1,500 to 1,700 plants at each place they are sufficient for all practical purposes. The houses in both places are similar, span-roofed, and about 120 ft. long.

BOTANIC GARDENS.

The plants here are a trifle late, which is an advantage, as the interest can be longer maintained. The most noticeable are Eda Prass, H. J. Cutbush, Lady Ridgeway, Mdme. Gustave Henry, Princess Charles of Denmark, M. G. Biron, Mrs. F. Jamieson, Louise, Phoebe, Baron Hirsch, &c. The plants here show some signs of the heavy and continuous gales

experienced in September. The side stages are filled with bush plants, chiefly pompons, and a portion of the overplus are arranged in the large fernery adjoining. The show houses and private glass are in good order, a special exhibit of Orchids being especially interesting, including *Cypripedium spicerianum*, *Oncidium varicosum* Rogersii, *Pleione Lagenaria*, and *P. maculata*, well flowered, a fine spike of twenty-one flowers of *Cattleya bowringiana*, and others, for which Mr. J. Guttridge, the genial curator, may be complimented.

SEFTON PARK.

As pleasing as former exhibits have been none will compare with the present clean plants carrying smart, good-sized blooms, which are the feature of the exhibiton. Amongst the new varieties Mrs. H. Morter, Ernest Cannell, Oceana, Miss L. Zede, and Miss Dorothy Foster may be noted. The plants are staged a trifle below the path, and as they are a trifle under the usual height, the flowers are well within the range of the eye. The Parks and Gardens Committee have not yet paid their usual visit, but we can venture to say when they do they will give great credit to Mr. H. Herbert, the parks and gardens superintendent, and his capable growers for the excellence of their show. Some 800 bush plants are arranged on the side stages, which will follow the larger flowering kinds.

The value of having your own nurseries in large undertakings similar to those under the charge of Mr. Herbert, can be seen by a glance at the straight walk through the review ground, having a double row of trees on either side, the chief of which are planes, home raised, having good well balanced heads, and which appear to be at home from the good growth made during the current year.

"THE GROWTH OF THE FRUIT-TRADE."

SUCH was the title of the subject upon which Mr. George Monro, V.M.H., lectured at the R.H.S. meeting in the Drill Hall on October 24th. Mr. Bunyard took the chair, and introduced Mr. Munro as a gentleman whose present unique position in his special line had only been won by hard work and perseverance.

At once Mr. Monro started and spoke most rapidly for fully twenty minutes. His remarks referred to the progress of the fruit markets during the period he himself has been connected with them, which practically represents the history of the trade. The importation of small and irregular supplies of Oranges began about forty years ago—1860. The importations and home products at that period could not keep a retail trade going. Indeed, even in 1871 there were three firms in the city who were bold enough to venture the business as their trade, and these kept open only for three months in the year. Messrs. Mart & Co., of Oxford Street, were the pioneers in the retail fruit-trade, and they did not depend upon this alone, but added it as a department of their already-established wine business, though they do not now deal in fruit. The case to-day stands that no first-class grocer even is without his fruit and vegetable, or green-crop department as it is termed. Importations, too, were in past days confined to a few special fruits which came from lands lying comparatively close to the British coast, as Oranges already noted, which came from Spain and the Azores. The Pineapple had not yet appeared, although in October, 1899, we can buy very decent Pineapples for a few coppers. From Spain a large quantity of Oranges yearly comes to us; indeed, out of four millions sent out, three and a half millions came to England, according to recent statistics. These fruits are now sent from Malta, and even far-off Australia. The benefit of cool storage has been to the Australian colonists a great advantage, and also to ourselves, for much of their produce lands or ripens for our Christmas festivities.

Referring to our own growers and the quality of the fruits, Mr. Monro said that they produce both the worst and the best samples which go to market. Canadian and Australian produce arrives the one on the back of the other, so that we need not fear a cessation in the supply. It was stated by Mr. Monro that England cannot compete with Australia or France, when cultivators there confine themselves to good varieties.

Twenty-five years ago when the Cochineal trade failed in the Canary Islands owing to the discoveries

by chemists which secured a Cochineal dye from chemicals, the natives of these islands took up the fruit industry with vigour, and by their enterprise converted the trade, which at that time came chiefly from Madeira, to their own properties. The trade in fruit exports (Bananas in the first instance) from the Canaries to England has, during the past twenty years, increased ten-fold.

It is from the East Indies that we get our supply of palatable Pineapples, of which, beyond what are successfully pickled for retail trade. The Azores and Florida are centres from which Pineapples also come, and in the case of the latter, more especially with the aid of cool store chambers on board ship, competition is likely to become more severe.

The sale of Grapes had like all other things gone up with leaps and bounds. People had to have them now, and for patients they are invaluable. About the year 1860 the only imported Grapes we had were the Lisbon Sweetwater and the Almeira Grapes from Portugal and from Spain. They come to us now from so far as Australia, and from Canada large supplies are imported. Better selection of varieties would, especially in the latter case, help along the appreciation for Grapes in this country.

The Jersey growers lately took up the industry and much of their produce is sent here. The humidity of the atmosphere in these latter islands prevents the growers from being able to keep their bunches late.

It was also about the early "seventies" that the splendid Scotch Grapes began to appear. Mr. Thomson, of Clovenfords, was the pioneer in this direction, which has spread and been sustained by many other market growers in the north. Some of the finest Grapes sold in London still come from Scotland. In connection with this part of the subject, Mr. Monro hinted upon the necessity of growers having healthy young Vines if their crops were to pay, and according to their study of the markets they would employ late or early varieties of this fruit. Last year as much as thirty-four tons of Grapes were sold at Covent Garden in one week just before Christmas, and if we add six tons which were sold by the same firm (Mr. Monro's) in Manchester, we get the total of forty tons from one firm in one week!

Acres and acres of land are now covered with Strawberries, Raspberries, Gooseberries and Currants, the bulk of the produce of which goes to the jam-maker. Thousands of tons of Plums come from Italy and the South of Europe, and as the supply gradually works northward we are able to prolong the season of these to considerable length. The Cape sends fine Japanese varieties which obtain good prices. Peaches are supplied from home and abroad. We at home are able to supply good Melons from March to December, and in their case we need not fear the foreigner. Then again Tomatos were cited as being things of novelty twenty-five years ago; while now we have thousands of tons grown under glass and many are attempting their culture very successfully out of doors. The foreign supply of these sustains the tide from November till April. Imported Tomatos are always selected before being packed, otherwise they would not sell. So many as 5,617 packages, equal to half a million bushels, came last year from the Canary Islands.

The fact of having beautiful looking fruits certainly with a fair flavour, but above everything brilliance of hue, was strongly emphasised by Mr. Monro. Tradesmen could do simply nothing with colourless fruits. The public, he said, would buy a bright fruit and come again, but would not look at a good, but colourless fruit.

Railway rates still left something to be desired, upon the cheaper rates of which the supply would be greater, as also the demand. The prohibitive tariff upheld in France on the import of Grapes, being so much as 2s. a pound, received severe censure. We were a good customer to France. Why could she not be liberal to us? In conclusion, the lecturer instanced the fact of one grower for market who alone had twenty-five miles of hot-water pipes in his houses, which may serve to show how great the business can be made by even one party. The employment which the fruit trade gave outside its own sphere may only be imagined, but the paper and wool manufacturers or traders in Germany, the timber merchants of America and Sweden, and the nail makers of France were all favourably affected in no small degree. Mr. Bunyard made a few remarks prior to, according to Mr. Monro, the hearty appreciation of the audience.

GARDENING MISCELLANY.

YUCCA GLORIOSA AND IVY.

WHAT the real effect that Yucca plants in outdoor gardens really have would be difficult to say. They always seem to make a garden more truly a garden by their presence. Just like that tree *Araucaria imbricata* which seems like mahogany furniture to a room, making the place highly respectable, the Yucca seems to add greater worth to the garden. With Ivy around the base of the pedestal, upon which all Yuccas should be shown, and a few plants of *Saxifraga crassifolia* a little hit out from them, the ideal in garden scenery is portrayed.

THE GIANT CHRISTMAS ROSE.

THIS is the largest, though not the most beautiful, of the Christmas Roses, and is also one of the earliest. It is at its best during the present month (November). Even though it lacks in one or two points which *Helleborus niger* embodies, we could recommend its more liberal use, because that flowers almost of any kind out of doors are welcomed by all who have to depend upon their herbaceous borders at this time. *H. maximus*, as the "giant" is named, may, like the others, be increased by seeds or division, and does almost equally well in either light or heavy soils.

CRATAEGUS PYRACANTHA IN POTS.

WHILE on a visit to one of our large nurseries a very short time ago, the feature most striking to my eye above all others was the sight of a batch of the above in small 5-in. and 6-in. pots. The plants had been grown upon single stems—though they would be equally fine as bushes or standard bush plants—and were liberally robed with bunches of their scarlet berries.

OBITUARY.

MR. SYDNEY COURTAULD, J.P.

With much regret we, and very many horticulturists and others, learn of the death of Mr. Sydney Courtauld, J.P., who died at Bocking Place, Braintree, Essex, on the 20th October. His decease occurred after a severe cancer attack. Till within a few days of his death he was in active health, taking part in the business of Messrs. Samuel Courtauld & Co. Ltd., crape manufacturers. He was an active and prominent member in the neighbourhood in which he resided, being much respected upon the Braintree Urban District Council, of which he was chairman. He was also for many years a Justice of the Peace, attending the Braintree Petty Sessions.

His nature was most liberal. In 1888 he made a gift of 5½ acres of land to the township of Braintree, which he also was at the expense of laying out and planting, endowing it with a sum of £80 per annum towards its up keep. Very few would cut a substantial highway through their estates to convenience their neighbours; but this is just what Mr. Courtauld did.

The deceased gentleman had a great reverence for nature, especially enjoying flowers and having one of the finest Orchid collections in the country. Indeed, his admiration for Orchids caused him to erect many houses, nine of which were completely stocked with these plants. He was a member of the Orchid Committee of the R.H.S. He has numerous Certificates and Awards for his gems, chief of which were the Masdevallias. He was also a member of the Royal Botanic Society. Naturally reserved, he was ever courteous and kind, and his death at the age of 59 has come as a great loss to his district and to all the institutions which he so persistently and generously supported. He leaves a widow, three sons, and two daughters.

MR. GRANT ALLEN.

It is with regret that we announce the death of Charles Grant Blairfindie Allen, better known as Grant Allen, which took place on October 25th, at his residence, Hindhead, Surrey. He died in his fifty-second year, ending a life in many ways very strange and chequered.

The son of a protestant clergyman (who survives him), he was born at Kingston, Canada, on February 24th, 1848. His education was of a varied character, in keeping with his temperament. The successive scholastic steps led him first to a school in the United States, then to France, afterwards to St. Edward's

Grammar School, Birmingham, passing finally to Merton College, Oxford. Here he was a contemporary of Lord Randolph Churchill, graduating in 1870. Having finished his curriculum he soon received an appointment to the principalship of the then newly founded Government College at Spanish Town, Jamaica. He joined with his principalship the position of professor of classics. But science was his hobby, and after the college closed, for reasons needless to mention, he and his newly-wedded wife returned to England.

Botany and anthropological science (the natural history of the human species) claimed his closest attention, and upon his observations he wrote a great deal. Scientific writings, however, brought little or no remuneration, so perforce he adopted romance, the beginning of which course was, however, more from accident than premeditation. His mixture of weird fact with pure fiction created a clamour for the material he furnished, and so enthusiastic did he become himself in writing for its own sake, and for what it returned to him, whereby he could further extend his scientific experiments and erudition, that he overworked his powers. He suffered from writer's cramp, and from the debility following pressure, dying a worn-out man after a lingering illness at the period of life's prime.

Among his numerous works may be named his "Psychological Aesthetics," which was one of his earliest; "The Colours of Flowers"; "Flowers and Their Pedigrees"; "The Evolution of the Idea of God," besides many fine novels and any amount of articles for daily and weekly newspapers, and fortnightly and monthly journals. He leaves a widow and family.

QUESTIONS AND ANSWERS.

Transplanting Abies Nobilis.—R. S.: If the roots are in good condition, and you can lift the tree with a good ball of soil you can transplant it now or any time between this and the end of March. In the far north where spring is later the operation may be accomplished with safety even in April. In case we have a dry spring, however, you should perform the work and have the tree moved at once. If it is roft. high or more, and has never been moved since it was put there, a safer plan would be to take out a trench all round the tree about 3½ ft. from the trunk. Cut all the main roots, smoothing the surface with a sharp knife, and then fill in some good soil with plenty of leaf mould all round the trench. Fibrous roots will be pushed into this during the coming twelve months, and the tree will lift with good roots and a good ball of soil next year, so that it will scarcely feel the shift.

The Myraballe.—A. J. D.: The proper name is Myrobalan Plum, the frequently used one being a corruption. The botanical name is *Prunus cerasifera*, though you may find it in books under the name of *Prunus Myrobalana*.

Posts Decaying at the Earth's Surface.—Omega: The portion of the posts above ground being subjected to the drying effects of the atmosphere is not so liable to decay as that portion which is kept relatively moist all the year round. That part which is beneath the soil would naturally be in this condition, but the earth saves it to some extent by excluding the atmosphere. The portion at the surface of the earth has always a free supply of air or oxygen about it, and there being more moisture there than higher up, that portion of the posts is therefore subjected to two of the wasting agencies, namely, air and moisture. That is the reason why wooden posts decay more rapidly there than anywhere else. The same thing happens to iron posts, for the same reason.

Best Time for Laying Box.—J. H.: If your soil is light in character, you might safely lay the Box edgings now. On the other hand, should the soil be

of a heavy or clayey nature, the operation had better be deferred till March. The common or tree Box (*Buxus sempervirens*) is much hardier than the dwarf variety (*B. s. suffruticosa*), that is, it is more vigorous in constitution, so that you might use the tree form in heavy soil with less danger of its dying out in patches. It would, however, cause a little more trouble in keeping it clipped; but that need not deter you from using it.

Best Time to Transplant Montbretias and Harpaliums.—Omega: In soils of a light and sandy character you could not do better than lift and transplant the Montbretias at once, before they begin making fresh growth, which they will very soon do, owing to the mildness of the season and abundance of moisture, which will cause fresh root development, if, indeed, it has not already begun. Should that prove to be the case, when you lift them the corms must be planted again at once, putting some sandy or light material around them. If no young roots are formed you could keep the corms in a cool, dry place till the end of February. In your district we do not see why they should not be planted out at once, even if you have to put some cocoanut fibre over the top to ward off frost. The Harpaliums may be lifted, divided, and replanted in good soil at once, as they are perfectly hardy and now at rest. Cut down the old stems before commencing the operation.

Names of Plants.—J. W.: From the leaves it would appear to be a stunted state of *Rhododendron glaucum*, but as there is uncertainty about it you might send flowers when in bloom.—C. D.: 1, *Coleonema album*; 2, *Metrosideros floribunda*; 3, *Eranthemum nervosum*.—A. L.: 1, *Buxus balearica*; 2, *Ilex Fortunei*; 3, *Skimmia japonica*; 4, *Scirpus riparius*, generally termed *Isolepis gracilis* in gardens; 5, *Begonia manicata*; 6, *Lycium barbarum*.—R. M.: 1, *Alocasia macrorrhiza variegata*; 2, *Platyloma rotundifolia*; 3, *Aspidium caryotideum*.—W. Y.: The small one is *Pleurothallis Grobyi*; the other is *Miltonia Regnellii*.—A. J. M.: 1, *Oncidium ampliatum majus*; 2, *Oncidium Forbesii*.—A. C.: 1, *Crataegus orientalis*; 2, *Pyrus Aria*; 3, *Pyrus pinnatifida*.—W. Mitchell: 1, *Pernettya mucronata*; 2, *Gaultheria procumbens*.

Fruit to Name.—Botan: Apple Cellini.

Communications Received.—J. M.—H. Perkins. J. T.—H. Weeks.—H. J. Jones.—John Livingston.—A. J. B.—N. Davis.—R. G. W.—R. Proudlock.—W. Wells.—N. Molyneux.—R. & G. Cutbush.—D. P. Laird.—A. J. B.—M.—R. A.—L. C.—A. C.—W. R.—J. C.

TRADE CATALOGUES RECEIVED.

W. DRUMMOND & SONS, LTD., Stirling and Dublin. —Catalogue of Forest, Ornamental and Fruit Trees, Roses, Shrubs, &c.

THOMPSON & MORGAN, Ipswich.—A catalogue of Bulbs and other Flower Roots.

W. WELLS & CO., LTD., Earlswood Nurseries, Earlswood, Redhill, Surrey.—Descriptive Catalogue of Chrysanthemums, with cultural hints, for 1899 and 1900.

PAPE & BERGMANN, Quedlinburg, Germany.—Novelties for 1900.

CARMICHAEL'S SEEDLING STRAWBERRIES.

1 Princess of Wales, 2 Queen of Denmark, Richard Gilbert, Britannia, Miss Knollys. Retail price, 15/- per 100. All named laid runners.

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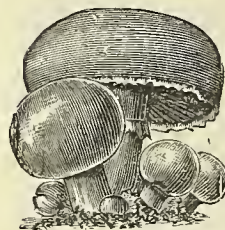
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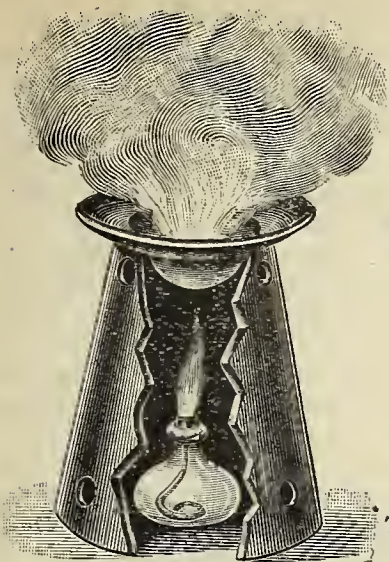
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	s. d.	s. d.		s. d.	s. d.
Apples ... per bushel	2 0	7 0	Red Currants, per	0 0	0 0
Cobs	0 6	0 7	half sieve		
Grapes, per lb.	0 8	2 6	Cherries, per half		
Pine-apples			sieve	0 0	0 0
—St. Michael's each	2 6	7 6	Raspberries, per cwt.	0 0	0 0
Strawberries per peck	0 0	0 0	Ripe Gooseberries,		
Black Currants, per			per half sieve	0 0	0 0
half sieve	0 0	0 0			

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	2 0	4 0	Herbs per bunch	0 2	0 0
Asparagus, per bundle	0 0	0 0	Horse Radish, bundle	1 0	2 0
Beans, French, per			Lettuces ... per dozen	1 3	1 6
per lb.	0 9	1 6	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	1 0		Onions..... per bunch	0 4	0 6
Brussels Sprouts			Parsley ... per bunch	0 3	
per half sieve	1 0	1 6	Redishes... per dozen	1 0	1 6
Cabbages ... per doz.	1 0	1 3	Seakale... per basket	1 6	2 0
Carrots ... per bunch	0 3		Small salad, punnet	0 4	
Cauliflowers..... doz.	2 0	3 0	Spinach per bushel	2 0	3 0
Celery..... per bundle	1 0	1 6	Tomatoes..... per lb.	0 2	0 4
Cucumbers per doz.	0 10	1 6	Turnips per bun.	0 3	
Eradive, French doz.	1 6	2 0			



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" No. 2	20,000	"	13/-	"	10/6	"
" No. 3	10,000	"	6/6	"	5/6	"
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" No. 5	2,000	"	1/4	"	1/2	"
" No. 6	1,000	"	8d.	no reduction	8d.	"

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, NOVEMBER 11th, 1899.

A GLIMPSE OF THE N.C.S. NOVEMBER SHOW.—It rarely happens that November is so propitious for the holding of a Chrysanthemum show in London as it was on Tuesday last, the day being dry, clear, and generally fine throughout. The attendance was immense as usual, and the finances should stand high. Those who visited the great autumn competition and fête of the National Chrysanthemum Society at the Royal Aquarium early in the day had the best chance of seeing the exhibits. We here take a glance of the leading features of it for the sake of those at a distance. The splendid, non-competitive exhibits of Messrs. Jones, Davis, Cutbush, and Owen arrested the eye of visitors on visiting the several parts of the exhibition where they were put up. Chrysanthemums, autumn-tinted foliage, Begonias, Lily of the Valley, Bouvardias, etc., were particularly conspicuous. The competitive groups were good in their way, but their circular shape does not admit of much novelty in the way of arrangement. The trained plants were conspicuous and as fine as we have seen them, with the exception, perhaps, of those at the Centenary show. Mr. Geo. Whitehorse, gardener to S. Nicholls, Esq., Walthamstow, is a new name, that keeps up the reputation of that quarter for trained plants. The Portsmouth and District Horticultural Society had, for the second time within recent years, the honour of carrying off the Challenge Trophy in the class set apart for 24 Japanese and 24 incurved blooms, the competition being open to societies only. The Holmes Memorial Challenge Cups have still a weighty attrac-

tion for competitors, judging by the keenness of the competitions and the high quality of the blooms brought forward. We have never seen them in finer condition. Mr. F. Vallis, of Chippenham, a comparative stranger, secured the Holmes Memorial Cup for 48 Japanese blooms. Mr. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, was second, but he took three or four of the leading prizes in other big classes, so that he had a lion's share of the spoil. A similar medal for 36 incurved blooms was secured by Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, whose blooms were excellent in every way, though he was not a single point ahead of the second prizelot, and won because his blooms were better set up. This will give an idea of the closeness of the competition.

The class for 12 vases of Chrysanthemums, set up with their own foliage, filled more than two tables running the whole length of St. Stephen's Hall, and were undoubtedly one of the finest and most novel features of this November show. Mr. J. W. McHattie took the first of four prizes, in eleven entries. The blooms shown were of enormous size, and apparently larger than those in the class for 48 Japs. There is no question that this method of exhibiting them shows all their qualities and likewise their defects, if any. Two Gold Medals and several Silver ones were awarded in this class, besides money prizes. A small Silver Medal was awarded to each competitor who failed to take a prize. We hope this class will be maintained in future years. The class for a hand basket of natural autumn foliage and berries arranged for effect attracted a great amount of attention, and it must be confessed the baskets were very striking objects, arranged as they were with two species of Winter Cherry (*Physalis*) Snowberry, *Pernettya*, Asparagus berries, seeds of *Iris foetidissima*, berries of *Pyr-*

acantha, Strawberry tree, Privet, etc. Miss Easterbrook, of Fawkham, Kent, was first; and Mrs. W. Taylor, The Gardens, Tewkesbury Lodge, Forest Hill, was second.

The vegetables took a very prominent position both for quantity and quality, and the interest taken in them by gardeners and the public was very keen. Messrs. Webb & Sons' special prizes for a collection of nine distinct kinds brought out all the best growers within a long distance of London. Mr. E. Beckett, gardener to Lord Aldenham, Aldenham Park, Elstree, took the leading honour with magnificent Cauliflowers, Onions, Potatos, Parsnips, Carrots, Tomatos, Sprouts, etc. He also carried off Mr. Robert Sydenham's Challenge Cup for the highest number of points gained in the various classes for vegetables. Having won the Cup for the second time it becomes his property absolutely. He had 49 points out of a possible 65. We may here remark that three of the Cups offered for vegetables have been won outright on this occasion, so that the N.C.S. is the poorer by that in purse, though not in reputation. In the fruit classes there were some excellent Grapes and Apples. For six dishes of culinary Apples the leading place was taken by Mr. W. T. Stowers, gardener to G. H. Dean, Esq., 70, Harold Road, Sittingbourne. For more details we must refer readers to the report of the show in another column.

Our supplement with this issue contains portraits of some of the leading raisers and introducers of Chrysanthemums. We do not pretend to give them any order of merit, but arrange them as the accident of portraiture enables them to be grouped.

Big Queen Apple.—We heard recently from a correspondent of a Queen Apple having weighed 21 ozs. Not bad, is it?

Cypripedium callosum Sanderae fetched £175 at the sale of the collection of Orchids of the late Henry Greenwood, Esq., last week.

Mr. Alexander Munro, foreman in The Gardens, Glamis Castle, Glamis, N.B., has been appointed as head gardener to E. Curre, Esq., Itton Court, Chesham, Monmouthshire.

Weather in London.—A very large amount of rain has fallen during the past seven days, in parts to the extent of flooding the land. The weather is, upon the whole, mild and healthy.

Chrysanthemum Florence Molyneux.—The dozen blooms of this variety, exhibited at the N.C.S. Show by Mr. Agate, and awarded the Silver Medal, were grown by Mr. Nat. Molyneux, The Gardens, Rookesbury Park, Fareham.

Marriage Bells.—On the 6th ult. a marriage took place between Mr. William G. Baker, curator of the Botanic Gardens, Oxford, and Miss Nellie A. Bowler. Mr. Baker is an old Kewite, who went from Kew Gardens to his present situation in December, 1887.

Mr J. R. Shillington, for the last seven years head gardener to C. W. Cowan, Esq., of Valleyfield, N.B., has been appointed, out of a large number of applicants, as head gardener of the well-known gardens of Mrs. Callender, of Preston Hall, Midlothian. Mr. Shillington is to be congratulated on his appointment. May good luck go with him.—*J. M. H.*

Death of Mr. John Shrimpton.—We are extremely sorry to learn of the death of Mr. John Shrimpton, whose name is well known in connection with the raising of new Chrysanthemums, the sad event taking place on the 23rd of October last. His end came after a long and painful illness. His employer, William Seward, Esq., The Firs, Hanwell, deplores his loss, for he was a painstaking and honest man. Mr. Shrimpton's abilities as a gardener were great. On leaving Osterley Park (about fifteen years ago), he went to Wm. Seward, Esq., as a working foreman, a position he held until his death.

Salt is good for Asparagus, Turnips, Mangels.

Birch and Russia Leather.—The peculiar odour which distinguishes this leather, says the *Revue de L'Horticulture Belge*, is communicated to it by a resin, betriline, very abundant in the outer bark of the Birch. There is obtained by distillation of that bark an essential oil which serves to perfume the leathers tanned with the bark of the Goat Willow or Sumach.

Staines Road Nursery, Hounslow.—For over two years Mr. Bridges has had a lease of this nursery, and now he has been joined by Mr. Arthur Pentney, of Worton Hall Gardens, Isleworth. They have acquired the York Nursery on the opposite side of the road. In the two places they are to carry on a nursery and florist business. Mr. Bridges was also a private gardener before he took over the Staines Road Nursery.

Gardeners' Royal Benevolent Institution.—A benefit concert, in aid of the above institution was held at the Constitution Hall, Chertsey, on Thursday, the 2nd inst. Mr. A. J. Brown, head gardener and bailiff of the School of Handicrafts, Chertsey, is the hon. local secretary, and under his guidance and efforts the concert was a great success, in spite of the inauspicious nature of the weather. Many local and talented artistes combined to make the musical entertainment a great success. There was a large and keenly appreciative audience, including the elite of the town and neighbourhood. Mr. Brown informs us he will be able to send £13 to the institution.

Juno Cycles for the Year 1900.—At the National Cycle Show, Crystal Palace, November 17th to 25th, 1899, a large and varied assortment of these well-known "Juno" cycles, will be on view at stand No. 15, in the centre transept, opposite the great orchestra; and will include a "Juno" Ladies' Free Wheel, fitted with pedal back wheel rim brake, weighing only some 28 lbs., a surprising and low weight for such a machine. Also Gents' Free Wheelers will be shown with similarly fitted brakes, both racer and roadster variety. We are given to understand that all "Juno" cycles for 1900 will be so built as to be easily converted into free wheelers, and will be provided (in addition to back rim brakes), with optional front wheel brakes. Among the tricycles there will be a notable "Juno" carrier built on novel lines, combining as is needful in such a machine, great strength with lightness, and constituting quite a new departure in tradesmen's carrier cycles. "Juno" cycles have always enjoyed the reputation of first grade, thoroughly up-to-date machines, and the models for 1900 more than maintain their high character, including as they do, many new and novel improvements, the fruit of prolonged experience in cycle building.

Shells as Artificial Flowers.—Mr. R. Lydekker, F.R.S., writing in the current number of *Knowledge*, gives us an immense amount of information on the many uses to which shells are put as ornaments, implements, and articles of trade. We can do no more than give a short extract. Mr. Lydekker says:—"Both in this country and in Japan, shells are also employed to make artificial flowers. In the British manufacture large flowers, such as Tulips and Roses, are those generally selected for imitation; but the Japanese attempt smaller and more delicate blooms. Elegant specimens of their work may be seen in the shell-gallery at the National History Museum. Then, again, there is a large trade in various descriptions of common shells, such as small scallops, cockles, polished mussels, whelks, etc., which are mounted with velvet and silk to form pin-cushions, needle-books, purses, and other fancy articles. A number of species of shells are polished and sold as ornaments, as are many of the larger and handsomer kinds in their natural condition. These are known in the trade as fancy shells; and when to these are added the hosts of less common species which pass through the dealer's hands previous to finding a place in the cabinet of the shell collector, it is evident that the total traffic in these beautiful objects must be very large indeed. It seems, however, that the trade is by no means in such a flourishing condition as it was some twenty or thirty years ago; the popular taste for shells, either as natural history specimens, as ornaments, or in the form of shell-boxes, having very appreciably declined."

The Right Hon. Sir John Lubbock, Bart., M.P., is to be entertained at a banquet on December 14th, by the Leicester Chamber of Commerce. This is in recognition of his services to commerce, science, and literature.

Death of Mr. Fred. Canham.—We very much regret having to record the very sudden death of this veteran Orchid grower, gardener to C. H. Feiling, Esq., Southgate House, Southgate, Middlesex, at five o'clock on the morning of the 30th ult. Many gardeners, but particularly Orchid growers knew him well. He was present at the late Major Mason's sale of Orchids, and quite recently put up an exhibit of Orchids at one of the meetings of the Royal Horticultural Society. As recently as Saturday evening last he appeared quite well, but on Sunday night he had a violent fit of coughing, which caused or brought on again an old rupture of the bowels. The doctor sent him away to the Great Northern Hospital on Sunday night, where it was decided that an operation was the only chance of saving his life. His sons saw him after the operation, and he was quite cheerful, but died shortly after. It was practically the renewal of an old complaint, as he had suffered more or less for two years past. His many friends are very much upset at his sudden and so unexpected decease.

Monument to M. Jean Linden, Brussels.—At 11 o'clock on Sunday morning last, at the Parc Leopold, Brussels, in presence of the burgomaster, M. Buis, and a certain number of notables and lovers of botany and horticulture, the inauguration of the monument raised to Jean Linden, one of the initiators of Belgian horticulture, took place. The monument, a marked success of Tombay, the statuary, consists of a life-like bust in bronze, poised upon a plinth of granite, decorated with a bas-relievo, representing an Orchid. It is raised at an angle of the esplanade of the Natural History Museum, with its back against the wall of the enclosure of the celebrated establishment created by Linden, and now directed by his son, M. Lucien Linden. Two speeches were delivered on the occasion, and M. le Comte de Kerchove de Denterghem, the president of the organising committee, spoke first. He spoke in very eloquent terms of the travels and introductions of Orchids, Palms, Begonias, &c., made by Jean Linden, and the impulse he had given to Belgian horticulture. The monument was handed over to the City of Brussels in the person of M. Buis.

Woolton Mutual Improvement Society.—A meeting of this Society was held on the 2nd inst., in the Mechanics' Institute, Mr. R. B. Ker presiding over a large attendance. The lecturer, Mr. J. Hathaway, superintendent of the Southport Parks and Gardens, was introduced as a practical and successful cultivator of the fruit that he came to speak upon, one that was of considerable importance to all gardeners; namely, "The Peach Inside and Outside." In opening the subject the essayist briefly alluded to its history and with what good results it had been grown outside in this country, and there should be no reason why it should not be continued at the present time, if a fair or similar amount of labour was expended upon it that was devoted to inside culture. It was advised that the wall should be from 8 ft. to 12 ft. in height with a south or south-west aspect; that the border should be 14 ft. wide and that no crop should be grown within 4 ft. of the wall; efficient drainage should be given; that good soil to the depth from 2 ft. to 2½ ft. be provided; that planting should be done early in the autumn, as soon as the leaves commence falling; mulch with half rotten manure. Disbudding should be commenced as soon as the shoots could be handled; commencing with the strongest. As a prevention against insect pests it was recommended that the wall be syringed with flowers of sulphur just before the flowering season. The treatment under glass was also given, after which a discussion followed in which Messrs. W. Tunnington, J. Wilson, J. Stoney, R. Todd, and the chairman took part. A hearty vote of thanks was accorded to Mr. Hathaway for his admirable lecture and to the chairman for presiding. The secretary announced that arrangements were in hand for the formation of a mutual help class to prepare for the Royal Horticultural Society's examination next spring. Those desirous of joining were requested to give in their names before the next meeting.

COELOGYNE CRISTATA.

I HAVE several pots and pans of the above Orchid which fail to flower satisfactorily with me; one pot, a 9-in., last year had six spikes, and one pan with the same amount, but this year up till now they have shown no spikes, and I am afraid will not now, as the pseudobulbs are made up. I grow them with the Cattleyas till about the beginning of October, then put them in a cool vinery. I must say they make good pseudobulbs, and the foliage is dark green and leathery, yet fail to show the flower spike. I have tried them this year in a vinery all the summer, but with no better result. As my employer is very fond of them I should be very glad if any of your numerous readers could tell me where I am at fault. I have them potted in the usual mixture of peat, sphagnum, &c., and I generally use clinkers for drainage, as I find they root very freely in them.—G. C. C.

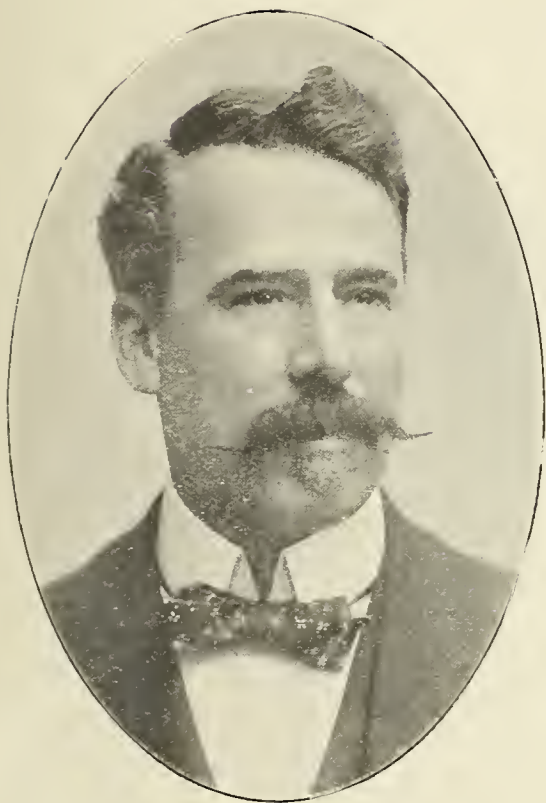
FINSBURY PARK.

AT this time of the year when the public parks are almost destitute of flowers out of doors, it is with increased interest and appreciation that the residents within reach of those parks which at this time have a Chrysanthemum show open, avail themselves of the efforts which have been made by the respective superintendents for their special acceptance.

Finsbury Park, under the direction of Mr. Melville, comes out boldly this year again as in times past. Provided with a good span-house, the superintendent has arranged the plants all on the right hand side of the house, reckoning from the end of the entrance, the edge being furnished in serpentine fashion. The plants of course come well under the eye, rising higher as they go back. The ends and corners of the house are decked with such pleasing varieties as Margot, which sends up huge armfuls of its flowering shoots. A cheery back-ground is got from a fine spreading band of Source d'Or Improved. Japanese varieties of special note are difficult to choose, for the whole stock of the plants is of high merit. Mrs. E. S. Trafford is always to be found in representative collections, because of its cheery colouring and its generally good form. Mrs. Fursden somewhat resembles Australie and makes a fine bloom. The old Mrs. F. Jameson still holds a place.

M. Pankoucke, the large canary yellow Japanese variety, represents a form of more recent introduction. Mdme. E. Rogers was here also, forming an interesting specimen for the public curiosity. Lady Byron seems to have developed well this year, in most parts of London at least. The blooms at Finsbury were large and very pure. Mrs. W. H. Lees also showed out prominently. Mons. Freeman a pale mauve with pink reverse, was a much admired variety, as likewise the incurved Jap., Beauty of Teignmouth, of which there were some blooms of grand build and strength. Hairy Wonder must be retained because of peculiarities, and beauty too, of course. N. C. S. Jubilee is to be seen in very good condition. There are some capital specimens of Mrs. W. H. Weeks and the incurved Jap. Mrs. C. Harman Payne. Master H. Tucker could scarcely be surpassed in either build, size, brilliance or substance. Charles H. Curtis as might be expected is simply superb. The depth and clearness of its colouring, together with the fine quality of its florets and shape, maintain this variety as quite a superior one. Mrs. C. W. Palmer makes a very sweet bloom without doubt, and one the public need not grow tired of. Phoebus and Vivian Morel also are well regarded. Mdme. Elsie Teichman when in such fine style as here shown is an A1 plant. R. C. Kingston and Charles Davis almost complete our list.

It will be seen that the selection is very diversified. Those that are grown are all more or less of sterling merit, and with remarkably few exceptions have not been improved upon since they themselves were first brought forth as better sorts than previously existing kinds. Bush plants of Margot, Souvenir d'une Petite Amie, John Shrimpton, and the well known dwarf growing favourites such as Soeur Melaine, Virgin Queen, Précocité, &c., are used with good effect either in the end parts or, in the case of the variety Margot, are trained up and about the supporting central pillars. The conjoined effect of having used the one variety of Chrysanthemum to the pillars is certainly in much better taste than if half a dozen varieties had been employed. Everything is nice and clean, and seemingly much appreciated by the large turn-out of visitors, which is all that Mr. Melville expects.



MR. H. J. JONES



MR. W. WELLS.



MR. NORMAN DAVIS.



MR. H. WEEKS.



MR. NAT. MOLYNEUX.



MR. W. J. GODFREY.

RAISERS AND INTRODUCERS OF CHRYSANTHEMUMS.

STAG'S-HORN PETALLED CHRYSANTHEMUM.

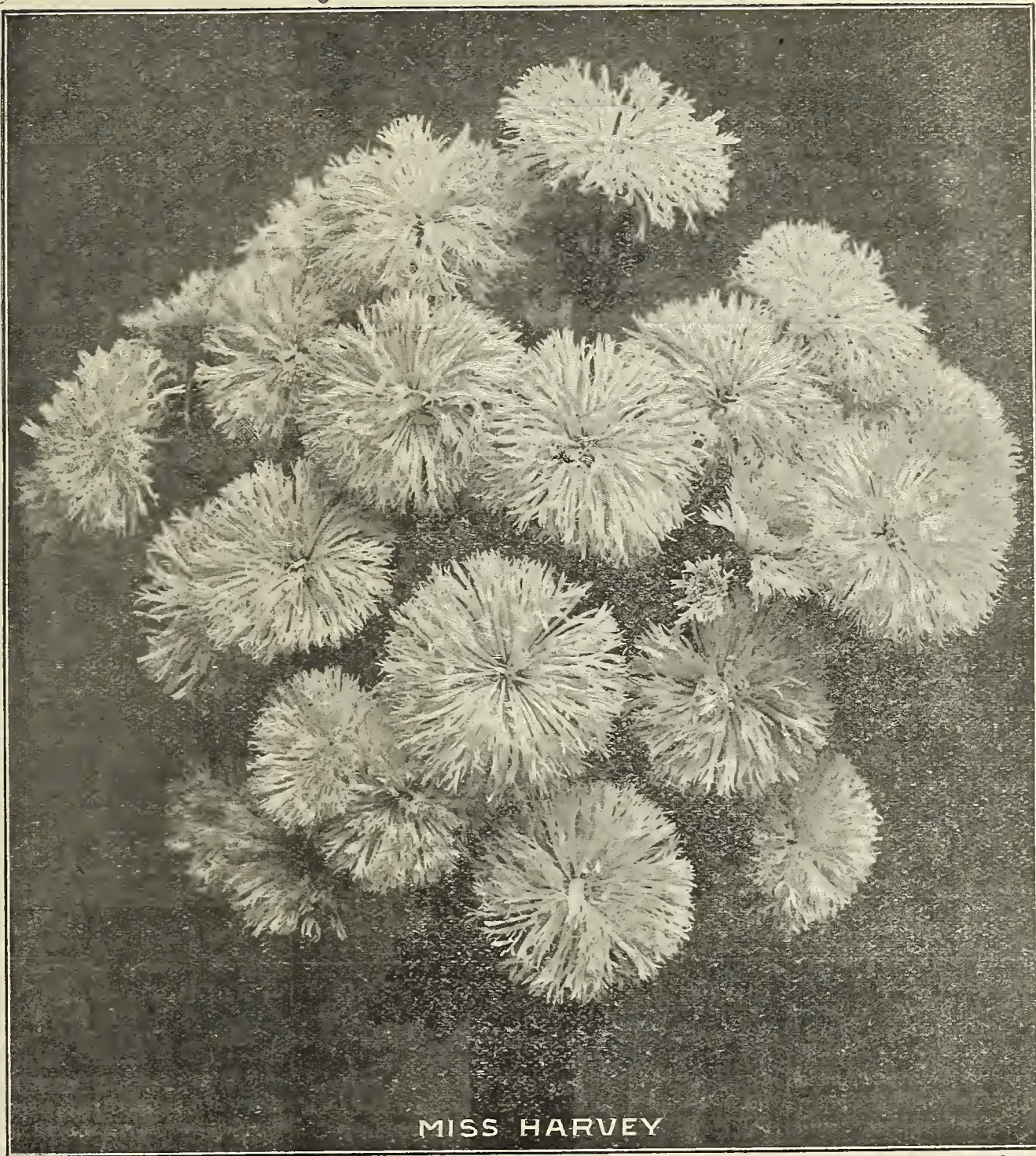
For decorative purposes there is no doubt that many of the fancy forms of Chrysanthemum are highly suitable, as they take their places in vases, glasses, and other light arrangements with much more grace than the heavy exhibition forms, which possess qualities for use in other directions. Feathery, plummy, spidery, and thready, are terms which have been applied to various of these fancy forms. The Stag's-horn petalled Chrysanthemum, Miss Harvey, is quite of another kind, the florets being variously fringed, toothed, and ramified in a manner bearing a fanciful resemblance to a stag's horn, and spreading in circular fashion like a glorified Cornflower or Sweet Sultan. As the bloom expands the florets are

CHRYSANTHEMUM RAISERS AND INTRODUCERS.

(See Supplement.)

ON former occasions we have paid most attention to the description and illustration of different types of Chrysanthemum, particularly large exhibition blooms; but on this occasion we desire to draw attention to some of the raisers to whom we are indebted for the creation, practically, of the magnificent exhibition varieties that have and are from year to year thrusting the elder and smaller blooms in the background. Introducers, that is, those who have been actively instrumental in putting the new varieties into commerce, also command our attention. As time goes on other growers become interested in the work of raising new varieties, so

WORLD testify to his industry in this respect. All these foreign varieties had to be grown and tested under the climatic conditions of a London suburb or elsewhere not far off, before the value of the introductions could be determined. Hundreds of them proved absolutely worthless for sending out, and others were soon ousted by something better, particularly when he and others commenced cross-breeding and raising seedlings from home saved as well as foreign seed. The quantity of home-raised seed in the country is now considerable, and the resultant seedlings pre-eminently satisfactory. Space forbids details of the hundreds of varieties he was instrumental in introducing from abroad about a decade ago, but his work still continues in sending out home-raised varieties chiefly, and in raising new ones himself. These latter are of a varied character,



CHRYSANTHEMUM MISS HARVEY.

at first pink, but as the season advances, and November gives place to December, they become pure white, lasting well on to Christmas. It takes rank then as a late decorative variety which should find a place in every collection where fancy forms receive the patronage they deserve. The blooms, cut with their own foliage, are also well adapted for the making of sprays for personal decoration, as well as the embellishment of the house generally. The variety should make an excellent companion to Mrs. Filkins, the yellow variety which gained so many admirers a few years ago when it first made its debut before the public. It has been named Miss Harvey in compliment to the daughter of the raiser. By the favour of Messrs. H. Cannell and Sons, Swanley, who are putting it into commerce, we are enabled to give our readers an idea of the graceful structure and build of the variety.

that we hope to give their portraits in these pages.

MR. H. J. JONES.

Most of our readers will already know Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, S.E., by reputation at least, but many are also his personal friends, for he moves about freely all over the country during summer and autumn when exhibitions are being held. He has been a Chrysanthemum grower for many years, and has raised a large number of first-class varieties, both for exhibition and decorative purposes. Independently of these he has introduced hundreds of varieties from the Continent, America, and elsewhere, at a time when English-raised varieties were very scanty indeed, and practically before the conception dawned, that seedlings of any value could be raised in Britain. Back volumes of THE GARDENING

some of them being amongst the finest and most popular in cultivation. The accompanying portrait of Mr. Jones is the most recently taken, and very true to the original.

Amongst Japanese varieties raised at the Ryecroft Nursery, the mere mention of R. Hooper Pearson and Mrs. W. H. Lees will recall visions of magnificent blooms on the show stands, notwithstanding the newness of the first-named. Others belonging to this section are W. Wright, with long, reflexed, light pink florets; Miss Lili Boutroy, with broad, white florets; Mr. Hugh Crawford, of a brilliant golden-yellow and bronzy reverse; and Lionel Humphrey, a grand variety after the style of E. Molyneux.

Incurved varieties include such popular sorts as C. H. Curtis, Duchess of Fife, J. Agate, and D. B. Crane, descriptions of which are entirely unneces-

sary to growers and gardeners who visit the autumn shows. The blooms of the new Mr. W. Harvey are of great size, and a distinct shade of creamy-white. Equally new is Mr. A. E. Stubbs, as large as C. H. Curtis, but of a deeper yellow. Mrs. Gerald Williams and Mr. James Murray (bright pink) augment a list that is by no means over full.

Several grand decorative varieties have also been placed at the disposal of the public by Mr. Jones, including the widely cultivated Ryecroft Glory, Sunbeam, Ryecroft Scarlet, and Vivid.

MR. HENRY WEEKS.

Within the past few years growers have been turning their eyes towards the raiser of such magnificent varieties as Lady Byron, Mrs. H. Weeks, and others. The raiser, in this instance, is Mr. Henry Weeks, gardener to Lady Byron, Thrumpton Hall, Derby, whose portrait we are pleased to give in the accompanying supplement. Most of his varieties belong to the Japanese section, for several of which he has received First-class Certificates and Awards of Merit. Others have been put into commerce without having received that distinction, and letters of congratulation from many eminent growers have been reaching Mr. Weeks for some time past concerning them, so that before many days are over, a large proportion, if not all of them, will be placed before the public in splendid form. Some of them we have already seen in collections this year.

The best known of his varieties are Lady Byron, with white florets, tipped green; and Mrs. H. Weeks, white tinted with pink, when in perfection. Others put into commerce are Mrs. G. Carpenter, rosy-pink, with silvery reverse; Joseph Chamberlain, crimson, with golden reverse; Emily Towers, bright pink; Henry Weeks, bright crimson; W. Cursham, rosy-fawn, with a buff reverse; Lady Crawshaw, pearly white; Edith Dashwood, flesh pink; Madam R. Cadbury, creamy-white; Mrs. W. Cursham, soft pink; and Miss Alice Bryon, a lovely pearly-white. Both in form and tint, the white varieties raised by Mr. Weeks are well represented, for besides those already mentioned we must add Mrs. J. Beisant, white; and Little Nell, an engaging pure white variety of refined form. The rosy-mauve Mrs. Barkley made its debut last year and was well received. Other good things calling for recognition are George Luckman, rose-purple, with long spreading florets; Amy Ensoll, a very pretty shade of mauve; Hero of Omdurman, bright crimson, with a golden reverse; and Mrs. Coombes, rosy-mauve, of large size, and already frequent in collections.

All of the above are Japanese varieties, but Mr. Weeks has raised Annie Prevost, a white incurved Japanese form, and Miss Annie Hills, a true incurved sort with blush flowers.

Thus we see that Mr. Weeks has been very busy since he commenced raising new varieties, and is as enthusiastic as ever. It may be interesting to growers, and the public generally, to know that this year's seedlings promise to produce a better set for next year than any he has hitherto raised.

MR. W. WELLS.

No doubt many will recognise the accompanying portrait of Mr. W. Wells, of Messrs. Wells & Co., Earlswood Nurseries, Earlswood, Redhill, Surrey, who is a frequent exhibitor, and moves about the country while the shows are being held. He commenced growing Chrysanthemums as long ago as 1869, and for several years past has shown that he can produce grand samples of cultivation.

He has not hitherto devoted himself to the raising of new varieties of the Japanese and incurved types, though he has long had a name for the single varieties he has raised at the Earlswood Nurseries. Moreover, he has been instrumental in introducing a considerable number of Japanese varieties, which have had a large run of popular favour. He will always have what is known as a "Wells-Pockett" set to send out every year. An arrangement has been made between Mr. Wells and Mr. John Pockett, of Australia, whereby the former was to send out European novelties of striking character, and Mr. Pockett was to plant them out and save seed, Mr. Wells to have sole control of anything good which should appear amongst the seedlings. It takes two years for them to get acclimatised in this country, but the results are now showing themselves plainly, as the bulk of our readers know.

The Australian seedlings include John Pockett, Lord Ludlow, Mr. T. Carrington, Mrs. C. Bown

(market variety), Mrs. G. A. Hawes, Nellie Pockett, and Wattleblossom, the latter of which is proving grand this year. The same may be said of Lord Salisbury, Sir Redvers Buller, Sir J. W. Clarke, Silver Queen, Miss Ida Barwood, General Symons, and one or two others which will not be dropped for a few years to come. Besides the above put into commerce or about to be by Mr. Wells, he has also introduced many fine varieties of English raising, including G. J. Warren (sport from Mme. Carnot), Julia Scaramanga (seedling), Lady Hanham (sport from V. Morel), Hon. W. F. D. Smith (seedling), Mr. Louis Remy (sport), Mrs. J. W. Barks (sport), and Mrs. White Popham (seedling).

From the large list of single varieties raised by Mr. Wells himself, we select a dozen of the best. Daisy Brett is a pure white sport from Earlswood Beauty; Disraeli, a dwarf, free-flowering primrose variety; Earlswood Beauty, a primrose seedling from Purity; Earlswood Terra-Cotta, one of the most handsome of all singles; Treasre, a bright yellow, with small flowers, and admirable in bush form; and Salmon, the colour of which is well expressed in the name. Emily Wells, a pink variety, is well adapted for growing as a bush, and one of the best singles. The colour of Rose Pink and Purity is identified with the name. Very fine also are May Jeal, rosy-violet, lined with white; Poinsettia, a deep Indian red, forming the nearest approach to scarlet; and Miss M. Rennie, pale cream, edged with violet. The above dozen would form an admirable and choice set for any collection.

MR. N. MOLYNEUX.

The raisers of Chrysanthemums are not confined to London and its neighbourhood, but are pretty well distributed over the provinces as well. Mr. N. Molyneux is gardener to J. C. Garnier, Esq., Rookesbury Park, Fareham, Hampshire, and, like several others, has made his name prominent as a raiser during the past few years. He supplies one more witness to the fact that Chrysanthemum seed can be produced in this country, and that varieties of superior merit can be raised from it.

We remember noting some of his novelties in 1897 at the November exhibition of the National Chrysanthemum Society, and which were destined to come into much greater prominence in the following year, after they had practically been put into commerce as novelties. The 1898 novelties included Mary Molyneux, Princess Charles of Denmark, and Mrs. N. Molyneux, which, together with Jane Molyneux, John Miles, and Nellie Threlfall, his novelties for 1899, all appeared on the stands of Mr. J. Agate, Havant, Hants., when he secured the National Challenge Trophy of the National Chrysanthemum Society on November 8th, 1898.

Mary Molyneux is a Japanese variety of a soft and pleasing rosy-peach colour, and under good cultivation develops into blooms of handsome size. It has gained First-class Certificates at shows of the N.C.S., Bristol, Southampton, Portsmouth, Winchester, and Hull, and an Award of Merit from the R.H.S., the highest award for a florists' flower. It also gained the Silver Medal of the N.C.S. at the November show in 1897. Princess Charles of Denmark, being an incurved Japanese variety, the bronzy-red of the inner surface of the petals is mostly hidden, but the golden-amber reverse of the broad florets makes a lovely bloom when shown in perfection. The other novelty of 1898, to wit, Mrs. N. Molyneux, is a true incurved variety, of a beautiful ivory-white shade, and so large of its race that it makes a first-class bloom for the back row on the exhibition board.

The next set raised by Mr. Molyneux, included Jane Molyneux, a Japanese variety in its best form when taken on the second crown bud, for then the long, creamy-white petals are flat or strap-shaped. The plant is of vigorous constitution, and the bloom of grand proportions. It has been honoured with several First-class Certificates. Mrs. M. Simpson is a late and snowy-white Japanese variety, with gracefully disposed florets. Nellie S. Threlfall is a true incurved variety, a novelty for this year, with broad, pure white florets of good substance. John Miles is another acquisition to the incurved section, being of excellent build, and of a beautiful amber shade, more or less tinted with red. Two First-class Certificates have already been gained by it.

Mr. N. Molyneux has long been a cultivator, but

now he has entered the arena as a raiser we wish him much success. The accompanying portrait which we are pleased to place before our readers shows Mr. Molyneux as he is.

MR. NORMAN DAVIS.

As a raiser of Chrysanthemums the name of Mr. Norman Davis, Framfield, Uckfield, Sussex, may not leave such a mark as that of some of his fellow specialists, yet he has been a grower and introducer for a very lengthy period, and his work amongst the inner circle of experts has long been highly appreciated. The accompanying portrait will be recognised by not a few.

Though he has raised a large number of seedlings, comparatively few of them have been put into commerce, as he has always had a fixed determination never to distribute anything but what would add to his reputation. Hundreds of fairly good seedlings that would more than bear comparison with the long lists both of home and foreign raisers have been discarded rather than lower the standard idea of what novelties should be. Having acted as agent for many of the leading raisers of late years he has always been able to make a good selection without the aid of second-rate varieties either of his own or other people's raising. The seedlings he has distributed range over all the types of the Chrysanthemum.

Amongst early flowering sorts, such varieties as Blushing Bride, Miss Davis, Samuel Barlow, Mrs. A. J. Parker, and others have enjoyed a long popularity. In single varieties, of which he introduced the very first set, nearly every one has kept a place before the public. Some of the best are Eucharis, the finest white single; Framfield Beauty, rich crimson; Golden Star, clear yellow; Mrs. D. B. Crane, cerise-pink; Rose Perfection, Yellow Jacket, and Dolly Varden. Mr. Davis has also paid considerable attention to market varieties, a class in which he has had much success. The latest introduction to this class, namely, Klondike, is much liked in the market, and is the best yellow of its date and type.

Amongst exhibition varieties, perhaps the trio bearing his family name, to wit, Florence, Charles, and Madeline Davis will be remembered longer than the average introduction. The first named was the green Chrysanthemum of its day. Charles Davis is a sport from Vivian Morel, and has an interesting history. Mr. Davis, recognising the great value of the parent, determined, if possible, to produce a sport. Over 500 plants were grown and treated in various ways by experiment; and, strange to say, whether by sheer luck or direct result from any of these experiments it is impossible to say, but a sport was obtained. It was a root sport, that is, the whole plant was fixed. He at once set to work to get stock, and by the month of May following, 1,000 plants had been raised. Many were forced to flower to ensure that the whole stock was true. Half this stock was sold to another specialist, and the whole distributed within six months of the sport being obtained. Of the many thousands of plants raised from this stock we have never heard of a single plant reverting to the parent. With the single exception, perhaps, of Edwin Molyneux, no Chrysanthemum has had such a lengthy run of popularity.

Amongst the raisers for whom he has acted as distributor, Mr. Henry Weeks takes the first rank. Some of the very best introductions are Lady Byron, Mrs. H. Weeks, Henry Weeks, Mrs. Barkley, and Mrs. Coombes; but, as we have already hinted under the notice of the raiser, those to be introduced next spring will more than sustain Mr. Weeks' reputation. Several of them have received certificates, including Miss Alice Byron, Mrs. Cursham, Madame R. Cadbury, &c., the first and last named being magnificent whites.

MR. W. J. GODFREY.

Many will yet remember the commotion caused when Chrysanthemum Beauty of Exmouth first made its appearance in 1892. Being shown in excellent form it served as an introduction to its raiser, Mr. W. J. Godfrey, Exmouth, Devon, whose portrait we have pleasure in reproducing. The first dozen blooms of Beauty of Exmouth shown at the November exhibition of the N.C.S., were undoubtedly the sensation of the show, and would even yet be worthy of remark. Strange to say though not grown by an expert hand, no such blooms of this variety have since been seen.

Other fine Japanese varieties followed rapidly, including Pride of Exmouth, Mrs. Hume Long, Vicar of Exmouth, General Ruke, and Mrs. Tucker Pain,

which formed a set. Most of them are still well grown in many collections. Lady Northcote was sent out with others the following season, and has since been certificated by the N.C.S., but being late is not often found on the exhibition board.

Later on we have George Foster, and Mrs. Charles Birch, both of which have received First-class Certificates from the N.C.S., and have frequently been seen in good condition. Charles Page is also a beautiful deep yellow seedling of this batch, but unfortunately it is liable to damp.

The best of last year's set are undoubtedly Reginald Godfrey, and Queen of the Exe. The latter promises, in spite of the fact that good whites are numerous, to be a standard variety for some years.

Queen of the Earlies, and Barbara Forbes can be grown fit for the boards for early October shows, but their value lies in their fine qualities as early October flowering decorative varieties. The first-named is considered one of the best whites for market purposes, although, strange to say, it has not been certificated until its companion, which is considered by the raiser inferior, has received this honour from the N.C.S. The yellow sport, Golden Queen of the Earlies, which appeared in the Exmouth Nurseries and in many other collections, will prove a very popular decorative variety. Of other decorative varieties we have Ettie Mitchell (golden-yellow, shaded bronze), Mrs. E. Vere Freeman (crimson), and Miss Mary Godfrey, each in their way first-class. They have recently been shown in excellent condition at the R.H.S. and N.C.S. meetings.

The foregoing are all Japanese varieties, but amongst the true incurved sorts Mr. Godfrey has raised King of Orange, a late variety, which is oftentimes shown in perfect condition. King of the Yellows, is, perhaps, the richest coloured yellow in this section.

Of varieties for the introduction of which this raiser is responsible, mention must be made of Mutual Friend, Mrs. Maling Grant, Autumn Glory, Corsair, Elma, and Yellow Mogul, all Japs. of great merit. Every grower will recognise the value of Mutual Friend, for we find it in every collection we inspect.

Decorative varieties of his introduction are W. H. Rieman, a decided advance on W. H. Lincoln for a late yellow; Clinton Chalfont, one of the best market varieties; Black Hawk, the darkest crimson in existence, and one of the most striking; Mrs. Joseph Thompson, a good late white, although quite surpassed by other later introductions; and Madame Philip Rivoire, perhaps the best white for several purposes we have, the introduction of which is claimed by Mr. Godfrey. In this section we are assured something unusually good is promised for the coming winter.

CHRYSANTHEMUM MRS. WINGFIELD.

NOTWITHSTANDING the wide and keen popularity of the Japanese race of Chrysanthemums there is yet a large section of the British public who is interested and delighted with the decorative varieties, whose utility for decorations of almost any kind is self evident. Amongst the new varieties of last year Mrs. Wingfield has been well received, and is likely to enjoy a run of popularity for some years to come, as it supplies a pleasing colour that is by no means too plentiful in this section of the autumn flower. Some have described the flower as blush, but in our opinion there is much more colour in it than that term would convey, and we should describe it as clear, soft pink, a delicate colour truly, but beautifully refined. The accompanying illustration gives a good idea of a single plant and its habit of growth, the blooms being of good average size for the section, and freely produced; while the foliage is dark green, finely cut, and covers the stems almost to the pot. The variety was raised from seeds, and blooms naturally during the month of October. A First-class Certificate was awarded it by the National Chrysanthemum Society last autumn, and the Royal Horticultural Society likewise accorded it the highest award for a florists' flower, to wit, an Award of Merit. Its value for decorative purposes has been fully recognised. Messrs. R. & G. Cuthbert, Southgate Nursery, Southgate, Middlesex, N., are now putting it into commerce. They had a fine group of it at the Drill Hall meeting of the 24th ult.

HINTS FOR AMATEURS.

Plants for Spring Bedding.—We seem to have become used to mild weather even in November, a month in which frosts at one time could always be reckoned upon. Whether the winters are becoming milder through the instrumentality of mankind, by cultivating the land by draining, by planting, or from increased building construction, I need not here stop to debate. It is, however, a generally recognised fact that our British winters are much less severe than they were wont to be of yore; so that though hints upon spring bedding are somewhat late now, yet one sees the planters busy at this time, and many from previous pressure have as yet to start the work.

The ground having been cleared, and the bulbs most probably having been inserted, not a great

silver shrubs which it is needless here to enumerate. Private gardeners, of course, will have to carry out a different plan of bedding according to the desires or arrangements of the families they serve. For if a household travels abroad during winter, or stays at home during this period, and goes off during "the season," the "London season," it may be, it would be manifestly ridiculous to attempt any very elaborate plantings, either for winter effect in the former case or for spring display in the latter instance. In the arrangements of whatever combinations of plants are used, the rule of quiet effects should be followed. More especially should this be the case in small gardens where the same beds and borders are seen day after day for weeks on end. Bands and carpetings of dwarf plants such as have been named, should be placed over the surface, and the Hyacinths or Narcissus will be sufficient for top effect. A mixed grounding of variegated Arabis and Forget-me-nots, through which Tulips or Hyacinths pene-



CHRYSANTHEMUM MRS. WINGFIELD.

deal lies to be done. Violas, Pansies, Wallflowers, Stocks, Candytufts, Aubretias, Collinsias, Arabis, Forget-me-nots, double Daisies, Polyanthus, Cowslips, Primroses—"all the same only different"—Alyssums and Violets, together with several species or varieties of Saxifraga, Thymes, Gentiana acaulis and G. verna, Erica carnea, and some early flowering hardy annuals, may all be made service of for the purpose under consideration.

Besides planting up beds or borders in designs or patterns, there is also another style of spring "bedding" or planting for spring effect, which may be included under bedding, and that is the massing of bulbous plants upon the grass in the near-hand meadows under the deciduous trees, and in front of shrubberies. But remarks upon this method of spring bedding have previously been detailed.

Then again we have what may be termed winter bedding. By this style we furnish the beds with dwarf shrubs such as Cupressus, Retinosporas, Euonymuses, and any amount of green, golden, or

trate and grow up with a blue edge of Violas and Sedum glaucum, compose a fine bed. Bold masses of Wallflowers, the bold red and yellow in lines, or properly mixed with a broad and thick edging of Violas, Forget-me-nots, and crimson double Daisies, make a very cheery and reliable display. The notes of numerous arrangements to be seen in the first-class London parks each spring and summer may be found in the pages of THE GARDENING WORLD in the issues for May and thereabouts, and again during the autumn issues. By reference to these any one should find described designs suitable and to their taste.

Auriculas.—Among the gems of spring flowering dwarf plants we must class these, the popularly termed Dusty Millers. A bed of Auriculas is a sight to behold during the month of May, and their fragrance is not the least of their attractions. It would hardly be fair to recommend the choice named Alpine Auriculas to a novice in plant culture, for though they are exquisitely neat and sweet, their

culture to produce compensatory plants is rather peculiar. The common garden or florists' Auriculas are simple to manage. Once the seedlings are secured their progressive development in cold frames, and thence, when of decent size, into open beds, is only a matter of time and of care in watering and loosening the soil around them. Crock pans or boxes and cover the bottom layer with rough material. Half fill the receptacles with a coarser compost than that which you finish off with, making the whole of the material moderately firm. Sow the seeds evenly and thinly over the level and refined surface, merely covering them with the finest of soil. Spring time is the best period for this work, as then the plants have the summer before them, and are under favourable circumstances fit for planting by October of the same year.

Chrysanthemums.—Intending purchasers of the newer varieties, or those in search of the older favourites which still are in demand, will have opportunities enough now and in the near future. There are some very fine Japanese novelties on the boards for the first time this year, accounts of which are appearing in the "Chrysanthemum Notes" in the pages of THE GARDENING WORLD, describing what is to be seen in various nursery and other collections. The lists of hardy or early flowering decorative varieties, which are far the most recommendable to amateur growers with limited space at their disposal, have been considerably augmented. A good collection of these should be in every garden, for cut flowers in any quantity cannot be secured from any other class of flowering plants at this season. A new form of O. J. Quintus has been sent out. O. J. Quintus is itself one of the most beautiful varieties of its class. The colour is lavender-pink, although descriptions of it vary. Souvenir d'une Petite Amie is a white variety of beautifully refined form. The creamy Lady Selborne adds a third variety and another distinct and pretty colour. Mytchett White and Market White are both very fine. Elaine, Peter the Great and Barbara Hare, though now to be reckoned among the ancients, are still of first-rate merit for market work and for the modest amateurs. But further notes must be left over for the present.

Carnations.—The young Malmaison varieties are now doing well after the potting up, being in the cool span-roofed pits. The stages are covered with fine cinders, and each day, unless the weather is dull and muggy, or foggy, they are watered overhead from a fine-rosed can. Do not let this operation be a virtual drenching but rather a thorough dewing. It is almost all they require. Plentiful ventilation and a perfectly sweet atmosphere must be constantly maintained. The matured plants, *i. e.*, those which are for the spring flowering, must be watchfully attended to as regards airing, watering—of which they require infrequent but thorough supplies—cleaning off the least particle of decaying leaf, and fumigating or dipping them according to taste and the need. Many growers who are troubled with Carnation Rust keep their plants, but particularly the foliage, as dry as possible all the winter.

Bouvardias are a class of plants very subject to insect infestation. Fumigating with Richard's XL ALL Fumigator is by far the most satisfactory method for suppressing or exterminating all the race of "flies" which lodge upon them. Tie up each of the flowering shoots with the finest of split matting, each string depending from a central stake.

Miscellaneous Work.—The present time, so long as fine weather is with us, must be made the most of to get into place all outdoor kinds of hardy plants, shrubs or trees. Digging and clearing up of all wall trees and climbers, odd corners in all the parts of the garden, and pruning, may soon be fully proceeded with. Root-pruning, of course, can at once, if not previously, be accomplished. In the houses plant-cleaning, staking, pruning and refixing or arranging the plants will occupy time. Batches of plants must be looked over, and all decaying, mouldy, or withered leaves and stems be taken off. Potting up bulbs and young batches of advancing plants also must be attended to.—*Beacon.*

Sweet Sultan.—This is one of the best little annuals we have for the summer garden. It grows well on heavy calcareous soils and equally well in light humic ones. It should be sown thinly in drills in March and the plants thinned out when large enough, because they do not take kindly to shifting about.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Suitable Screen.—*Scottie:* It is well to be particular in fixing and planning that which shall be more or less permanent and of frequent vision. As a break and screen to the Raspberry and vegetable ground, and as an ornament at the garden door, what could be more adaptable than a well planned rock-work? By following the hints which have been already furnished on the making and planting of rockeries, you need be at no loss. Any sort of stone will do, and when covered over with creeping Stonecrops, Saxifragas, Thymes, Ericas, ornamental grasses, and the host of suitable plants previously referred to, we can picture an effective and pleasurable feature to "grace the eyes" "when admitting through the doorway," as you yourself have written.

The Price of Bulbs.—*Dan Stewart, Donnybrook:* Our answer could be, "it all depends"; which of course it does. A very great deal depends upon whom you buy from. A twenty-one shilling (21s.) collection would very likely be sufficient for you, as this would include over 1,100 bulbs embracing Tulips, Narcissus, Hyacinths, Crocuses, Snowdrops, Irises, both Spanish and English, single Jonquils, Squills, and other bulbs. You could get from the bulb dealers—see advertisement pages of this paper—half, or a quarter, or even a half-crown's worth of assorted kinds in commensurate ratio of reduction of number according to the depreciation in price.

Lilium rubellum.—*Admirer, Bath:* Everyone speaks in praise of this beautiful new Lilium. We, as with many more, have had little experience in its culture, because so far the plant has been delicate, and the numerous importations have not been very successful. Hints upon its likes and dislikes, as you no doubt have noticed before now, appeared in our issue for October 14th, from the pen of one most competent to judge and advise.

Gumming in Peach Trees.—*Edina:* "Doctors differ," and for a long time pomologists had various interpretations to the causes creating the disease of gumming. The accepted explanation so far is that a fungus known as *Coryneum Beijerinckii*, whose mycelium of penetrating thread-like hyphae introduce or set up fermentation which transforms the tissues into a gummy material which exudes from the stems. Injuries to the bark, gross feeding, or too rampant root growth are strong incentives to gumming. Root pruning and very careful cutting out of the infected parts of the shoots and stems greatly tend to counteract the progress or establishment of the disease. Application of Bordeaux mixture to the gummy parts is of much service, as this eradicates the fungus.

The Vine Border.—*Edina:* For early vineries indoor borders are recommended. This is because the whole system of the root area is supposed to be under more thorough control. Where outdoor borders already exist to the early Vine houses you would do well to enquire about the condition of the roots therein. We would go so far as to suggest a concrete base. This would let you have entire control, which is one of the most necessary points in Vine culture. At this season of the year dress the outside border with leaves 2 ft. deep, over which lay a layer of straw, and fasten these by throwing spadefuls of soil here and there all over. This preserves a certain degree of warmth, and saves the border from fluctuations in temperature, and also retains a suitable degree of moisture without drenchings. We would refer you to the remarks of "H. D." on Peach Borders in THE GARDENING WORLD, October 28th.

Aspidistra Flower.—*Botanist:* The flowers are quite insignificant from a decorative point of view. Botanically they are rather curious, however. The stigma over-rides and conceals the stamens or anther heads very effectively. In shape the blooms are something like a royal crown, of a creamy and pale magenta combination, not larger than a shilling piece, and borne on very short stems, which only raise them to the soil surface. Seeds from this

plant are extremely rare. Snails of a minute variety are said to fertilise them, but personally we should prefer to ascribe this process to the little ants which trot all over them. Plants which have been growing freely, but which are latterly starved, flower the most profusely.

Seaweed as Manure.—*Ipswich:* What you see is a species of Fucus, *F. vesiculosus*, found in very large quantities on all our coasts. Seaweed of various kinds are largely used to our knowledge by the Ayrshire farmers for ploughing into their very light and sandy soils. This Fucus would be beneficial for light, hungry soils, used in moderate quantities, say twenty tons an acre, but would not be so acceptable on heavy clays, owing to the large quantity of sodium carbonate contained. The bladders give the plants buoyancy. Studied under the microscope it is most interesting.

Kitchen Garden Calendar.

PITS and frames will now be in great request for the protection and forwarding of many vegetables, and as the weather during the present month is usually dull and foggy special care will be needed in the ventilation and watering of the contents or damping off will be the result. French Beans that are in bloom should have a little air both night and day, but not sufficient to lower the temperature below 55° at night, or the flowers will not set freely. When the weather is fine and warm a little more air may be admitted in the daytime. We may soon expect a change to frost, therefore every precaution should be taken to prevent any sudden lowering of the temperature in the pits. Another sowing of Beans should now be made to succeed those that are already in an advanced state.

A few Potato sets should be selected, put on their ends in shallow boxes, and placed in a gentle heat to give them a start previous to planting on hotbeds or in pits, as much time and space will be saved by so doing. The sets should be of an even size that all may grow alike when planted out.

ASPARAGUS FORCING will by this be in full swing. Roots that were prepared as previously advised will start readily into growth with a gentle warmth. It is a great mistake to employ too strong a heat in forcing this vegetable, for if we take notice the finest growths are made before the weather gets too hot. Where hotbeds are employed for the production of Asparagus care must be taken not to have them too warm, a bottom heat of from 60° to 65° being ample. Air must be admitted on all favourable occasions to give flavour to the growth. Whenever a bed shows signs of becoming exhausted have another one prepared and planted in this way, so that a constant supply may be kept up.

Beds should now be prepared for sowing Radishes, Carrots, Onions and the like, that they may be in readiness when required. None of these require much heat, but as winter is approaching it will be necessary to keep the soil warm enough to maintain a steady growth. Continue to introduce Rhubarb, Seakale, Chicory and Endive into a gentle heat, as the other supplies get forward. The latter will be more in demand now that Lettuce is not so good, and Chicory is always useful when well blanched. Small salads too, such as Mustard and Cress, Chervil and young Onions will be needed.

PEAS.—In some places where glass is limited a sowing of these is made on a warm border in this month; but as our winters and springs are so treacherous no reliance can be placed on these sowings for the production of an early crop; still, where such things are expected the gardener must use every effort to have them as early as his neighbours. Sometimes very favourable results are obtained; therefore it is well worth running the risk of loss of seed to try and get a crop. It is, however, not advisable to sow too early as the plants get very forward and should severe weather in March visit us many of the plants are killed. Where convenience can be found for sowing in pots we do not advise sowing in the open ground at the present season; but if sowings are made choose some of the hardier kinds that will withstand the frost. Round varieties have now gone out of date for private establishments as there are so many good early kinds of superior flavour, such as William Hurst, Exonian, &c.

BROAD BEANS too, are sown at this time of the year, the Longpod section and Early Mazagan finding most favour. These should have an exposed situation, for when sown on a warm border they often get too forward, and are cut down by the late spring frosts. In all the southern counties the end of the present month will be quite soon enough for putting in the seed, but in the more northern parts of the kingdom about the twentieth will be found a good time.

GENERAL WORK.—While the weather is open proceed with trenching all vacant ground, but where stiff avoid getting on it when too wet as more harm is often done when in this condition than there is good, as the soil becomes pasty and does not work down so readily in spring. During wet and unfavourable weather attend to roots that have been stored such as Onions, Potatos, Shallots, Garlic, &c. Labels should also be made ready for use at the time of sowing; clip and trim up all hedges and make good any that have become shabby as these add much to the appearance of a place, and show at once that the gardener takes an interest in it. Box edgings may also be planted now and any drains that require cleaning out should be done that the water may get away freely. Turf should be dug and stocked ready for use later on, for if allowed to get too wet there will be far more trouble and expense in carting. Attend to all water tanks and have them put in order ready for the storage of water for next season's use.—*Kitchen Gardener.*

CHRYSANTHEMUM SHOWS.

NATIONAL CHRYSANTHEMUM.—Nov. 7th, 8th and 9th.

THE morning of the great November show of the National Chrysanthemum Society opened clear and dry making it the finest day we have had for some time, so that visitors were crowding in from an early hour of the day. The show itself was finer than ever and competition remarkably keen in all the larger classes. The blooms were of enormous dimensions, both Japanese and incurved; indeed we have never seen them so large, nor the incurved blooms in such abundance. All were agreed that it was a grand show.

The national competition of Chrysanthemum and horticultural societies was again in full force, exciting a great amount of attention from visitors. The Challenge Trophy and £10 as the first award was secured by the Portsmouth and District Horticultural Society. The blooms were all supplied by Mr. James Agate and Mr. C. Penfold, and the stands certainly did them credit. Magnificent blooms were Florence Molyneux, Mrs. Mease, Miss E. Pilkington, Mons. Hoste, Modesto, Florence Penford, Percy Penford, Vivian Morel, Mrs. J. Lewis, M. Pankoucke, Mdme. Carnot, M. H. Tucker, The Graphic, Mary Molyneux, M. Chénon de Léché, Pride of Madford, Nellie Pockett, President Nonin, Lady Hanham and C. Davis. Amongst the incurved varieties were grand blooms of Lady Isabel, Globed'Or, Mrs. N. Molyneux, C. H. Curtis, a seedling, Violet Foster, Ernest Cannell, Triomphe d'Eve, Lord Alcester, Golden Gem, Emile Nonin, Princess of Wales, Ma Perfection and Mrs. S. Coleman.

The second prize was taken by the Sevenoaks and West Kent Gardeners and Amateurs Society who had a very fine exhibit indeed. The incurved blooms were of great size, but several were not so neat in form as those of the first prize lot. The third award went to the Bromley and District Chrysanthemum Society, five members showing blooms in the exhibit, which was really good. There were five very creditable entries.

Great interest also centred in the class for thirty-six incurved Japanese blooms, the competition of which was so close that the pointing was exactly the same in both the first and second prize lots, the finer arrangement of the blooms alone securing the Holmes Memorial Challenge Cup and £10 prize for Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead. He had magnificent blooms of Mdme. Ferlat, Mrs. Gerald Williams, Lady Isabel, Ma Perfection, Ialine, the green Mdme. E. Roger, Duchess of Fife, Yvonne Desblanc, Countess of Warwick, J. Agate, Mdme. Verneuil, Ernest Cannell, L. M. de la Drome, Lord Alcester, Violet Tomlin, Pearl Palace, D. B. Crane, Bonnie

Dundee and Princess of Wales, the latter seven being in the front line. The second place was well taken by Mr. J. Hunt, gardener to Pantia Ralli, Esq., Ashted Park, Epsom, Surrey, who had an enormous bloom of Duchess of Fife and some others. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, was a very good third; and Mr. Walter Jinks, gardener to Edgar Bruce, Esq., The Beeches, Walton-on-Thames, came in fourth with a nice lot.

The leading award (the Challenge Cup and £10) for forty-eight Japanese blooms was taken by Mr. F. Vallis, Bromham Fruit Farm, Bromham, Chippenham, who, in the parlance of the crowd of gardeners inspecting the blooms, had a "clinkin' lot." The blooms included magnificent samples of G. J. Warren, E. Molyneux, Pride of Exmouth, Australie, Nellie Pockett, Swanley Giant, Lady Hanham, Mons. Chénon de Léché, Mrs. J. Lewis, Oceana, Vivian Morel and Mutual Friend, all on one stand. Others were Edith Tabor, Pride of Madford, Mdme. J. Bruant, Mrs. Barkley, Mdme. P. Rivoire, Mr. Louis Ramy, Phoebe, Suzie, G. W. Palmer, Gustave Henri, Le Grand Dragon, Simplicity, Mrs. Mease and Mrs. Coombes.

The second prize went to Mr. J. W. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, Mortimer, who had a grand lot indeed. The third prize was taken by Mr. W. H. Lees, whose exhibit was really fine. Mr. R. Kenyon, gardener to A. F. Hills, Esq., Monkham, Woodford Green, came in fourth with a very fine lot that would have made a good first if the others had not been present. There were six entries.

Mr. J. W. McHattie took the lead in the class for twenty-four Japanese blooms, and taking the lead in three or four other big classes thus proved himself one of the most successful competitors in the show. He had grand blooms of Mrs. W. Mease, E. Tabor, Soleil d'Octobre, Mdme. Carnot, Duke of Wellington, Australian Gold, Mrs. H. Weeks, G. J. Warren, Le Grand Dragon, &c. Mr. W. Meredith, gardener to Geo. Wilder, Esq., Stanstead Park, Emsworth, Sussex, was a good second, and Mr. H. Perkins, gardener to the Hon. W. F. D. Smith, Greenlands, Henley-on-Thames, well won the third place.

In Class XI., for twelve incurved blooms, distinct, for which a valuable marble clock was awarded by Messrs. Wm. Wood & Son, Ltd., Wood Green, London, the first prize went to the Hon. Earl Spencer (gardener, Mr. Lucas Coh), Althorpe Park, Northampton, whose lot was of really high merit. Mrs. Kingston, Lord Alcester, Ma Perfection, Chas. H. Curtis, Countess of Warwick, Topaze Orientale, Mrs. N. Molyneux, Violet Tomlin, were all seen in perfection.

Mr. F. G. Foster, Brockhampton Nurseries, Havant, came in as a very good second. The blooms were, we admit, smaller, but none the less very sweet and good. Chas. H. Curtis, King of the Yellows, Dorothy Foster, Mr. H. J. Jones, Lord Alcester, and others were in capital style. Mr. C. Penford, gardener to Sir F. Fitzwagram, Leigh Park, Havant, was a fair third. His Mdme. Darrier, Major Bonaffin, Miss D. Foster, &c., were splendid. Mr. Walter King, gardener to Jeremiah Colman, Esq., Gatton Park, Reigate, had some very sweet and well built blooms in his fourth prize stand.

In the open class for twenty-four incurved blooms, distinct, Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, came first, having perfect samples of Duchess of Fife, Hanwell Glory, Miss V. Foster, Lucy Kendall, Ma Perfection, Mrs. S. Coleman, Mrs. R. C. Kingston, Mdme. E. Roger, and King of the Yellows. Mr. G. J. Hunt, gardener to Pantia Ralli, Esq., Ashted Park, Epsom, Surrey, was a capital second. His Empress of India, J. Agate, Globe d'Or, Chas. H. Curtis, Hanwell Glory, Mona, W. C. Egan, John Lambert, and Bonnie Dundee were very sweet.

For six incurved blooms of one variety only, the first prize fell to Mr. W. Higgs, gardener to J. B. Hankey, Esq., who had great samples of Duchess of Fife. "They are all right," was the general opinion of all who saw them. Mr. G. J. Hunt came second with blooms of the same variety. Mr. Thos. Parkins, gardener to F. Ward, Esq., 34, Bisham Gardens, Highgate, was a very fine third in this class, having good types of Globe d'Or. Mr. S. Foster, of Hendon, was fourth.

For six Japanese incurved blooms distinct, Mr. J. McHattie, gardener to the Duke of Wellington,

Strathfieldsaye, Mortimer, came first. His blooms were large, of good substance, brilliant, and well-shaped. Especially good was Duke of Wellington, President Bevan, Prefect Robert, N.C.S. Jubilee, Lady Byron, Australie and others. The second prize went to Mr. H. Perkins, gardener to the Right Hon. W. F. D. Smith, M.P., Greenlands, Henley-on-Thames, who had Australian Gold, President Bevan, Mons. Geraud, etc., in Art style. Mr. M. L. Bastin, gardener to Alex. Henderson, Esq., Bascot Park, Faringdon, Berks., came third; and Mr. C. Cox, fourth.

Mr. J. McHattie was first in class 13 for the twelve vases of specimen Japanese Chrysanthemums distinct. Each vase had to contain five blooms, of one variety, the vases themselves being 18 in. in height, with not less than 6 in. of stem above the vases. Chrysanthemum foliage was allowed or stipulated for, this being arranged by having special stems inserted. Mr. Jones, of Ryecroft, Hither Green, Lewisham, S.E., gave the first prize amounting to £20, and the Society's Gold Medal. Mr. McHattie's blooms were splendid samples of their kinds, including Mrs. Coombes, Phoebe, Mons. Chénon de Leche, Mdme. Carnot, Oceana, Mrs. J. Lewis, Australie, and others. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, Barnet, came a hard second, his blooms of Mdme. Carnot, Chénon de Leche, Phoebe, Australie, etc., being very fine. Mr. J. Spink, Summit Road Nursery, Walthamstow, was a very fair third, having splendid Marie Calvat, Mrs. G. W. Palmer, R. Hooper Pearson, etc. In this entry there were nine competitors each with a dozen vases of five blooms apiece, so that we had here alone five hundred and forty magnificent blooms. The second prize amounted to £10 and a Silver gilt Medal, and the third prize £5, with a large Silver Medal. For a specimen incurved pot plant, Mr. J. Brooks, gardener to W. Reynolds, Esq., The Grove, Highgate, was the leader with a very fine C. H. Curtis; Mr. E. Easey, gardener to F. Bishop, Esq., 25, Highbury New Park, N., was second with Mons. Desblancs.

For six trained specimens of pompons, Mr. Tom Stone, gardener to R. A. Cochrane, Esq., The Downs, St. Neots, Hunts., was first; and Mr. F. Gilks, Court Green, Streatham, second.

Mr. J. Brooks was first for six trained Japanese specimens; Mr. F. E. Wraight, Essex Lodge, Upper Clapton, second.

AMATEURS' CLASSES. DIVISION A.

CUT BLOOMS.—The first prize for a dozen distinct Japanese blooms went to Mr. D. Ager, gardener to Milton Bode, Esq., Dove House, Bath Road, Reading, whose Vivian Morel, Lady Ridgeway, Phoebe, Mdme. Carnot, and others were very fine. Mr. A. Page, gardener to A. L. Reynolds, Esq., Ravenscroft, Moss Hall Grove, North Finchley, was an able second.

The Class for twenty-four Japanese blooms distinct was well filled, Mr. J. W. McHattie here again showing up holdly by taking off the first award, amounting to £5. The whole stand was of superior merit the best probably being Edith Tabor, Mrs. W. Mease, Duke of Wellington, Mrs. Barks, Mrs. H. Weeks, &c.; Mr. W. Meredith, gardener to Geo. Wilder, Esq., Stanstead Park, Emsworth, Sussex, came second, but the blooms here were in no way great, Oceana, Mdme. G. Henry, Charles Davis, Mrs. Mease, &c., being very fine all the same. Mr. H. Perkins, was a very good second, having some very fine Mrs. H. Weeks, Mary Molyneux, Australian Gold, Silver Queen, &c. Mr. C. Cox, gardener, to J. Trotter, Esq., Brikendon Grange, Hertford, was third, and Mr. G. H. Clack, Barton Court, Kintbury, Berks, was fourth.

In Class XXVII. for twelve large reflexed Japanese blooms, Mr. T. Caryer, gardener to A. G. Messner, Esq., Aldenholme, Weybridge, was first, King of Crimson, Cloth of Gold, Dorothy Gibson, Mrs. Forsyth, &c., being extra good. Mr. J. Barrance, gardener to G. Taylor, Esq., Hadley Bourne, Barnet, was a fair second, and Mr. J. Maule, The Mount-Hadley, Barnet, third.

For twelve large Anemone blooms, Mr. Wm. King, gardener to James Warren, Esq., Capel House, Waltham Cross, was first with some splendid blooms, M. Chas. Lehocqz, Descartes, Lady Margaret, Ernest Callie, Gladys Spaulding, M. R. Owen, and others, were extra good. Mr. A. Ires, gardener,

to E. C. Jukes, Esq., Hadley Lodge, Barnet, was a fair second, while Mr. John Justie, The Nest, Kempsey, was third.

Mr. W. King was first in Class XXVIII., for twenty-four large flowered Anemone bloomed varieties, his stand including Surprise, Empress, Mrs. Caterer, Mrs. Levin, Mrs. P. R. Dunn, and John Bunyan in simply grand style. The second prize fell to Mr. Ires, and the third to Mr. J. Maule.

OPEN CLASSES.—For a group of Chrysanthemums in pots, any varieties mingled with foliage arranged for effect, and to be 12 ft. in diameter, the first prize fell to Mr. J. Spink, Summit Road Nursery, Walthamstow. The plants in the first place were of superior merit, of first merit, in fact, and the mode of arrangement and the graceful Eulalia shoots, which were so effectively used, combined to make this the group. Mr. W. Howe, gardener to Sir Henry Tate, Bart., Park Hill, Streatham Common, was a very good second. The blooms here were decidedly behind the first prize lot, but these were very tastefully blended. Mr. A. Hatton, gardener to Mrs. E. Swanzy, The Quarry, Sevenoaks, came in third, showing a capital lot of plants and arranging them in Art style. Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley Hall, Kent, was fourth. This stand greatly lacked the relieving effect got from the grasses.

SPECIMEN PLANTS.—Mr. Geo. Whitehorse, gardener to S. Nicholls, Esq., Forest Lodge, Walthamstow, was first with four huge specimens, which brought forth the remark from not a few, "Say, guv'nur, aint they grand?" Mr. Tom Stone was a capital second, his plants being of great size and perfection. Some of the specimens were so much as 6 yds. to 7 yds. round. Mr. F. Gilks was third. For four standard trained specimens, Mr. Geo. Whitehorse was first again, having some lovely plants. Mr. E. Easy was second; and Mr. F. Gilks, third. The first prize for six standard trained varieties went to F. E. Wraight, Esq., Essex Lodge, Upper Clapton.

A Silver Gilt Medal was won by Miss Easterbrook, The Briars, Fawkham, Kent, for a hand-basket of berries and foliage. Mrs. W. Taylor, The Gardens, Tewkesbury Lodge, Forest Hill, received a Silver Medal for her arrangement. Mr. H. Walters, Eastwell, Ashford, Kent, had a Bronze Medal.

Miss C. B. Cole, The Vineyards, Feltham, was deservedly placed first for her epergne of Chrysanthemums and foliage. Mr. A. Meridew, 308, Southampton Street, Camberwell, S.E., was second. Mr. W. Green, Harold Wood, Essex, came third.

Mr. Geo. Melville, gardener to Lord Chesham, was first in Class XXV. for twelve Japanese blooms, distinct, having beautiful specimens. The second prize went to Mr. J. W. Roberts, Clonard, Harrow Weald-on-Stanmore.

Mr. A. Page, Ravenscroft Moss Hall Grove, North Finchley, was first for eighteen Japs., distinct. Mr. J. Acock, Stonleigh, Sutton, Surrey, was a good second.

The classes for single varieties of Japs. and other sections were well filled, and good blooms were the order of things.

VEGETABLE COMPETITION.—Mr. E. Beckett, gardener to Lord Aldenham, Elstree, won for six Leeks. Mr. R. Lye, Sydmonton Court, Newbury, was second, and Mr. H. Folkes, Kempstead, third. Mr. R. Bassil, Shooter's Hill House, Pangbourne, was the best shower of Leeks. Mr. W. J. Empson, Amphill House, was second, and Mr. E. Beckett, third. Mr. E. Beckett won for Parsnips. Mr. W. J. Empson was second, and H. Folkes, third.

Mr. A. G. Gentle was first for Carrots, Mr. James Hall, Wells, Somerset, being second. Mr. C. Brown, Langley, won for Brussels Sprouts.

It may here be mentioned that Mr. Beckett had won for a second year in succession Mr. Robert Sydenham's Silver Challenge Cup, valued at £15 15s. Mr. Sydenham also presented all the prizes in the above noted vegetable competitions. Mr. E. Beckett won for Onions, and Mr. Empson for Cauliflowers.

Mr. Beckett, of Elstree, won for the collection of vegetables, the prizes for which were here awarded by Webb & Sons, the collections being grown from their seeds. Mr. A. Basile, of Weybridge, came second. Mr. R. Lye, of Newbury, was a splendid third.

MISCELLANEOUS EXHIBITS.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., quite surpassed himself in the greatest of his artistic conceptions. The general plan of the arrangement was that of tall uprising vases, the tallest of course at the back and the shorter ones in the front. Plenty of space was given to each one so that the due proportions and good effect could be perfectly judged and seen to the best. Each vase contained only one distinctly coloured variety, the colours of these having been well chosen and blended. Beautiful baskets occupied the frontmost part, these being likewise filled with blooms on long stalks and loosely. Highly coloured Ferns and other foliage besides that of the softer green foliage added its no mean quota to heighten the grand completed effect. Maidenhair Fern in pots were used as a fine edging. Some of the prominent varieties shown, of which the blooms were splendid samples, were Miss Edith Pilkington, Simplicity, Lionel Humphrey, Mrs. W. Seward, Mrs. W. Mease, R. Hooper Pearson, Vicar of Leatherhead, Elsie Brown, and Florence Molyneux. (Large Gold Medal.)

Messrs. John Laing & Sons, Forest Hill and Catford, Kent, had a very prominent erection in the centre of the area. This consisted of the large fountain usually seen draped and hidden, but in this case though draped it was not hidden, indeed, in beauty greatly increased. Palms and foliage as well as Chrysanthemum plants were used in the higher tiers of the fountain structure, Ivy being employed as drapery to the edge of the higher basin. Tall Chrysanthemums in pots occupied the lower or basement part, while around the edge and at the prominences other very showy bush-grown plants, Solanums, Ferns, Pernettyas, &c., were compactly yet tastefully placed.

Messrs. B. S. Williams & Son, Upper Holloway, London, came out strongly in Begonia, Gloire de Lorraine, Carnations in pots, Ericas, Orange trees in pots, Orchids in great variety, and a fine representation of foliage plants. The Begonias were simply marvels of culture, being great in size as also great in quality; for the brilliance, or rather one should say the depth of colour was most striking. Of Orchids, the Cypripedium sanderiana, C. harrisi, C. Thortonii, C. insignis Wallacei, and others, besides some fine Cattleyas and Vandas were well shown. The arrangement of the stock left nothing to be desired. (Small Gold Medal.)

Mr. Norman Davis, Framfield, Sussex, had a magnificently fine group of Chrysanthemums in vases and tall glass epergnes, if the title is allowable for such as were used. The great massive blooms of Chrysanthemums, over which arched the fine Cycad fronds and interspersed among which were coppery sprays of Beech, &c., made arrangements which were lovely to a high degree. The blooms all over were of great size and perfection being relieved from below by the deeper shapes of falling Smilax and Fern fronds, also heightened in contrast effect by the use of coloured foliage plants. Of the varieties staged may be mentioned Mrs. Coombes, S. C. Probin, Mdme. Carnot, Mrs. Cursham, Miss T. Hills, Lady F. Osborne, Miss Maud Douglas, &c. (Large Gold Medal.)

Messrs. Isaac House & Son, Coombe Nurseries, Westbury-on-Trym, Bristol, had a much admired table of various varieties of Violets in tall, clear glass vessels. It goes without saying that these were much admired by the lady visitors, and of course, the male element as well. Italia, Victoria, La France, Louise, and others were there shown. (Bronze Medal.)

Mr. John Green, Norfolk Nurseries, Dereham, staged a very large collection of cut blooms and some handsome little foliage plants. The centre-piece was picked out in circular fashion by a group of the green Mdme. E. Rogers which, of course, created in itself much attention from the visitors. Fine blooms of Lady Hanham, Edith Tabor, Nellie Pockett and Lady Ridgeway were shown. Groups or vases rather of decorative varieties some of which are hardy and suitable for outdoor decoration, were effectively staged toward the back and made a bright screen for those in front. The whole stock was exceedingly fine. (Silver Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, adopted rather a new style of staging, but one which commended itself much to the concourse of visitors. The greatest pains were taken in having everything exact, for in the exactitude of the blooms lay the

great finished effect. Bands of one colour were shown obliquely, and all were studied for harmony. (Large Gold Medal.)

Cannas in 5-in. pots and bearing strong spikes of bloom were banked up at the upper end of the stage and formed a bright adjunct. But after gazing until one thought there was no further appreciation left in the heart, two steps took us to the reverse side of the stage and here was such a glorious glow of salmon, pink, rose, crimson, scarlet, magenta, lavender, white, &c., &c., bouquets of zonal Pelargonium blooms. These were roomily placed and well set up, each having a fine soft green interspersed of Maidenhair Ferns in pots. The centre was beautifully relieved by the Palms.

The Permanent Nitrate of Soda Company, Hadlow, in Kent, under the direction of Dr. Bernard Dyer, showed a fine collection of fruits and vegetables, whose perfection went a long way to show how much the effect of different quantities of nitrate does in the growth of them. The results were highly satisfactory.

Messrs. Cutbush & Son, Highgate, London, N., had a magnificent though rather high and flat group of flowering and foliage plants. Salvias, Carnations, Chrysanthemums, Roman Hyacinths, Hydrangeas, Bouvardias, and a splendid central conical mound of Begonia Gloire de Lorraine, together with numerous smaller groups of Ericas, Lily of the Valley, Statice, and Orange plants were most pleasingly arrayed. The whole were erected above a rounding of Pteris and Maidenhair Ferns. The whole stock of the stuff, which was noted as very great, was everywhere of the very best, having all the qualities which are so much sought after. (Small Gold Medal.)

Messrs. Thomas S. Ware, Ltd., Hale Farm Nurseries, Tottenham, had a small but very neat, sweet and select group of cut blooms of Chrysanthemums. The incurved blooms shown in this stand were of very fine colour. The old Snowdrop was seen in fine form and purity, while of the large blooming sorts, such as President Bevan, Sir H. Kitchener, Duchess of Fife, Lord Cromer, Rustique, &c., were simply superb in their brilliant quality of hue and fineness of form, &c. (Bronze Medal.)

Mr. John Forbes, Hawick, N.B., showed sweet little plants of Caledonia, the new white sport from Begonia Gloire de Lorraine.

Mr. G. W. Piper, Uckfield, Sussex, is still able to show some splendid blooms of his Tea Rose Sunrise, still in fine form.

Mr. J. Agate, Havant, showed the new Japanese variety of Chrysanthemum, Florence Molyneux, great, monstrous white Jap. incurved blooms of the very highest quality, and grown by Mr. Molyneux himself. (Silver Medal.)

Messrs. Hawe's patent watering cans were in evidence, and as before shown, they represent fine workmanship and strong make. There is great diversity of kinds to choose from so that no one need have any difficulty in being supplied from this source.

Mr. Sam Deard's coil and other boilers were also on show, the serviceableness of these being well-known.

Messrs. D. Dowell and Son, Ravenscourt Avenue, Hammersmith, W., showed a large assortment of pots, pans, baskets, mats, stakes, and the many other garden sundries for which they are well-known. They also showed a lot of sample tins of the Ohlendorff chemical manures.

Mr. C. E. Haydon, Avenue Road, Southgate, London, N., showed samples of their patent broom holder.

Mr. Robert Owen, Floral Nurseries, Castle Hill, Maidenhead, set up a handsome and attractive group of Chrysanthemums, mostly seedlings of his own raising. The group was 40 ft. by 7 ft., being the largest that has ever been exhibited by the firm. At either end was a table of cut blooms and flowers with their own foliage, and in the middle a group of plants was staged on the floor. Many of the blooms were of splendid size, and very varied in colour, but being unnamed seedlings we cannot record them beyond the fact that many of them are of good exhibition size. On the boards were fine blooms of Mrs. W. Smith, Mutual Friend, Australie, Marie Calvat, Lord Ludlow, etc. Incurved blooms included six seedlings of splendid size. Palms and fine foliage were freely used.

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, West Norwood, London, set up a conical group of Chrysanthemums, in-

cluding Japanese and incurved varieties, many of which were of fine size. A large Palm surmounted the group.

Mr. J. Williams, 42, Oxford Road, Ealing, London, W., set up some table decorations, consisting of Chrysanthemums, Smilax, and autumn tinted foliage.

The fountain was decorated at either end of the building by Messrs. J. Laing & Sons, Forest Hill.

Mr. Joseph Arnold, 32, St. Paul's Road, Camden Town, London, N.W., exhibited a table of loam, peat, and manures. He had some yellow fibrous loam, highly suitable for Carnations, Orchid peat, brown fibrous peat, and Rhododendron peat. He had also many samples of horticultural sand of various qualities, &c.

Messrs. Wood & Son, Ltd., Wood Green, London, N., had a large and attractively arranged group of various horticultural sundries, including Bamboo and other stakes, Raffia, a fungicide named Veltha for use against Chrysanthemum Rust, also Potato and other manures, thermometers, dried grasses, labels, &c. Plants of Chrysanthemums and cut flowers were used to decorate the stand.

The Ichthemic Guano Co., Ipswich, had a large stand of their specialities hidden away amongst well grown and bushy plants of Chrysanthemums. They also had Gros Colman and Cannon Hall Muscat Grapes, grown by Messrs. W. & J. Batho, at the Nether Street Nurseries with pure Ichthemic Guano.

Mr. J. George, F.R.H.S., 14, Redgrave Road, Putney, S.W., had a table of sundries, including Mushroom spawn, Orchid peat, bones, bone meal, Thomson's Vine and plant manure, Nicotina, sulphur, tobacco rag, and a whole host of necessities for the garden. He also had a basket of splendid samples of Gros Colman Grapes grown by Messrs. Wm. Thomson & Son, Clovenfords, N.B., as grown for market. The berries were of enormous size.

The Lawes Chemical Manure Co., Ltd., 59, Mark Lane, London, had an exhibit of Lawes' Horticultural or garden manure for Chrysanthemums and other garden plants. The Company also had samples of general manures. Grapes grown by Messrs. Guiver Bros. & Lawson, Durant's Nurseries, Enfield Highway, were in fine form. Their stand was also decorated with Chrysanthemums and autumn tinted leaves.

SOUTHAMPTON.—October 31st and November 1st.

A MAGNIFICENT exhibition of Chrysanthemums and other autumn flowers, as well as of fruit and vegetables, was held at the Skating Rink at Southampton on the above dates. The numbers and quality of the entries have increased, and the display of cut bloom was a decided advance upon that exhibited in previous years. The extent of table accommodation was over 500 ft., but it was difficult to stage all the exhibits in the space available, though the band was removed to a gallery. Her Majesty the Queen was, as usual, an exhibitor. The attendance was very large on both days, it being difficult to move in the hall on the second evening. Ichthemic Guano was represented by a considerable part of the exhibit of Messrs. Toogood & Sons, Southampton, who claim to be the largest seed growers in the South and West of England, and it was of interest to ascertain that a great number of the prize exhibits were grown with the aid of this renowned and indispensable fertiliser. In the class for twenty-four Japanese blooms Mr. H. N. Mose was first with a magnificent show, his exhibit including Madame Carnot, which gained the Silver Medal as being the premier bloom in the show.

PORTSMOUTH.—November 1st.

THE annual Chrysanthemum show of the above society was held in the Portsmouth Town Hall, on Wednesday, November 1st. From what we learn, the show seems to have come quite up to expectations. Incurved varieties were of first-rate merit, which may help to revive the lost love for this neat and pretty section. The Japs. were nothing better or nothing worse than what has been seen at past shows in Portsmouth. In the large class for forty-eight blooms of Japanese varieties, distinct, the first award fell to Sir F. Fitzwilliam (gardener, Mr. E. Penfold), Leigh Park, Havant.

Pantia Ralli, Esq., an enthusiastic grower at Epsom, succeeded in taking second place. Mr. J. Agate, of Havant, held his own against the above

two gentlemen in competition for the twenty-four Japs. His stand included lovely specimens of the new Florence Molyneux. Sir F. Fitzwilliam won the premier award in the open class for incurved blooms. The groups of Chrysanthemums brought out a strong competition, and these on the whole were extra well put together, forming a strong feature of the show. Mr. G. Foster, gardener to H. H. Spencer, Esq., Teignmouth, was an easy winner, in this, the 60 ft. sq., class. In the class for a group to cover 25 sq. ft., Mr. E. Harvey came in ahead of the others. It is worth noting that in the classes for a single pot plant many exhibitors were disqualified for having more than one plant, some going the length of having five plants squeezed into the one receptacle. The competition between Misses M. Foster and K. Turner for a Silver Cup in the table decorations entry was very tough. The prize was eventually accorded to the latter lady.

The collections of fruits and vegetables were fairly complete, and had the merit of being really good at least. Messrs. Clegg & Son, of Langport, made a very effective show of Ichthemic Guano, the well known fertiliser, sent out by the Company at Ipswich. Music was provided during the evening, and the whole manner of the arrangements, &c., was highly creditable to the parties who carried them out.

KENT COUNTY.—November 1st and 2nd.

THE twelfth annual show of the Kent County Chrysanthemum and Horticultural Society was held at the Rink, Blackheath, S.E., on the above dates. The general effect of the show was brilliant. Fruits in all classes were exceptionally fine. Vegetables too were in moderate quantity and of good quality. The Chrysanthemum cut bloom classes were very fair but nothing to boast about. Some of the stands of incurved varieties were particularly fine, and this form ought to be more encouraged. Pot Chrysanthemums were not up to the standard although good samples could be selected. The trade exhibits were a strong and gratifying feature of the show particularly as each was of standing merit.

COMPETITIVE EXHIBITS.—For a group of Chrysanthemums arranged in a space not exceeding fifty superficial feet, quality and general effect to be the leading features, the first prize was carried off by W. E. Fry, Esq. (gardener, Mr. E. Dove), Beckley Hall, Kent. The group was certainly worthy of the prize and some fine specimens of Mrs. W. H. Lees, Mrs. F. Jameson and others were here shown. The second prize went to Messrs. Pollard Bros., Wantage Road Nursery, Lee, whose plants were distinctly poorer. Mr. A. W. Hollands, Lee Park Nursery, Lee, came third.

In Class II. for thirty-six blooms, eighteen each of Japanese and incurved, the Ryecroft Silver Gilt Medal presented with first prize by Mr. H. J. Jones, Mrs. Ryecroft (gardener, Mr. W. Sebay), Everlands, Sevenoaks, won the coveted award. Her blooms of *Australie*, *Soleil d'Octobre*, Mme. Gustave Henry, Ella Curtis, Phoebus, Edith Tabor, and Mutual Friend were capital samples of Japanese blooms. Of the incurved varieties C. H. Curtis, Jeanne d'Arc, Golden Nugget, and Ideality, were superb, being neat, well formed and bright. The second prize fell to C. J. Whittington, Esq. (gardener, Mr. C. Payne), Elmhurst, Beckley Park, whose wonderful Phoebus and Pride of Madford were very fine. Charles H. Curtis was the best incurved. Mrs. Lawrence (gardener, Mr. T. Robinson), Elsfeld House, Hollingbourne, Kent, came third with a good double stand.

For twenty-four Japanese distinct, the prizes went respectively to W. E. Fry, Esq. (gardener, Mr. E. Dove), Bickley Hall, Kent, first; W. T. Holland, Esq. (gardener, Mr. H. Hurst), The Gables, Bexley, Kent, second; and H. Horkin, Esq. (gardener, Mr. C. Jordon), Coney Hill, Hayes Common, Kent, third.

For a dozen Japanese distinct, first, C. J. Whittington, Esq.; second, C. E. Fry, Esq.; third, W. T. Holland, Esq.

For twelve incurved varieties, A. G. Hubbuck, Esq. (gardener, Mr. J. E. Poole), Elmstead Lodge, Chislehurst, was first; H. F. Tiarks, Esq., Foxbury, Chislehurst (gardener, Mr. J. Lyne), second.

For twelve reflexed in six varieties, A. G. Hubbuck, Esq., was first.

The first prize for six Japs. of one white variety went to Mrs. Ryecroft, who showed Emily Silsbury.

The first for six of one variety of incurved went to A. G. Hubbuck, Esq., with *Globe d'Or*.

FRUITS.—For six dishes of cooking Apples, H. F. Tiarks, Esq. (gardener, Mr. J. Lyne), won first with very decent samples; F. G. Boot, Esq., Woodcroft, Nottingham (gardener, Mr. J. A. Baker), second; and Mr. H. Horkin, Coney Hill, third.

For two bunches of white Grapes, C. Bayer, Esq. (gardener, Mr. W. Taylor), Tewkesbury Lodge, Forest Hill, was first; H. Horkin, Esq., second. The same two took first and second for black Grapes, and third, W. T. Holland, Esq. The Grapes were all fine. H. Horkin, Esq., won for four dishes of dessert Pears; Mr. F. G. Best, second.

For a group of foliage and flowering plants H. F. Tiarks, Esq. The group was very fine and tasty.

Mr. H. F. Tiarks was first for nine table plants; and R. Kersey, Esq., Hurst Lodge, Lee, second.

H. Horkin, Esq., was first for a collection of vegetables.

MISCELLANEOUS EXHIBITS.

Messrs. John Laing & Sons, Forest Hill and Catford, Kent, exhibited a superb collection of Apples in dishes. The table was laid with a white grounding and relieved by the use of plants and sprays of berried *Crataegus*. Variegated and highly coloured foliage laid between the dishes of fruit heightened the effect. Splendid samples of all the leading varieties of cooking and dessert Apples were to be noted, particularly Peasgood's Nonsuch.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., had a very showy group consisting in the centre of pot Chrysanthemums in the following new and meritorious varieties:—Reginald Godfrey, Little Nell, R. Hooper Pearson, and others. Well grown samples of Begonias, Gloire de Lorraine with an edging of Maidenhair Ferns and a background of Bamboos composed a very worthy and distinctive arrangement.

Messrs. Wm. Cutbush & Son, Highgate, London, N., staged a very long tableful of splendidly coloured Apples. Such varieties as Lady Sudeley, Royal, Baumann's Red Winter Reinette, Malan Solange, Emily Childs, and others were nearly black in their depth of crimson. Peasgood's Nonsuch was very fine; so with Washington and Royal Codling. The Pears were in lesser amount, but Doyenné du Comice, Beurré Sterkins, Beurré Clairgeau, Durondeau, &c., were very fine, being large and juicy.

Messrs. James Veitch & Sons, Ltd., Chelsea, staged what proved to be one of the features of the show, for here was the finest of foliage plants, Orchids, *Javanico-jasminiflorum* Rhododendrons, Nepenthes, Lily of the Valley groups, Gold and Silver Ferns, and Ericas. These were so well arranged that even with the diversity of material everything seemed to combine to produce the ideal of beauty in united vegetative variations. Too much cannot be said in praise of both the quality of the plants and the mode of their arrangement.

Mr. James Williams, College Park Nursery, Lewisham, S.E., set up two semi-circular groups of bush Chrysanthemums, whose every appearance proved that their treatment had been acceptable to the plants. The foliage of each was dark and the blooms numerous and good. An edging of Pandanus, Begonias and Ferns aided the groups.

EXMOUTH.—November 1st.

THE fourteenth annual exhibition of the above society was held in the Public Hall this year, and limited to one day only instead of two as in previous years.

The competition was very keen in the cut blooms, and some excellent specimens were staged, in the class for thirty-six Japanese in not less than twenty-four varieties and not more than two of one kind. Here H. H. Spencer, Esq. (gardener, Mr. G. Foster), of Teignmouth, took the lead, followed by Mr. Drake, of Cardiff, whose blooms were not quite as weighty as the former.

In the class for twelve Japs., distinct, Colonel Lloyd was first as well; second, H. Hammond Spencer, Esq.

For pot plants arranged in a circle, 9 ft. in diameter, quality of blooms to be the chief consideration, found General Locke, Exmouth, to the front. Several of his blooms were quite fit for the show-board, they were nicely arranged and made a good

display; R. Long, Esq., came in second, with a fairly good group.

Two smaller groups, semi-circular, 9 ft. by 7 ft. were very creditably grown as well as arranged here. A. Shopland, Esq., came in first; second, H. Hodgson, Esq.

Fruit made a good display, most of the Apples being finely coloured. For three bunches of Grapes, Alicante, the Rev. H. Clerk (gardener, Mr. Pike) won with good stuff, finely coloured and large in bunch; second, Mr. Matthews. For three bunches, Muscats, Rev. Clerk was again victorious, as well as in the class for three bunches of any other variety, showing Muscat Hamburg well done.

There were twenty classes for single dishes of Apples, and four collections, all well contested, while for Pears fifteen classes were provided, and two collections, some excellent fruit being staged.

Prizes were given for a dinner table arranged with fruit, Chrysanthemums, Ferns, &c., and laid for eight persons, 8 ft. by 4 ft. Here Miss H. Maw took first honours. Mrs. C. Hara Tomlin was second; Mrs. Hodgson, third; and Mrs. Crickmay, fourth. Prizes were also given for vases of Chrysanthemums. Grasses with berries and foliage which added a brightness to the show.

Mr. W. J. Godfrey exhibited a big bank of miscellaneous plants, fruit, &c., in which was noticed a nice batch of *Celosia pyramidalis coccinea* and a couple dozen pots of winter flowering *Pelargoniums*.

The Hon. Mark Rolle, Bicton, kindly sent a nice lot of foliage and flowering plants, comprising *Crotons*, finely coloured *Dracaenas*, *Pandanus*, *Ferns*, *Palms*, *Acalphyas*, *Salvias Pitcheri* and *S. splendens*, double white *Primulas*, *Cyclamen*, two splendid plants of *Begonia Gloire de Lorraine*, *Cypripedium harrisianum*, and *C. Sedeni*, &c.; while in front of his group were staged thirty dishes of Apples, kitchen and dessert, two Queen Pines, Melons, three Hero of Lockinge and Sutton's Scarlet, twelve dishes of Pears, and two stands of Black Grapes, Lady Downes and Alicante, the whole making a good display.

The judging was left to Mr. Dolling, Newton Abbott, and Mr. Moiest, Torquay, for plants and flowers, and Mr. Powell, Powderham, and Mr. Mayne, Bicton, for fruit.

QUESTIONS AND ANSWERS.

Virginian Creeper not Colouring.—C. M.: We do not consider it a question of variety, but rather a question of soil and position. Given a rich soil in a shady position and you will get any quantity of rampant growth every year, but the leaves will remain green, or merely become dirty yellow when about to fall. The remedy lies in planting under conditions the reverse of the above. Growth may be proportionally slow for a number of years at least, but you should be rewarded if the climber is against a wall in a sunny position. Young plants are easily raised from cuttings or layers, so that you could try several in different places.

Rhododendron in Bloom.—T. Lamb: The circumstance is abnormal, but by no means uncommon. Several of the Himalayan species have been used as parents with which to cross fine garden forms of *R. ponticum* and its hybrids with *R. catawbiense*. The Himalayan species, particularly *R. arboreum*, flower early, and give that character to the progeny. The warm summer and mild autumn must account for the rest.

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The Nurseries,

SOUTHWELL.

READERS OF THE GARDENING WORLD will greatly oblige the Publisher by mentioning this Paper when writing to Advertisers.

Chrysanthemums Diseased.—J. B. M.: They are affected with the Chrysanthemum Rust, of which we have heard so much lately. You cannot do much to save the old plants now, but by syringing them with sulphate of potassium and water at the rate of $\frac{1}{2}$ oz. of the former to a gallon of water, you will save the suckers to some extent from getting affected with the falling spores. As soon as the flowers are over or have been cut you should cut down and burn the old stems and foliage. Select only clean, healthy cuttings, removing every trace of the fungus you can detect, and burning the same. Syringe the plants with the above at intervals in spring, or dip them in Condy's Fluid.

Unsatisfactory Growth of Cytisus Andreanus.—A. G.: Possibly your plants were grafted upon the Laburnum, upon which they grow fairly well for a time, but afterwards become unsatisfactory. You might take cuttings now, inserting them in sandy soil in pots, and placing them in a greenhouse or a frame from which frost is merely kept out. A little heat in spring will hasten the rooting process. You might also strike cuttings in summer by using young side shoots just as they are getting firm at the base. A very satisfactory plan is to allow seeds to ripen and sow them at once. A good percentage of them will come true; and the rest may be thrown away if not required for planting in shrubberies, etc.

Names of Plants.—A. L.: 1, *Berberis Aquifolium* (merely the autumn tints); 2, *Eupatorium riparium*; 3, *Eupatorium odoratum*.—A. J. B.: 1,

Laelia pumila (a good variety); 2, *Masdevallia tovarensis*; 3, *Odontoglossum crispum guttatum*.—H. C. M.: 1, *Festuca glauca*; 2, *Aster vimineus*; 3, *Aster diffusus horizontalis*; 4, *Aster Novae-Angliae pulchellus*.—W. D.: 1, *Begonia metallica*; 2, *Begonia semperflorens* var.; 3, *Tradescantia multiflora variegata*; 4, *Carex Morovii variegata*; 5, *Arundinaria Fortunei variegata*; 6, *Polygonum brunonis*.—G. W. C.: *Erigeron purpureus*, as far as we can make out, but it is flowering out of season, and the specimen too fragmentary to be certain. Send again with stem and leaves in summer.—J. H.: 1, *Lamium album*, which often flowers in a mild autumn; 2, fruits of *Clematis Vitalba*.

Communications Received.—Diosma.—G. Bunyard.—A. D. W.—Dr. Padbury.—W. J. F.—J. M.—J. H. J.—J. Moir.—A. Wright.—R. G. W.—W. H. W.—W. S.—W. H. S. & Son.—C. B. Negers.—Poma.—R. W.—A. M.

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JAMES COCKER & SONS, Union Street, Aberdeen.—Roses, Hardy Herbaceous Plants, Shrubs, Fruit Trees, Bushes, Climbing Plants, &c.

LITTLE AND BALLANTYNE, Carlisle.—Trees, Forest and Ornamental, Evergreen Shrubs, Fruit Trees, Herbaceous Plants, &c.

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CHRYSANTHEMUMS.

THERE IS NO COMPARISON BETWEEN STRONG COUNTRY GROWN PLANTS and cuttings, and those obtained from the neighbourhood of the foggy, smoky, black, and almost sunless surroundings of the cities, where the stocks must be kept indoors when those of the sunny south do well in the open without any protection whatever. My stock plants are now (November 7th) in the open by the side of beds of blooming *Cactus Dablias*, and are bristling with strong, sturdy, and healthy cuttings, which will strike with little or no trouble.

My exhibits of Show Blooms of Japs. at the N.C.S. and R.H.S. meetings have not only been the most extensive, but have contained the best quality blooms of any other trade grower, although they are sent a distance of 200 miles. I do not purchase expensive stove plants, grand vases and such-like to embellish my exhibits, and thereby "win" Gold Medals, claiming afterwards that the award is due to the superiority of my Chrysanthemums.

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Wanted Plant Doctors.—In the "Contemporary Review" for October an interesting article appeared from Mr. J. B. Carruthers, dealing very much with the statistical aspect of plant-pathology. It is quite within the knowledge of everyone that most serious losses are sustained year by year through such plant-diseases as CHRYSTANTHEMUM-RUST, TOMATO-DISEASE, POTATO BLIGHT, HOP-DISEASE, and the like, but it may not be so generally known that these diseases are yearly becoming more widespread, and their extinction demands most serious consideration.

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I laughing at the contrast of those from plants which exhibi-
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The Gardening World

Edited by J. FRASER, F.L.S.

SAURDAY, NOVEMBER 18th, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, November 20th.—R.H.S. (Lecture); Cheltenham Exhibition (2 days); Messrs. Protheroe & Morris' Dutch Bulb Sales, every day except Saturday, at their Auction Rooms, 67 & 68, Cheapside, London, E.C.

TUESDAY, November 21st.—R.H.S. at Drill Hall.

THURSDAY, November 23rd.—Dundee Chrysanthemum Show (3 days).

FRIDAY, November 24th.—Woolton Show.

UNTO WHAT GOAL?—The progress in Chrysanthemum improvement and cultivation proceeds apace. Indeed, we can hardly point to any other class of garden flowers in which the change of progress from stage to stage is more rapid, or the competition to be in the front rank keener. While some of the old hands lament the disappearance of their small and refined, but hopelessly outclassed favourites, others have merely dropped out of the running but continue to applaud and urge on those still keeping or taking the lead. All this means that there is yet a strong and healthy vitality in Chrysanthemum culture that rails at the little chrysanthemist and equally ignores the bogey of Chrysanthemum Rust, over which the authorities presided so gravely last year without finding a remedy that would effectually stamp it out under any given conditions. Nevertheless, we can

still say that prevention is better than cure, and good cultivation will work wonders, as in various other classes of garden produce.

The shortness of the life of a variety of *Chrysanthemum* becomes strikingly apparent when one looks over old lists of the leading types which were the admiration of their day. A glance at the list of the best 48 Japanese varieties arranged in the order of merit, determined by the number of votes as recorded in the "Catalogue of *Chrysanthemums*" of the N.C.S. for 1888, gives one the impression of reading ancient history. Only one, namely, Edwin Molyneux, sent out in 1886, would be honoured with a place on a first-class stand of blooms at the present day. The first three bracketed as of equal merit were *Baronne de Prailly*, *Meg Merrilies* and *Fair Maid of Guernsey*, which were followed by *Comte de Germiny*, *Belle Paule*, *Marguerite Marrouch* and *Thunberg*. Edwin Molyneux was placed in the fifth order of merit, yet with that exception the whole of the 13 groups given are obsolete. Coming to the Jubilee Edition of the "Official Catalogue," we note some 96 varieties described under Section II, Japanese. Something like 75 or more of them might be dropped without materially affecting the show boards as seen last week at the Royal Aquarium.

Almost as great a change has been effected amongst incurved varieties; but the revolution has taken place within the last few years. The whole section seemed destined to collapse only a short time ago, as, one after another, cultivators abandoned them. Since the large flowered varieties of a slightly different type from the old Chinese or incurved race were permitted to appear on the stands there has been a perceptible revival of their culture and many fine stands were exhibited at the Aquarium, Westminster, on the 7th inst. On that particular occasion, we should call attention to the first prize lot of 12 vases, containing an aggregate of 60 blooms, which were regarded by many as the biggest blooms in the show. With one or two exceptions, the varieties shown were not particularly new; and the question arises whether or not the best blooms could not be produced from varieties of several years' standing, and which have had time to recover their constitution, which had been impaired by excessive propagation.

PARKS AND GARDENS AT HAMBURG.—Like

London, Hamburg is an inland shipping port, communicating with the sea by means of the River Elbe which divides the city in two. There is also much water in the place, as described by Mr. James Whitton, superintendent of parks, Glasgow, in his report of "Continental Parks, Gardens, &c.," to the Corporation of Glasgow. There is a lake of some 400 acres in the heart of the city, the lake being divided into two basins by a fine bridge. Around the outer and larger basin are situated the winter residences of the wealthier class, with gardens extending to the water edge, and all being kept in first-class condition, they contribute much to the beauty of the city. The edge of the outer basin is, indeed, described as resembling one continuous garden. Portions of the margin are under the control of the municipality, and they also are admirably kept. The antiquated line of fortifications which encircled the city in former times, has been swept away to make room for boulevards, parks, and young thriving avenues of trees. The planting in the Botanic Gardens has been very skilfully done so as to heighten the scenic effect. Portions of the old moat have been transformed into lakes, and in cases effectively planted with aquatics. The author noted several species of trees,

"thriving vigorously, and with a richness of vegetation which we never can expect in the dull, moist climate of this country, and the soot-laden, chemically impregnated atmosphere of our city" (Glasgow). With the exception of the tropical and semi-tropical aquatics, including *Victoria regia*, he was not particularly impressed with the contents of the glass department. The outdoor collections were much more interesting.

The landscape effects in the grounds of the great exhibition had been well studied and every point brought out to the best advantage. A flower garden on an elevated tableland was well laid out and planted with a great variety of plants, which were clean and bright. The brilliancy of some of the beds of flowering plants was remarkable. Semi-tender plants with high coloured foliage made some elegant and attractive carpet beds; while masses of fine-foliaged plants in contrast with choice and elegant shrubs produced other fine effects. A large tank filled with Water Lilies and other aquatic plants in full bloom was much admired. Palms, Bromeliads, Cacti and foliage plants were splendidly grown; but other subjects were far behind the standard of cultivation in this country. Fruits and vegetables were inferior to what could be seen in our best fruit shops, and certainly would not approach exhibition standard in this country. The cut flowers were also disappointing for a country which produces so much of the flower seeds of commerce. All this notwithstanding the reputation which German gardeners enjoy. Street trees are a feature of Hamburg, all the newer streets being planted, chiefly with Elms, Planes, Limes and False Acacias, the two former species being the finest, most vigorous and most effective for the greatest period of the year.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, November 21st, in the Drill Hall, James Street, Westminster, 1-4 p.m. A lecture on "Fruit Growing in South Wales" will be given by Mr. J. Basham, F.R.H.S., at 3 o'clock.

Remedies for *Chrysanthemum Rust*.—In the *Nord-Horticulteur* for November, about fourteen remedies or more are given for checking or destroying *Chrysanthemum Rust*, independently of some half a dozen ways of preventing the malady by choice of varieties, constitution of plants, vigour, &c.

Hardiness of the Holly.—A Midland contemporary speaks of the Holly as requiring a certain amount of shelter by way of protection from frost. We should say that some other cause than that must be found to explain the dying either of Hollies or their branches. In the Highlands the tree ascends to an altitude of 1,000 ft. We ourselves have seen it banging from the edges of crags at great elevations.

Galashiels Horticultural Association.—The new session of this south of Scotland Horticultural Association was opened by a lecture from the well known Grape grower, Mr. John Thomson, of the firm of Messrs. Wm. Thomson & Son, Ltd., Clovenfords, N.B. He had chosen for his discourse "Notes on Horticultural Subjects," under which title he discussed such items as the arrangements at shows and exhibitions. He expressed the benefits which the stimulus of prize awards conferred upon allotment holders and cottage gardeners, volunteering in his speech to provide prizes for encouragement in this direction at Galashiels. Railway rates and the inconsistency of the companies in their tariffs upon the transmission of foreign and home-grown produce were censured in round terms. The state of present day horticulture in Britain and other items were all brought under review by Mr. Thomson. Dr. Hunter, the newly elected president, occupied the chair. Votes of thanks closed what turned out to be an instructive and enjoyable evening. Exhibits upon the table came from R. Sanderson, Esq., of Knowe Park, who sent Orchids; *Chrysanthemums* from Dr. Henderson, Church Street; and Heaths from the Abbotsford Nursery.

Holly Berries are normally red, but varieties exist, or have existed, with white, yellow, and black berries.

Mr. Rhodes Planting Orange Trees.—It is reported that Mr. Rhodes is making an avenue a mile long at Kenilworth, Kimberley. There is to be a double row of Oranges, espaliers for Vines, and a background of Pepper tree (species not stated).

Roses Past and Present.—In the issue of *Country Life*, dated November 4th, appears the second of a series of highly-interesting articles by Dean Hole, upon "Roses Past and Present." They recall the Roses of his youth, now almost forgotten for the most part, and they are illustrated by pictures of the garden at Causton Manor, where he grew Roses in manhood. Amongst them is a picture of the Dean among his Roses.

Royal Botanic Society.—At a meeting of the Fellows of this society on the 11th inst., the chairman referred to the great increase of the members of the Royal Botanic Gardens Club. Although not yet a year old, the club had outgrown its accommodation, and means were being taken to meet the requirements before next year. Entertainments were given in the conservatory every Wednesday evening, in connection with the club. Dr. R. Boxall read a paper on "Bulb Growing in Holland"; and will give another on the 25th inst. Ripe fruits of the Guava (*Psidium cattleianum*), ripened in the gardens were shown at the meeting.

Fireside Club, Bucklebury.—This club is meant to afford amusement, recreation, and instruction to the people in the village and neighbourhood of Bucklebury, Woolhampton, Berks. The president is A. W. Sutton, Esq., of Bucklebury Place. The vice-presidents are the Rev. Cecil Hope Gill, M.A.; G. W. Palmer, Esq., M.P.; R. B. D. Ackland, Esq.; and Dr. Ord Mackenzie. Rev. J. P. Jones, M.A., is hon. treasurer. Messrs. W. Matthews and A. Wright are the hon. secretaries. There is also a committee of twelve for the proper carrying on of the business of the club. Besides the usual games and other forms of amusement, a series of lectures on "Plant Life and Kindred Subjects" will be delivered during the winter months by Mr. A. Wright, gardener to A. W. Sutton, Esq., Bucklebury Place, and Reading. Mr. Wright has already commenced his course of lectures, and hopes by the aid of specimens, drawings, and the use of the microscope to make these addresses interesting to the members. The lectures commence at 8 p.m. on Thursdays of each week, and we feel sure that Mr. Wright is well qualified for the work. On Monday, the 6th inst., the president had invited the Rev. E. S. Prout, M.A., to deliver a lecture on "Japan and the Japanese," illustrated by means of lantern slides and the limelight.

National Chrysanthemum Society.—The floral committee of the above society met on Monday, November 13th, at St. Stephen's Room, Royal Aquarium, Westminster. There was a large number of blooms up for awards, but only one reached the standard for a F.C.C. This is noted under another heading. Quite a number were commended, however, and others were asked for at a later date. Flying Fox was among the finest of those commended. This is a seedling from *Poboeus* and *Oceana*, and is, as might be expected, a sweet incurved yellow. It was decided to be seen again. T. B. Garrard, was a reflexed Japanese with creamy centre, and paler base florets. A fine decorative variety was sent by the Brighton and South Coast Horticultural Society, Exotic Nursery, Worthing, named Mrs. Grogan. This was dwarf and profusely flowered, in colour a rosy-pink. Vicar of Leatherhead, from Mr. Jones, of Ryecroft, though only receiving a Commendation, was yet a very superior and pretty bloom of a pale canary-yellow. General Symons is a large variety of a bronzy-buff colour, coming from Mr. Weeks. Mrs. Bagnall-Wild was a most pleasing rosy-purple Japanese variety of a splendid richness. Little Pet, a pale purple, small flowered single, though not of very good habit, was yet commended, because of its rich colour. Capt. A. d'Albert, a pleasing pink variety, was asked to be seen again, so with an incurved flesh coloured form called Arthur King. Many others were passed as being either too much like already existing varieties or lacking in some necessary qualities. Mr. T. A. Bevan occupied the chair.

Wine Production in Algeria is a steadily increasing industry.

Mr. William Mills, who has been several years foreman at Pollok House, Gandey, Pollokshaws, has been appointed head gardener to Lord Belhaven and Stenton, of Wishaw House, Wishaw.

Mr. James Mills, who has been for five years head gardener to Lord Belhaven, of Wishaw House, Wishaw, has been appointed head gardener to Captain Haywood Lonsdale, of Shavington Hall, Shropshire.

Chrysanthemums in the Hospitals.—The Ipswich Society were as good as their word in measuring swords with the other affiliated societies at Westminster last week. The eastern counties' society was, however, not able to get in closer than fourth. But it was a fair try, and will probably induce them to try again. They are a bit used to doing things that way down at Ipswich. We are gratified to learn that the spare blooms, which had been sent in by members in duplicate, were, after selecting the forty-eight for Westminster, sent to the Ipswich and East Suffolk Hospital, and we have no doubt the kindly thought of the committee was fully appreciated.

In Aid of the War Fund.—We are pleased to learn that, by the kind permission of Major McCreagh Thornhill, the gardens at Stanton Hall, Stanton-in-Peak, Bakewell, will be open to the public on Saturday and Sunday afternoons, November 18th and 19th, to inspect the fine display of Chrysanthemums. Any contributions towards the above fund will be gratefully received. Mr. G. Harvey is an enthusiastic Chrysanthemum grower and was very successful at the Bakewell show last week, winning the Challenge Cup for a group; the N.C.S. Certificate for the best exhibit of cut blooms; and the Silver Gilt Medal for the best bloom in the show; besides several first prizes in good competition. He was the raiser of the beautiful decorative Chrysanthemum Miss Harvey, which we figured last week. Such being the case the display of Chrysanthemums on Saturday and Sunday will be well worthy of inspection, and we hope, will be well patronised.

Christmas Dinners and Hampers for Crippled Children of the Metropolis.—The Corporation has again granted the use of the Guildhall for the annual banquet to the Ragged School Children of London, and the Prince of Wales has once more sent me a donation to, if I may quote the words of His Royal Highness, "the excellent fund which you are again kindly raising for providing dinners and hampers for the poor and crippled children of the Metropolis at Christmas." Last year, after providing a banquet at Guildhall for about 1,400 poor children, I was enabled to send 4,324 hampers to deserving little cripples whose affliction very often keeps them prisoners in one room homes from year's end to year's end. I trust that with the renewal of your valued sympathy and assistance we shall do better still this year, by increasing the number of hampers to 5,000. May I ask your readers to help me again this winter to brighten the lives of some of London's little cripples. Subscriptions should be sent to me here, marked "Children's Fund."—*W. P. Treloar, Alderman and Sheriff, Ludgate Hill, E.C.*

Variable Reading of the Thermometer at Glasgow.—The great heat wave that culminated about the end of August and the beginning of September last year travelled northward, and made itself felt in no mistakable manner even in the far north of Scotland. Within the confines of the municipal county of Glasgow its variations were somewhat peculiar. Meteorological notes and records have been kept for many years at Queen's Park, and the continuity of the series is now being preserved by Mr. James Whitton, the Superintendent of Parks. The highest reading for 1898 of the thermometer in the shade, at 4 ft. above ground level at Queen's Park, was 78°, which occurred on September 7th; Maxwell Park, 80° on August 13th and September 7th; Kelvingrove Park, 80° on September 5th; Springburn Park, 77° on August 20th and September 6th and 7th; Glasgow Green, 80° on July 11th; Bellahouston Park, 74° on August 13th; and Tollcross Park, 82° on September 7th. Many of these variations were no doubt due in part to their particular elevation, to shelter or exposure and other local causes.

Wood, when immersed in sand, or mud, and water will last for centuries.

Weather in London.—The past week has been at times wet, continuing dull for the greater part of its tenure. Thursday, Lord Mayor's day, was beautiful. Changes are what we look for, and, though it may rain at dusk, frost may be keen at dawn; or frost in the evening, and thick fog in the morning. It is foggy as we go to press; but for London in November the weather on the whole is mild and fine.

Birmingham and Midland Gardeners' Mutual Improvement Association.—At a well attended meeting of the above Association held on Monday, Nov. 13th, under the presidency of Mr. W. B. Latham, curator of the Birmingham Botanic Gardens, Mr. Lewis Castle, manager of the Duke of Bedford's Experimental Fruit Farm, Ridgmont, gave one of the most interesting lectures of the present session on "Hybridisation and Selection." It was highly appreciated by the members, and a prolonged and instructive discussion followed, at the conclusion of which Mr. Castle reviewed the principal points, and was accorded a hearty unanimous vote of thanks.—*W. L. Deedman, Hon. Secretary.*

Chrysanthemum Sunday at Lewisham.—I, with several thousand folks from the neighbourhood of Lee and Lewisham, from Blackheath down to Sydenham, and from Westminster down to Ryecroft went there on Sunday. And a well-dressed crowd it was, too. Quite a little Temple Show gathering. One could but realise how beautiful the flowers of Eastern Asia had become under the skilful treatment of that busy genius, whose Ryecroft Nurseries have the most complete collection of 'Mums in the country. The Orphan Fund boxes stationed at discreet intervals were well looked after, and this excellent charity will, we know, once more greatly benefit by the function on Sunday.—*Gyp.*

Devon and Exeter Gardeners' Association.—The above horticultural association held a meeting in the Guild Hall, Exeter, on Thursday, November 9th. Mr. W. Charley, of Wonford House Gardens, read a paper on "Garden Walks and Drives." He gave as the principal points to consider; (1) the place of entrance from the public roadway; (2) that the boundary or route fence to the drive, required not only artistic treatment, but convenience of approach and of access to the house; (3) all beautiful or interesting objects should be laid to view along the length of drive; (4) the approach should always be direct, which being interpreted means, that no meaningless or needless meanderings should be brought in; (5) curves were generally laudable; (6) uniform slopes were to be avoided, and the width of the drive should be made according to the needs of the traffic and the extent of the demesne. Mr. W. Andrews, of the Exeter Public Grounds, presided over the meeting.

The Hamilton and District Horticultural and Foresters' Association held their monthly meeting on Friday, the 3rd inst., in the Y.M.C. rooms. The Rev. T. M. B. Patterson, the president, took the chair. There was a specially good attendance to hear Mr. D. P. Laird, Edinburgh, read his most practical and instructive paper on "Villa Gardening and Public Park Planting," which he treated from an artistic and practical point of view, and which, with a dash of good humour added at the conclusion of his paper, brought him great applause from all the members. In addition to this meeting there was a show of Chrysanthemum blooms. The association awarded a Certificate of Merit for the best twelve blooms of Japanese, for which Mr. Finney, gardener to Dr. Loudon, Allenshaw, got the honour; also a Gold Badge for the best bloom, which fell to his very fine bloom of Phoebus. For six blooms, Mr. Ramond, the president's gardener, got first. For six incurves, Sir. John Watson, Bart., of Earnock, gardener, got first. For a vase of cut blooms for effect, Mr. Angus, Lord Hamilton's gardener, got first. Mr. Angus also staged a fine lot of Michaelmas Daisies in twelve sorts, which were very prime for this season of the year. The meeting closed with hearty applause to the essayist and chairman. The next paper is to be read by the Earl of Home's gardener, Mr. Archibald, Bathmere Castle, on "Vegetables," on the first Friday of December.—*J. M.*

The Ulster Horticultural Society.—The annual fruit, flower and plant Show was held on the 14th and 15th of this month. The show is generally an excellent one. Thousands flock to the show, and last year as much as £100 was taken in two and a half hours in sixpenny tickets. The show had a good promise this year.

Dundee Chrysanthemum Carnival.—The annual exhibition of the Dundee Chrysanthemum Society will be held in the Drill Hall, Dundee, on the 23rd, 24th, and 25th inst. Though not so large as the Edinburgh show it compares favourably with it; and is annually favoured with high-class exhibits and a keen competition in many of the classes. As many as five Challenge Cups, open to all comers, are presented to the society by influential people in Dundee and the neighbourhood; besides which there are various other tempting prizes. The coming show promises to be a record one, in number and quality of exhibits. Mr. Norman Davis, Framfield, Sussex, is to put up a fine group of Chrysanthemums, and act as judge of Chrysanthemum blooms. Plants, fruit, and vegetables will be judged by Mr. Harper, of Tuliebelton, Perth. After being disappointed by having their musical engagement with the Royal Scots Greys Band broken off, the society did its utmost to secure the Grenadier Guards and the Royal Artillery, without success, but was fortunate in securing Herr Ill's celebrated Orchestral Band from Glasgow.

BEGONIA CALEDONIA.

I THINK it will be generally admitted that this charming new Begonia, which Mr. John Forbes, of Hawick, is now exhibiting at all the leading Chrysanthemum Shows, is one of the most desirable introductions of recent times. That it has already caught on goes without saying if outspoken favourable comments by visitors at these shows mean anything, along with the certificates that are being awarded it by competent judges. The plants shown are certainly not specimens; but that can only be expected with a new plant, that must in the ordinary course of things have been subjected to hard and fast propagation. As far as one can judge, however, we have in "Caledonia," the form, habit, and floriferousness of "Gloire de Lorraine," but the colour is pure white, and in this respect supplies a much wished for companion to that inestimable variety. I can well fancy what a lovely effect the two will have when grown in quantity side by side. Everybody knows the value now of Gloire de Lorraine as a winter flowering plant. I think, if I remember rightly, it will be something like five years since I saw it first and remarked upon it in these pages, probably the first notice taken of it in this country, and, strange to say, it was Mr. Forbes who showed it to me, and even then expressed a desire to possess a white form. It, I am sure, must be gratifying to him to be the proud possessor of this new form, which he, with pardonable pride, calls "Caledonia," of which, if I am not greatly mistaken, much will be heard in the near future, as, like its parent, it has come to stay.—*W.S.*

The Orchid Grower's Calendar.

EAST INDIA HOUSE.—Great care from now onward should be exercised in the watering of all the occupants of this division, but more especially the Phalaenopsis. Growers are well aware that an over abundance of moisture at the roots during the winter months would almost assuredly result in the sappy leaves becoming spotted. Cultivators of these plants generally pride themselves on the length and breath of leaf they get on their plants. We are not so sure, however, that the largest leaves indicate the highest form of culture; as a matter of fact such plants are more liable to the attack of insects and disease than are those more sturdily grown.

During the summer months it is a common practice to place these plants on inverted pots, which are stood in saucers containing water. This is all very well during hot weather, but in winter I cannot conceive anything more likely to promote spot in the foliage than this, for the roots, in the majority of cases, attracted by the moisture so pro-

vided go down the sides of the inverted pots and into the water. Where such is the case we would advise that the roots be carefully detached, or, better still, that the saucer be cracked carefully so that the water may pass away.

These plants are very floriferous, quite small ones producing spikes. Care should, therefore, be taken that they do not over-tax their energies by being allowed to carry too many flowers on a scape. A little forethought in this direction will be very beneficial to the plants afterwards. This advice, of course, only applies to country districts, where fogs are either unknown or are not charged with sulphurous gases, as do those which prevail round London and the large manufacturing centres. In their case the fog fiend does all the disbudding necessary. I need hardly point out that when it is foggy the plants should be kept as dry as is prudent, and the temperature somewhat higher, so that the damp is dispelled almost as soon as it enters the home.

CATTLEYA HOUSE.—This has been a good season for producing flowering growths on most kinds of Cattleyas. *C. Mendelii* (one of the best) has sheathed up well, and should be so staged that it may get all the light and sun possible, so that the flowers may be of good substance and colour.

The delicate *C. Trianaei* *Schroderae*, too, has made splendid growths, and will in due course make a

but neatly constructed flowers, which are yellow and more or less shaded or tinted with bronze. Those who prefer smaller flowers—and they are certainly elegant when their other qualities include refinement of form and pleasing colours—will find them in *Gladys Foster*, a white variety with a hold yellow disc like an Ox-eye Daisy or Marguerite. The plant is of dwarf habit. The accompanying illustrations, lent us by Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, show how useful they should be for cut flower purposes.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made on the 7th inst. by the Royal Horticultural Society.

Orchid Committee.

CATTLEYA LABIATA ALBA PRINCESS OF WALES.—With the exception of the faintest rosy-violet suffusion on the centre of the lip, and a pale orange blotch well down in the throat of the lip, the flowers of this chaste and choice variety are pure white. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

CATTLEYA LABIATA.—Notwithstanding the numerous importations of this grand Cattleya the typical

Merit) A large plant in a basket was shown by Messrs. Hugh Low & Co., Bush Hill Park, Enfield. Floral Committee.

ANTHOLYZA AETHIOPICA VITTIGERA.—In habit this South African plant very much resembles a *Montbretia*. The tubular and ringent or gaping orange and scarlet flowers are very different, however. The plant is nearly hardy. (Award of Merit.) J. T. Bennett Poë, Esq. (gardener, Mr. J. Downes), Holmwood, Cheshunt.

BEGONIA CALEDONIA.—This is a pure white sport from *B. Gloire de Lorraine*, of which it is the entire counterpart in all save the colour of the flowers. (Award of Merit.) Mr. John Forbes, Hawick, Scotland.

VIOLET MRS. J. J. ASTOR.—The double, reddish-purple flowers of this variety are very distinct from any other Violet in cultivation. (Award of Award.) Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

NERINE MISS WILMOTT.—Flowers of a rich and brilliant scarlet, and very conspicuous. (Award of Merit.) H. J. Elwes, Esq., Coleshorne Park, Gloucester.

NERINE MRS. GODMAN.—Flowers of a beautiful shade of rosy-purple. (Award of Merit.) H. J. Elwes, Esq.

NERINE MRS. BERKELEY.—The soft orange-



CHRYSANTHEMUM GLADYS FOSTER.



CHRYSANTHEMUM ETHEL SUTER.

grand display. Keep moderately dry at the roots until the spikes are well up the sheath, when they may receive a more liberal treatment as regards moisture until the flowers expand. A starving process sometimes induces plants to flower, but it does not tend to produce large, highly coloured and well formed blooms.—S. C.

TWO SINGLE CHRYSANTHEMUMS.

WHILE the large exhibition types are being admired everywhere, and their good points all carefully noted down, it is well to remember that some really handsome features of a properly ordered garden are liable to be overlooked. The months of October and November are, in a large percentage of years, so mild and favourable to the open air cultivation of Chrysanthemums that gardeners are overlooking their opportunities who do not provide for a bright bed or two in the open. Single and double Chrysanthemums are just now very bright in many gardens, affording a pleasing contrast to the nakedness of deciduous trees. They also furnish clean and elegant trusses of flowers in astonishing quantity for indoor decoration in the cut state. Those who have conservatories to furnish know the value of single and double kinds in the bush state.

A useful single variety for this purpose, and one of the best of its class, is *Ethel Suter*, having large

form had never received a Certificate from the R.H.S. till the 7th inst., when a First-class Certificate was accorded to plants shown by R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), Cambridge Lodge, Camberwell; Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton; and A. H. Smee, Esq. (gardener, Mr. W. E. Humphreys), The Grange, Wallington. The sepals and petals are rich rose, and the lip is similar, but characterised by a large crimson-purple blotch, covering the greater portion of the lamina, and by purple and white lines in the tube.

CATTLEYA LABIATA GILMOURIANA.—The sepals and petals of this charmingly beautiful variety are pure white. The lip has a large deep purple blotch, surrounded by a broad white border, and the side lobes are white. The above spelling of the varietal name is ours, as it is named after a gentleman of the name of Gilmour. (First-class Certificate.) Mrs. Briggs Bury (gardener, Mr. Wilkinson), Bank House, Accrington.

DENDROBIUM COELOGYNE.—The habit of this rare species bears a strong resemblance to that of a *Coeogyne*. The sepals and petals are narrow, drawn out into long, slender points, and are fuscous-yellow, lined with purple. The lamina of the lip is brownish-black, and the yellow base and side lobes lined and spotted with purple. The wide and concave face of the column is purple. (Award of

scarlet flowers of this variety are very pretty, but of a tint difficult to describe. (Award of Merit.) H. J. Elwes, Esq.

Fruit and Vegetable Committee.

APPLE MRS. PHILLIMORE.—This Apple is oblate, angular, and of a rich crimson-red on the sunny side, in these respects resembling Cox's Pomona, but a trifle smaller. The flavour is that of American Mother. (Award of Merit.) Messrs. George Bunyard & Co., Maidstone.

PEAR EMILE D'HEYST.—Fruit of medium size, with a rich and juicy, melting flesh, ripening during November. (First-class Certificate.) Roger Leigh, Esq. (gardener, Mr. G. Woodward), Barham Court, Maidstone.

CABBAGES EARLY ECLIPSE, PERFECTION, JUBILANT, EARLY OCTOBER, AND ST. MARTIN, brought up from the gardens of the R.H.S., at Chiswick, each received an Award of Merit.

CHRYSANTHEMUM RALPH HATTON.—This incurved variety came before the Floral Committee of the National Chrysanthemum Society on Monday last. The blooms are large and strong, though a trifle coarse. The colour is silvery-mauve. (First-class Certificate.) Mr. Henry Weeks, gardener to Lady Byron, Thrumpton Hall, Derby.

HINTS FOR AMATEURS.

The Primroses.—It is well to reflect for a short time before filling every bed and border in the garden. There is quite a host of plants which in their season seem to possess a charm for us beyond almost all others. Primroses in all their variations are a class of sweet little flowering plants which no one would willingly be without. Our gardens would lose quite a half of their pleasantness were they absent. Then see to it that they are not overlooked at this time of year when so much planting is being done. According to taste or circumstances the amateur will plant mixed collections, which after all are best, or he will confine himself to colours which he most prefers. Yellows of all the shades, and pure white, are both very pretty. Crimson varieties also enrol a list of admirers. Perhaps of the many the yellows should be the more encouraged. Strong young plants if put in at once will furnish fine plants for the coming season.

Polyanthuses may as well be included under Primroses, although indeed they are the superior. We get a very rich range of colour in the Polyanthuses, ranging as they do from black to faintest primrose and cream. They are handsomer and better for many purposes than are the Primroses. Still for all that we should like to see a fair balance of both.

Violets.—These, as all know, are flowers whose popularity increases with the population. More and more growers take to them annually, and the trade or nurserymen have their work before them in getting the supply to face the demand. At this season they form one of our most valuable market crops, bushels of the dark coloured and sweetly fragrant flowers being daily sold in London and other large centres. The frames—where they are grown in frames—so long as such mild weather dominates should be kept well ventilated. It is not agreeable to the plants to allow much rain in about them, although an occasional natural watering from a soft downpour is very much to their advantage. The blooms ought to be plucked off as they appear, otherwise much of the plant's strength will be uselessly expended. The runners should be kept pinched and the soil kept stirred between the plants.

Violas, Calceolarias, Pentstemons, and other cuttings in frames must be attended to, chiefly in the airing. Should any number of plants damp off, and the present is a treacherous time, these may be removed with benefit to those left. They will not require water. Protection must be afforded them on all sharp nights. The frames, variously occupied with plants other than those named, such for instance as Deutzias, Staphyleas, Azaleas, and Roses, will only require attention so far as is necessary for the welfare of the plants therein, which at this season resolves itself into mere airing.

Plants indoors will be more in the way for receiving their due share of attention now than at almost any other time. Mignonette may or may not be in flower at this time in gardens. The exact period for which blooms are most wanted, whether now or later on, will be the ruling guide as to the season's timing and treatment. On no account subject them to any coddling treatment, and do not feed them too luxuriantly. It will generally be found sufficient for their needs to give them a rich compost and to pot firmly.

Allamandas.—For furnishing fast growing wall covers or trellis plants the varieties of Allamanda may be recommended with all soundness. In places or where their exact likings are not understood they are known to be shy, but otherwise, when doing well they furnish their rich cup or tubular-shaped flowers unceasingly for quite a period. They enjoy a strong, heavy loam, and plenty of root heat and moisture. After the flowering period they may be pruned back to firm wood. Being comparatively immune from pests they should be well appreciated by amateur gardeners.

Bougainvilleas.—Certainly whatever other climbing plants an amateur's greenhouse may be devoid of, we can hardly imagine one which has not its Bougainvillea glabra, B. g. sanderiana, or some form of these two. It is hard to tell what really is the best treatment. However, if the plants are making plenty of wood, plus a fair supply of their coloured

bracts, then all is as may be wished. If, on the other hand, they make strong, rampant shoots, without bearing "flowers," I should say they require to be root pruned, or confined in the rooting area. Where thorns are to be seen in the axils of the leaves this may be taken somewhat as a definition upon the luxuriance of the supply from the roots. "Instead of the Thorn shall come up the Myrtle tree," to make a quotation; but we may use the sense by saying that by confining the roots of the Bougainvilleas, instead of thorns there shall appear flowers, and this is true.

Lapagerias.—Again we have exceedingly handsome flowers. In the flowers of these plants we have something which is very rich; something which has great substance, and which, like anything else that is substantial, commands our respect. Lapagerias are easy to grow, provided that the proper conditions as regards border and temperature be provided to them. Their pruning is simply a matter of taking out older shoots which may have flowered, and which are only crowding other and younger shoots. An intermediate house or a cool house temperature will suit them. A good compost should be made somewhat after such proportions as three parts of rough, turfy loam, having body in it, to one of leaf mould, dried natural manure, a quarter of $\frac{1}{2}$ -in. bones, charcoal, and coarse brown sand. The plants should not be placed too deeply, but ought to be well firmed. Water should be regularly supplied to them, though in lesser amount during the winter or resting period. Their one great drawback is in the fact that they are wretched subjects for green and black fly. Fumigating is expensive and of little avail. The syringe or garden engine should be plied against them once a week so long as growth is in progress.

Window Gardening.—So far as possible the collection of plants in the dwelling house should continually be increased at least up to a certain pitch, but this, of course, must we suppose be regulated by the enthusiasm of the owners. What makes me say this is the fact that there are very many fine places about our houses which might be made to contain beautiful plants which have, even the smallest of them, an influence for good. Bath rooms might very well be furnished, and why not have small Maidenhair or Pteris Ferns upon the mantelshelves of any wall of the rooms where the air is sufficiently warm without being "scorching" or drying. When the plants appear to be suffering, as no doubt they would after a time, they could be taken to a properly constructed house to recuperate.

Sweet Briers and Roses.—The question need not be asked, Do you love Roses? for everybody with a soul does. Now is the time to plant up hedges of the Sweet Brier, and what is more fragrant or more picturesque or better for furnishing sprays of bloom during summer. Some capital Roses are:—pink, La France, Paul Neron, Her Majesty; crimsons, etc., Thomas Mills, Mr. Harry Turner, Prince Arthur, Star of Waltham, Fisher Holmes, Jules Margotten, etc.; white, Merveille de Lyon, Boule de Neige—a good wall Rose, and others. The old White Perpetual Moss Rose and Eugénie Verdier are nice varieties in their special section. Nothing surpasses Gloire de Dijon as an all-round Rose, being particularly good for covering walls, although when it gets old the lower parts are apt to become bare and scraggy. Aimée Vibert as a standard or bush Rose for the open takes a lot of beating.

The Fruit Houses.—Washing, pruning, tying, renovating of borders or top-dressing of the same, is work which at this time claims our attention. New trees may be needed in place of old ones, or an entirely fresh start may be made. Three good Peaches for all ordinary purposes are:—Royal George, Early Rivers, and Princess of Wales. Humboldt Nectarine may be recommended. For Vines, Black Hamburgh, Black Alicante, Gros Colman, Madresfield Court, are all splendid Grapes, and not beyond the careful amateur who has plenty of leisure.

Present Work.—Cleaning up in all its various phrases, together with repairs, planting, pruning, and the laying of edgings and lawns, is work which will otherwise keep the garden lover employed.—*Beacon.*

San Jose, now known from the dreadful scale of that name, is a most beautiful city in California.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

A dozen recommendable Chrysanthemums.—*Untutored:* We presume you want varieties which are remarkable rather for their decorative merit and ease in cultivation than first-class show varieties. As you say it is not easy for amateurs or rather novices to make a selection either from catalogues or from articles in the press. Well, the following are all valuable for your purpose:—Charles Davis, Vivand Morel, Source d'Or Improved, White O. J. Quintus, Vivid, O. J. Quintus itself, Souvenir de Une Petite Amie, John Shrimpton, White and Yellow Desgranges, Margot, Mrs. Rundle, and Mr. Bunn. But a couple of dozen more ought to be added.

The Stag's Horn Fern.—*Crypto:* The commonly known Stag's Horn Fern is botanically called Platycerium alcinorne. It need not necessarily be grown on pieces of bark or stumps. Very fine specimens can be and are grown in baskets. The great leathery "horn-like" vegetative structures or leaves as you care to call them soon spread in great luxuriance over and all around the sides of the basket. You can grow it to perfection in a greenhouse. Good rich turfy loam and some peat and charcoal will be found to suit it well.

"Book on Fruit Culture."—*One Desirous:* Many books might be mentioned, but one which first rises to mind and which was specially written for amateurs is that of Mr. S. T. Wright, the Superintendent of the Royal Horticultural Society's Gardens at Chiswick. The appendix of fruit pests given in the book are at first sight appalling to one unacquainted with fruit growing, but it need not be thought that insects are always about. Favourable circumstances, of course, will generally promote attack from some quarter, but by care the evil can often be "nipped in the bud." J. Wright's essay on "Fruit Culture for Profit," gives plenty of valuable information on the subject.

Hedge Plants.—*A. Johnstone, R.:* As has often been said, if you want a quick growing hedge subject, plant the Privet. A lasting, handsome, sheltering, and very ornamental but rather slow growing hedge may be got from planting Yew or Holly. The russet hue of the Beech is beautiful in winter just as its green is sweet and fresh in spring. It grows at a moderate pace and makes a first-rate hedge plant.

Violets Damping Off.—*J. Easter:* We know from experience with Violets in the smoke and sulphur laden atmosphere surrounding some parts of busy Yorkshire that it is difficult to grow Violets satisfactorily under such conditions. We can furnish no reason for the collapse of the foliage. Fogs are in no way productive of good. May they not have had a sharp frost and then have been bared to the sun. Keep the soil stirred between the plants and take off all dead leaves; ventilate cautiously yet fully during the mild weather.

Moving Fruit Trees.—This is quite a proper time to perform such operations, *Sligo.* Young trees you need have no fear or anxiety about. Directions have been given on this point in recent issues. Large established trees sometimes have to be shifted, and, of course, these entail care and more work. Begin well at the outside and work inwards and under the tree. Remove the heavier clods of soil from the top of the roots, but retain as much ball as possible. Lay mats beneath the side first excavated then work around the other. There will have to be a number of men to lift the whole thing into a cart or trolley, whence it may be carefully removed. The "head" or branches should be tied in bunches, and these again should be surrounded by one strong cord. The new station having been prepared, and some fresh loam in mixture being in readiness the tree may then be put into position, the roots being then well taken care of, and the soil made firm.

Plumbago capensis.—*Arrol:* This lovely plant is half hardy. A greenhouse will suit it quite well. Plant the young plant in a border, or, perhaps, if it is not yet very large you had better grow it on for some time yet in a pot. It likes a fairly warm, rich and moist border. Cut back the shoots after flowering.



THE ROYAL SCOTTISH ARBORICULTURAL SOCIETY AT SKIBO CASTLE. (See p. 186.)

ROYAL SCOTTISH ARBORICULTURAL SOCIETY.

THOUGH termed Scottish and with its headquarters in Edinburgh, this society has almost a world-wide membership, numbering at present over 800. Founded in the year 1854, with James Brown, Deputy-Surveyor of the Royal Forest of Dean, afterwards Wood Commissioner to the Earl of Seafield, as its first President, its history has been one of steady progress. Among past presidents we find many illustrious names, including His Grace the Duke of Athole, Earl of Stair, Earl of Airlie, Earl Ducie, Marquis of Lothian, Earl of Hopetoun, Dr. Cleghorn (one of the "Grand Old Men" in Forestry), and Profs. Balfour and Dickson. To our immediate past president, R. C. Munro Ferguson, M.P., of Ralsh & Novar, too much praise cannot be given. He himself being an enthusiast, the society flourished under his presidency as it had never done before; and arboriculture, from a commercial point of view, has been brought to the front. Scone Palace gave us a worthy successor in the Earl of Mansfield, whose conduct of the society's business during the past year has won him golden opinions.

About twenty years ago annual excursions were instituted and found to be of great educational value. Many districts in Scotland, England, and Ireland have been visited, and in 1895, German forests were inspected, starting what may possibly prove a revolution in our system of silviculture, more especially as regards thinning.

In August of this year the members, to the number of nearly 100, visited Beaufort Castle (Lord Lovat), Dunrobin Castle (Duke of Sutherland), Skibo Castle (Andrew Carnegie, Esq.), and Novar (R. C. Munro Ferguson, Esq.).

The excursion was admitted on all sides to be decidedly *practical*, the woods visited being vast in extent and planted with future profits in view.

Under the conduct of Lord Lovat and his worthy forester, Mr. D. Dewar, the first day was devoted to the more recently planted woods on Beaufort, and on several occasions discussion was both interesting and instructive. Staying over-night at Dingwall, an early train landed the party next forenoon at Golspie, where Mr. McLean, Commissioner to His Grace the Duke of Sutherland, Mr. D. Robertson, wood manager, and Mr. D. Melville, gardener, took over the charge. The day's proceedings included a 20-mile drive, the turning point being Loch Brora. Leaving Golspie on the third day, the excursionists drove to Dornoch, inspecting various plantations on the way. A pleasant afternoon with the new Laird of Skibo (Andrew Carnegie, Esq.) was passed in the fine Policies, and after being photographed the party drove through magnificent scenery along the shores of the Dornoch Firth to the Bonar Bridge, where train was taken back to Inverness. The Earl of Mansfield and Mr. R. C. Munro Ferguson led the party throughout, and to these worthy arboriculturists the best thanks of the society are due. The accompanying photograph (see p. 185), taken at Skibo Castle, as above-mentioned, shows seventy-two of these enthusiastic arboriculturists, besides a number of ladies. The annual excursions to several of the best-kept forests in Britain, as well as on the Continent, cannot but result in much practical benefit to the country.

The excursion of 1900 is to France, and will extend over a fortnight. Col. Bailey, Lecturer of Forestry at Edinburgh University, and the indefatigable secretary, Mr. R. Galloway, are well forward with arrangements.

RUSSELL'S BRENTWOOD NURSERY.

(Concluded from p. 155.)

THERE is an unusually fine stock of the Daisy-bush (*Olearia Haastii*). Thousands of young Hollies in varying heights and stages all seem very much at home. In the middle of the nursery there is a central roadway which runs north and south dividing the nursery into halves. The lateral paths or roads which diverge from this main path and others at the west side, allow a passage for cart traffic, so that manure or any cartage whatsoever can go right to the scene of planting or digging operations. Roses are very largely grown and magnificent plants have been produced in the Brentwood soil. The shoots are strong, perhaps too strong (if such can be), for the production of refined blooms. Still, everybody desires strong, vigorous Roses, because it is evident

that weak Rose-trees will never produce either quantity or quality of flower. The Golden bush-Yews, the Sycamores, Elms, Ashes, Acers, &c., are all ready for the buyers, and we guarantee no planter will feel dissatisfied with them.

Negundo aceroides variegatum and others of the ornamental variegated Acers are a special feature to which Mr. Smith pointed with pride. The standard Robinia Pseudacacia inermis, R. P. i. aurea, and R. hispida, were as pretty with their flowing bushy heads, as the great back of an ostrich, and would tempt gardeners to secure a few, even though their grounds were well enough furnished already.

Roses occupy the opposite side of the central path, all the length of where these trees just mentioned are growing. Turner's Crimson Rambler, Carmine Pillar, and climbers, standards, dwarfs, are all to be seen, though to name them would be purposeless. Much of the land has yet to be planted up.

As much as ten acres is set out for contemplated planting during the coming winter. The land is thoroughly well prepared, being broken up in the first instance by the plough and repeatedly cross and re-cross ploughed; well decayed manure is at the same time worked in. *Apropos* of the notes on planting, the work in this direction was merely started, yet already they had put in 40,000 young Laurels.

The foreman has very sensibly planted an area of what used to be marsh-land with Osiers, Willows, Birch, and such like trees. The land is comparatively dry now, and having formed drains as well, the surplus water is conveyed to a small pond near by, which is used for aquatic plants. Thus from the Willows the ground will amply pay itself because the canes can be used for packing and other uses. A "bolt" of Willow wands costs 7s. 6d.

Some fine old standard Rhododendrons are a feature worthy of special note. The selection of Abies, Piceas, Cryptomerias, and such like trees is seen to be very complete the longer one inspects, and the general high standard of perfection at which everything is sustained is constantly kept before the visitor. The department for climbing plants contains a wide selection of Clematis, Wistarias, Ampelopsis, Bignonias, Crataegus, Loniceras, and other things.

FRUITS.

Strawberries occupy no inconsiderable space, and here we have the best varieties all ready layered, some in pots, others merely rooted in the soil. The position, soil, and treatment are all favourable to the production of healthy and strong growing plants.

The Plums of two years' growth are marvels. It is not as though the trees had run wild in their luxuriance, for they have stout, well ripened wood and plump buds. We rather think that the new soil and the generous treatment to boot, with the hot summer through which we have passed, have been the causes which together have worked so well. Currants are in fine healthy condition. The Peach, Apricot, and other trees did not seem in the least fagged out after their summer's growth, for the foliage was quite fresh at the end of September. Apples and Pears can also be had in all forms and ages, from young maiden cut backs to well trained, pyramidal, bush, or standard trees.

We had just a glance in at Mr. Smith's own home and garden. Here there is quite a variety of climbing plants, and an army of arches, such as for number one might see in some great triumphal procession. The garden is cropped with vegetables, while good crops of fruits come from the Apple and other trees. He has been very successful with outdoor Tomatos, relying very strongly on that fine variety, Up-to-Date. Before parting with the genial foreman we saw a botanical book which Sir Joseph Paxton gave as a keepsake to Mr. Smith's father, the two having been bothy lads together.

Mr. Russell, who like his other brothers, is a most courteous and kindly gentleman, offered us hearty hospitality, and gave us a pleasing send-off.—J. D.

To get rid of Vermin.—Insects and those innumerable host of "creeping-things" which infest all sorts of places may be kept in abeyance by the use of carbolic soap, washing this over the boards of walls. Then sprinkle unslaked lime in all the crevices and between the boards. It would be better to limewash all walls of houses where trouble comes from vermin.

CHRYSANTHEMUM NOTES.

RYECROFT NURSERY, LEWISHAM.

The name of Jones seems always to reverberate at the mention of word Chrysanthemum, so in like manner, *vice versa*, the sound of Chrysanthemum implies Jones. Mr. H. Jones, of Ryecroft Nursery, Lewisham, S.E., comes to the front in the old way like the renowned pugilists, ready to try his mettle with other Knights of Adam's Craft. The Ryecroft blooms this year may be smaller or later than usual, but it balances matters when we say that the decrease of strength in the blooms may signify an increase of strength in constitution and in the stems and cuttings. The foliage everywhere is strong, leaving nothing to be desired, and Mr. Jones can console himself in that he has no attacks from Puccinia Hieracii, popularly known as "Rust." This of itself is reassuring.

The collection runs into thousands of plants, the Japanese varieties being, of course, paramount. Novelties of great merit are "mobilised" in one of the large span-roofed houses—three of which are filled—and if one may be allowed to select a favourite preference might be given to that glorious bloomer, R. Hooper Pearson. It is simply beyond description. The depth of the colour tone resembles what might be expected from a ten times concentrated Eschscholtzia bloom; indeed there is even a glow in its depth of yellow. Helen Shrimpton is another large and beautiful flower, crimson this time. The florets are slightly tipped with gold, and have a silvery reverse. That variety, the most magnificent of blood-red crimsons, H. J. Jones, has not come to perfection yet, but the later blooms when fully expanded will be very fine. Mrs. W. Seward, a seedling from M. Chénon de Léché, and which had a F. C. C. awarded to it, is likewise very superior, adding another to the list of crimsons, or crimson-scarlet with old-gold reverse, to be accurate. Lili Boutroy, a massively handsome incurving Japanese variety of a pure white tone; Eastman Bell, almost the prototype of Edwin Molyneux, and resulting in Mr. Jones's collection as a sport from President Borel; Rivers H. Langton, a beautiful canary sport from Mrs. W. H. Lees, equal in all respects to the model parent blooms; and Mrs. J. Bryant, of a soft peachy-pink, reflection of great substance, and with broad incurving florets, compose a quartette of newly introduced varieties, upon which it seems difficult to improve. Lionel Humphreys takes after the E. Molyneux pattern, and has all the qualities which go to compose a first-rate variety. C. Arthur Pearson makes a splendid flower, and one strongly to be recommended. Mr. A. Barrett resulted as a sport from the reputable Mrs. C. Harman Payne. The blooms, which are of a dark rose with cinnamon suffusion, develop to a marvellous size, and under favourable conditions this will form an extra handsome flower.

It may here be noted that the recent persistent and vitally destructive fogs have left their black trail behind them as evidenced by the number of fine buds which are but half expanded. So far the bud expansion proceeded quite satisfactorily when down came the fogs bringing with them a thick coating of soot which for days prevented an adequate supply of light. The result is seen in that all the more robust varieties which country growers find to succeed best are retarded in their growth. Happily the spring-like breezes, the unrestricted sunlight and the potentiality of the plants themselves are combining to revert the tide to a successful issue. The Hon. W. F. D. Smith has that merit which will carry it a long way. Lady Anglesey was first sent out as a yellow, in colour like Sunflower, but the introducer has produced a shifty variety having a larger amount of brown colouring than the description of Sunflower would ever lead one to assume. Queen of the Exe is also well spoken of this year by growers. Good whites such as this are always welcomed. Mr. Louis Remy is a bright variety of sterling worth; and Kathleen Rogers, another Japanese incurved white is also a notable variety and must be watched.

Mrs. Wingfield is most suitable as a bush plant for decorative purposes. And this reminds us to bring in a few of the decorative early flowering Japs. Ryecroft Scarlet stands very very high in this section. It last year received a F.C.C. growing only 2 ft. in height, of compact habit, it waves in wreaths of bright scarlet-crimson sheaves. The florets com-

posing the blooms are fluted and rayed after the manner of a Cactus Dahlia, hence its popular designation, the Cactus Chrysanthemum. Vivid, of a chestnut-red and yellow combination; Pink and Red Selborne, Mytchett Glory, white O. J. Quintus, Golden Queen of the Earlies, and a host of others, whose individuality even amid thousands of others was superior or striking enough to attract special attention, must all be included in this discursive summary. The varieties here enumerated can all be relied upon, either for the fact of their every point being perfect, or from the special purposes and places which they occupy.

BATTERSEA PARK.

It would be somewhat discouraging if the various superintendents who, in some of our London parks, work so assiduously to please so diverse and many-sided a body as the public, if their efforts did not call up the gratified appreciation and attention of the said "body." Happily, we are in a position to know that the work of providing floral receptions is well taken to. At Battersea Park recently, when a flying visit was paid to the splendid house of Chrysanthemums at this place, there was ample evidence that the summer endeavours of Mr. Coppin and his assistants were receiving the homage of a large number of neighbouring residents, carriages, hansoms, growlers, all with their well-to-do occupants; invalids in their hand-carriages, cherubs in perambulators, and respectable people of ages between six and sixty were passing through the house in a steady procession.

The house, by the way, is a well-constructed span, running east and west, and of moderate height and breadth, though having a considerable length. Herein are staged, or rather arranged upon the basement, plants to the amount of about 2,000. It takes no stretch of imagination to picture the brilliant display, a display, too, just after the popular conception of beauty. To form a more complete and realistic mental scene, we may remark that the sides, ends of the walls, and part of the roof are all draped with distinct bands of colour. For instance, the pinky hued variety Margot has been trained up the wall at the west end of the house. Its long shoots and the softly coloured pretty bunches of blooms are spread over a considerable space. The same variety also forms the top "band" or flowing line of colour along the right hand top side. Below it, forming another band, this time of glossy chestnut-orange, we note the old Source d'Or. The creamy Lady Selborne mixed in the lower falls with the chestnut coloured line above it. Then the whole body of the large flowered plants is banked on the right hand side, where the tallest varieties are behind, but slope to the front.

As might readily be supposed, the Japanese varieties are in the ascendant. Now to the uninitiated, it might be supposed that the conservatory plants, or plants of this description grown in parks for untutored Chrysanthemists or horticulturists, would be very so-and-so. But at Battersea such is not the case by a very long way.

Indeed, although we do not pose as judges of the minutiae in quality, it is not too much to say that Mr. Coppin could glean some splendid blooms fit for the best exhibition classes. Of course again the varieties are well-known and of high reputation; some indeed such as La Triomphante, Delaware, Golden Empress of India, Modesto, Prince of Wales, M. Chénon de Léché, Mme. Gustave Henry, and many others having been out for years. Some of the very finest flowers at Battersea Park were borne on Lady Byron, one of the finest whites; Comte F. Laurani, pink; Rose Wynne, large, handsome, and snow white; Eda Prass, pink; Mrs. E. S. Trafford, a dozen times beautiful with its buff reverse and lavender-red centre; and Mme. Edmund Rogers, whose reputation as "the green one" seems to have spread around, for visitors were on the alert the moment they entered. Finer or greener blooms could not be seen. Mrs. H. Weeks, Lord Brooke, Queen of England, W. H. Lincoln, Wm. Seward, Col. W. B. Smith, Esau, John Shrimpton, Souvenir d'Une Petite Amie, Australie, and a fine lot of dwarf Soeur Melaine, Précocité, etc., may be mentioned as first-rate. The general condition of the plants, their habit, growth, quantity and quality of the blooms, and the build, substance and tone of them, may all be recorded in one word, EXCELLENT. Mr. Coppin and

his helpers have reason to be satisfied at their success.

VICTORIA PARK.

FROM Finsbury Park down to Victoria Park is but a matter of forty minutes' journey; and having been well pleased with parks already visited the resolution must needs be carried out of visiting the other and larger London lung.

Having by various means of transit reached Victoria Park, the show there presented was quite up to expectations. Visitors are gratified at the greater facilities of seeing or properly viewing the plants which prevails this year. These have been lowered more so than in the previous times, and with much advantage to the general effect. The house in which the plants are placed is a very large one, a span house, with a central path, the two sides being banked up with great tastefulness. The vigour of the plants left nothing to be desired, the quality of the plants being of much merit even though they are classed by the thousand. The blooms, of quite a number of varieties, will not be at their best until the end of the present week. Those which stood out prominently among their fellows were exceedingly fine. Mrs. Charles Blick may be mentioned, and this is a very neat and pretty white. Col. W. B. Smith was effective, and here may be seen that very sweet old variety, which so many gardens would be the richer for having. We refer to Golden George Glenly. Mrs. G. Rundle is another of the old favourites, just like a ball of snow. Louis Boehmer was very fine with the hairy florets.

The pretty single flowered Mary Anderson, which was much lauded a year or two ago, is shown in magnificent style at Victoria. Mrs. Hume Long much resembles the old La Triomphante. Australie was represented by some splendid specimens, which proved the care and skill brought to bear on the culture of this fine incurved Jap.

Charles Davis had the qualities for being extra large and good, but required some little time in which to develop. Reine d'Angleterre was likewise in fine form. Mr. Bunn, a sweet and very neat incurved, is, like George Glenly, a variety which should never be omitted from collections which have to supply large quantities of decorative plants for cut blooms. Its brightness is not a gaudy blaze but rather a deep, soft and charming glow of yellow.

Criterion, R. C. Kingston, J. Shrimpton, Lord Brooke (this latter in extra good form), M. W. Holmes, &c., are all there, and to see them after a separation of some years brings back all the thoughts of the times gone past, and of reflection both upon that past and wonderment about the future. N.C.S. Jubilee has made a place for itself everywhere, even, although, in the specialists' parlance, "it's an old 'un." A fine yellow Jap. is A. H. Fewkes. Baron Hirsch, close against Lady Byron, were together, and individually very lovely. Mme. Carnot reigns in glory at Victoria Park, and even the almost obsolete La Triomphante has its place. D. B. Crane was well represented, and this, as here shown, is an extra fine incurved variety. Margot, Ryecroft Glory, Gloire de Rocher, together with others of this ilk, had each a place to fill, and filled that place admirably. Ryecroft Glory produces immense quantities of its fine golden yellow flowers.

But our survey must be terminated. There is ample evidence at Victoria, at Finsbury, and at Battersea Parks that the best skill is at command in these places, and that there seems to be the determination that no half shows shall be presented, but that, if care and persevering work can produce a successful result, these necessities shall be forthcoming.

CHRYSANTHEMUM SHOWS.

BUDLEIGH SALTERTON.—Nov. 2nd.

A wet afternoon and evening greatly interfered with the attendance at the above show and it is to be feared the society will feel the loss financially. The entries were far in advance of previous years, and the Freemason's Hall, as well as the Public Room, were required to accommodate the exhibits.

In the Class for a circular group, B. Russell, Esq., (gardener, Mr. Curtis), easily won, the blooms were fine and the arrangement good. The same exhibitor took first for twelve Japs., distinct, followed by Mr.

Hillman. Last year the reverse was the case in the latter Class. Mr. Russell also took first for six Japs., distinct, twelve incurved, six incurved, distinct, first for six Ferns, also six Primulas. For table plants, and for six Pelargoniums in bloom, Mr. Waring was first, and Mr. Russell second.

Fruit was well represented in Apples and Pears, Mrs. Miles, Miss Davis, Rev. H. Rawlinson, Rev. G. Dawes, Mr. Baker, Mrs. Clotworthy, Captain Cooper, and Capt. Pepys taking the leading prizes. No less than eight ladies competed for table decorations, any kind of flowers and foliage, size, 3 ft. by 2 ft., to be decided by ballot; first, Mrs. Knee for a very light arrangement where Cosmos was largely used; second, Mrs. Templeman; and third, Mrs. Russell, the last exhibit being pretty, with white Chrysanthemums, double white Primula and Marie Louise Violet. There were also prizes. For baskets of berries and autumn foliage, and several were done remarkably well. Mr. Mayne, Bickton, and Mr. Pike, Exmouth, acted as judges.

BIRKENHEAD.—November 6th.

THE thirteenth exhibition was held in the Association Hall on the 6th inst. The entries showed a decrease of about twenty, although the quality was fully maintained.

In the cut flower section the premier lot of twenty-four Japanese, in not less than eighteen varieties, was won by Mr. G. Haigh, gardener to W. H. Tate, Esq., Highfield, Woolton, with a fine even stand, the varieties being Mrs. White Popham, 2, Pride of Exmouth, Mr. G. W. Palmer, Australie, 2, Gustave Henri, Mrs. C. H. Payne, Eva Knowles, Ella Curtis, Lady Hanham, J. Bidencope, Vivian Morel, 2, Secretaire Fierens, Lady Ellen Clarke, Modesto, Mons. Hoste, Chatsworth, Mrs. J. Lewis, Phoebus, M. Hoste, Chas. Davis, and Pride of Exmouth. Second, Mr. J. Davis, gardener to E. Ellis, Esq., Heswell, with a good lot; and Mr. W. Neish, gardener to J. H. Ismay, Esq., Caldys Manor, took the remaining prize.

For twelve Japanese, distinct, Mr. J. Williams, gardener to C. J. Proctor, Esq., Nocturnum, took the lead with Edith Tabor, Lady Hanham, Pride of Madford, Phoebus, &c. Second, Mr. J. Davies; third, Mr. W. Neish.

For twelve distinct incurved varieties Mr. J. Davies had the best, the finest being Ma Perfection, Mrs. W. C. Egan, Topaze Orientale, Baron Hirsch Lady Isabel, and King of the Yellows. Mr. G. Haigh was second, and Mr. W. Neish, third.

In the local division Mr. E. Broady, gardener to W. H. Jones, Esq., Hooton, was to the fore with twelve good Japanese flowers. Mr. J. Williams was second. For twelve distinct incurves, the same position was sustained, both boxes containing good flowers. For six distinct Japanese Mr. H. Reynolds, gardener to W. Johnstone, Esq., took the lead, and Mr. J. Williams took the coveted award for six incurves. For three vases, Mr. J. Williams won with a nice arrangement.

PLANTS.—For one untrained, Mr. A. Brown, gardener to G. Webster, Esq., won with a good plant; Mr. T. Edwards, second. For one Palm, Mr. T. Edwards, with a good Phoenix; Mr. S. E. Haines, gardener to W. T. K. Laird, Esq., was second. For six Primulas, Mr. A. Brown led in a well contested class. Mr. J. Williams was to the fore with six Cyclamen. For one bouquet of Chrysanthemums Mr. J. Williams won with a pretty arrangement. For four stove plants Mr. A. Brown won with considerable merit; Mr. S. E. Haines was a good second. For a group of Chrysanthemums, arranged for effect, Mr. S. E. Haines won with a fine lot, with every plant name which is to be highly commended. For six table plants Mr. T. Edwards won with a nice even collection. For one Mignonette Mr. A. Brown won with a good plant.

FRUIT.—For four dishes, Mr. T. Ferguson, gardener to Mrs. Paterson, Rock Ferry, had the premier lot, staging Grapes Trebbiano and Barbarossa, Pears Louise Bonne, of Jersey, and Apple, Ribston Pippin; Mr. Jas. Williams was second. For two bunches of Black Grapes Mr. T. Reid, gardener to D. Wilson, Esq., won with good bunches of Barbarossa; Mr. A. J. Ewbank, gardener to G. Jager, Esq., with the same variety. For two bunches of White Grapes Mr. H. May, gardener to Chas. Gatehouse, Esq., was first with Muscat of Alexandria, and Mr. T. Reid with Trebbiano, were placed in the order named.

In the case of eight dishes of culinary Apples, unfortunately the two best collections had to be disqualified owing to the inclusion of Blenheim Orange. Mr. J. Lee, Behbhington, was the winner. For one dish culinary Apples Mr. J. Davies, gardener to W. E. King King, Esq., Bodenham, won with Peasgood's Nonsuch; Mr. H. Powell, Dinmore, second, with the same variety. For six dishes dessert, Mr. J. Davies won with highly coloured Kedleston Pippin, Rihston Pippin, Worcester Pearmain, Blenheim Orange, King of the Pippins, and Cox's Orange Pippin; Mr. J. Lee, second. For the single dish, Mr. Lee won with Rihston Pippin. For the single dessert Pear, Mr. H. Reynolds won with Doyenné du Comice.

For the local classes, Mr. J. Lee won for four dishes culinary Apples; and for four dishes dessert, Mr. S. E. Haines won; and with Warner's King for the single dish of culinary Apples. Mr. Reynolds was to the fore with four dishes of Pears, Mr. S. E. Haines with the single dish staging Doyenné du Comice.

Certificates of Merit were awarded to Mr. W. Henderson for a group of Palms; Mr. J. Ennion for Chrysanthemums and Palms; and Mr. W. Mason for Wreaths, Bouquets, Sprays, etc.

Judges for Fruit were Messrs. J. Stoney (Woolton), and Mr. A. Jamieson (Neston); for plants, Messrs. W. Tunnington (Allerton), and T. Leadbetter (Nottingham). The secretarial duties were well carried out by Mr. W. Riley.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.—November 7th.

The winter exhibition of this society opened at Ball's Bridge, on Tuesday, November 7th, amidst rain and wind.

The floral exhibits were not so good as at last year's show, and the first prize, offered by Lord Ardilaun, for a group of Chrysanthemums (thirty pots), staged for effect, was not awarded; Mr. P. Geoghegan took second prize here, and then came top for Lord Ardilaun's Challenge Cup, offered for group of thirty-six pots; he was also the winner in the class for six pots of pompons, not less than three varieties.

Mr. D. M'Lees took the £3 prize for group of twelve well grown plants, and was second for specimen Chrysanthemum.

Mr. P. Coghlan was second both for the Challenge Cup, and twelve plants.

Lord Ardilaun's gardener, Mr. A. Campbell romped in at top with his group of foliage and flowering plants, and was followed by Mr. J. Byrne.

Mr. J. Cavanagh's specimen plant took first prize.

The cut bloom section was also somewhat lower in entries. Mr. J. McKellar, The Castle, Durrow, Queen's Co., again made himself easy champion in every available class, and with good blooms too. His record is for forty-eight blooms in as many varieties, the society's large Silver Medal and £10 cash; for thirty-six blooms, half each incurved and Japanese, twenty-four varieties, the Challenge Cup, value £10 10s. and £3 cash; for twenty-four blooms, Japanese, in separate varieties, "The Gardeners' Prize" Challenge Cup, value £10 10s., and £3 cash; for twenty-four blooms, incurved (not less than twelve varieties), the Ichthemic Guano Co.'s Piece of Plate, value £3 3s., and 30s. cash; for six blooms, any colour, one variety, first prize of 10s.; for the best Jap. bloom in the show, the Silver Medal presented by Mr. H. J. Jones, Ryecroft, Lewisham; for the best incurved bloom in the Show, another Silver Medal and money prize given by Mr. H. J. Jones.

In his stand of thirty-six blooms, Mr. McKellar showed Miss Nellie Pockett, Mrs. J. W. Barks, Baron de Rothschild, Charles Davis, Edith Tabor (in good colour and form), Mdme. G. Bruant, Pride of Exmouth, Mrs. Mease, Mdme. G. Henry, Le Grand Dragon, Vivian Morel, Col. W. B. Smith, Australie, Lady Hanham, Mrs. J. Lewis, and Mdme. Carnot. The following is his list for the forty-eight stand:—Mrs. W. H. Lees, Graphic, Wm. Towers, Royal Standard, Mdme. P. Rivoire, Mdme. G. Henry, C. F. Payne, Belle Mauve, International, Vivian Morel, Milano, Edith Tabor, Mdme. Carnot, Duke of York, Dorothy Seward, Charles Davis, Mons. Hoste, Mrs. C. H. Payne, Australie, Mrs. G. W. Palmer, Modesto, Mrs. Mease, Mrs. W. Popham, Lady Byron, Simplicity, Lord Ludlow, N.C.S. Jubilee, Duke of Wellington,

J. Bidencope, Gen. Paquie, Lady Hanham, La Isere, Phoebus, Le Grand Dragon, Mrs. J. W. Barks, Col. Chase, Mrs. Barkley, Pride of Exmouth, Col. W. B. Smith, Eva Knowles, Baron de Rothschild, Mutual Friend, Mrs. J. Lewis, Australian Gold, and Edwin Molyneux.

Mr. H. Crawford, gardener to the Countess of Pembroke, came next to the champion in the forty-eight and twenty-four (incurved) classes. Mr. A. Porter (Lord Ashtown) was second for the thirty-six, also for the twelve incurved, first for twelve (six Japs. and six incurved, each different), and third for six yellow Japs., in one variety. Mr. M. Maher (gardener to C. S. Spear, Esq.), followed the winner of the "gardeners'" prize for twenty-four Japs., was also second for twelve Japs., was first for six Japs. of any colour other than white and yellow, and first for six yellow Japs.

Mr. J. Farrell (gardener to Clifford Lloyd, Esq.) secured first for 12 incurved, in six varieties, and was V.H.C. and C. in other classes.

Mrs. Blasker's gardener (Mr. A. Dryden) took the "Ryecroft" Silver Gilt Medal for twelve Japs., in six varieties, and he was second with his variety of six white Japanese, being beaten by Mr. M. Kearns, who followed by getting third for six Japs. (excluding white and yellow), and second for six yellow Japs. Mr. M. Reilly was second for six of each in a group, third for six white Japs, and second for six incurved, any colour, one variety.

Mr. J. M'Lennan, of Enniscorthy, was first for twelve Anemone-flowered in at least six varieties, and first for six different table plants in 6-in. pots. In the Anemone class he was followed by Mr. W. Morrison and Mr. P. M'Kenna. Mr. Morrison was again second with six Japs. (white and yellow excluded).

THE FRUIT SECTION was well represented, especially the Apples and Grapes. Lord Ashtown's gardener, Mr. Porter, took Messrs. Wm. Thomson & Sons' (Clovenfords) prize for Grapes, and two other awards.

Mr. R. M'Kenna (gardener to Lady E. Bury) took no less than six prizes; for the Right. Hon. J. Meade, Mr. Colgan secured three. Mr. P. Geoghegan was first for a dish of Warner's King; Mr. R. Russell, for six baking Apples; Mr. J. Harvey, for six dessert Pears; Mr. J. M'Linden, for six dessert Apples; Mr. G. Carroll, for six Rihston Pippins; Mr. P. Inglis, for six Cox's Orange Pippin; Mr. M. Reilly, for six Tomatos; Mr. J. Tobin, for dessert Pears in twelve varieties; Mr. R. Russell, for six varieties of dessert Pears; Mr. H. Hartley, for dessert Apples in six varieties; and Mr. C. Reynolds, for four varieties of dessert Apples.

THE VEGETABLE exhibits were not very numerous. The undoubted champion was Mr. J. M'Lennan, gardener to Lord Carew, Enniscorthy, who secured six awards. Mr. M. Hartley took three; Mr. A. Porter, four; Mr. C. Reynolds, three; Mr. J. Colgan, two; Mr. R. Russell, two; Messrs. M. Kearns, R. Stitesbury, J. Byrne, and J. Cavanagh, one each.

THE DINNER TABLE DECORATIONS brought nine competitors, who made some very pretty displays. Miss M. A. Kelly took first prize, and Mrs. Ross (wife of the late genial secretary), second.

MISCELLANEOUS EXHIBITS.

Messrs. W. Wells and Co., Ltd., Earlswood Nurseries, Redhill, Surrey, brought two dozen fine heads, consisting of Mr. T. Carrington, Mdme. Felix Sabut, Nellie Pockett, H. J. Jones, Lord Ludlow, Mrs. Mease, Janet, Lady Clarke, Mr. Louis Remy (a fine yellow sport from Mr. C. Harman Payne), Silver Queen, and Mrs. W. Popham. The exhibit was further enlivened with some sprays of early flowering and decorative varieties, including the new Etoile de Feu, Triumph, Rayonnant, the pretty Mychett Beauty, and Vivid, whilst among the singles Miss Mary Anderson, Emily Wells, Miss A. Holden, and Virgin Queen were well displayed.

Messrs. Issac House and Son, Westbury-on-Trym, Bristol, had the premier position of the Hall, that facing the entrance, for a neatly arranged table of their famous Violets; the varieties displayed were California, Luxonne, Mrs. J. J. Astor, Princess of Wales, Victoria, La France, Italia, Lady Hume Campbell, Marie Louise (Tanner's variety), and Clarence Castle. The inimitable way in which Mr. House arranged his flowers (so different to the usual method of lumping them together), combined with the sweet fragrance emitted and the variety in colour

and shape of blooms, aroused great interest amongst the visitors.

Messrs. Saunders and Sons, Friars Walk Nurseries, Cork, sent a collection of two hundred dishes of fruit, including fifty varieties of Pears, and a hundred of Apples.

Blenheim and Cox's Orange, Cellini, Munster Pippin, Queen Caroline, Glory of England, Washington, and Gascoigne's Scarlet were nice looking Apples, and Glou Morceau, La France and Beurre d'Aremberg were fairly good in Pears. This group was awarded 3rd prize.

Messrs. Alexr. Dickson and Sons, Newtownards, Co. Down, again sent a really good display of Apples and Pears. Amongst so many well grown and brilliant specimens it is somewhat difficult to make a selection, but a new Apple, "Mile Cross," attracted a great deal of attention. It is noted for its qualities as a "keeper," and though the colour at this early time of the year is somewhat against it, gardeners would do well to grow it for Xmas and New Year luxury. The two hundred odd dishes on this stand comprised almost every known and tried variety of Apples and Pears, and the pretty colourings combined with size and aroma, caused many a Dublin visitor to book names. A great feature of this stand was a board containing three bunches of Grapes, Barbarossa. They were about 14 in. long and 9 wide, superbly coloured, of good size, and berries very close. (First Prize.)

Mr. Hugh Dickson, Belmont Nurseries, Belfast, sent about 150 dishes of Pears and Apples. These were all finely coloured and tastefully arranged. Amongst the Apples we noticed Colville Rouge, Lane's Prince Albert, Royal Jubilee, Lady Henniker, Warner's King, Summer Peach, Beauty of Kent, Gibby's and Ballyfaton amongst the more well-known varieties; and in Pears, Louise Bonne of Jersey, Beurre d'El, Duchess d'Angouleme, Ne Plus Meuris, and Swan's Egg were specially noticeable. (Second Prize.)

Messrs. W. Tait & Co., Capel Street, Dublin, exhibited a table of fruit, including most of the well known varieties of Pears and Apples. Northern Greening, a kitchen Apple in use from November to April, and Easter Beurre as a Pear lasting till March, were good samples. (Commended.)

Ichthemic Guano made itself known in the usual way. Mr. Smout, the firm's present representative in Ireland, arranged a neat assortment of Palms and Ferns amongst his tins and bottles, and seemed to be doing good business.

The *piece de resistance* of this show year by year is the competition between local nurserymen in grouping decorative plants. On the present occasion there is unfortunately only one competitor, Messrs. C. Ramsey & Son, Balls Bridge Nurseries. The group is well worth the Silver Medal which the society awarded it, for even in the event of competition it would have taken a lot of beating. As we propose giving a picture of this group in a subsequent issue we shall not now give details of its construction.

The ladies of Messrs. Ramsey's staff also showed their skill in arranging a table of florist's designs; a banjo, composed of single yellow Chrysanthemums, with Violets for strings and Roses for thumb screws, was greatly appreciated, and a cushion of blue Violets with white wording "Rest" appealed to the pathetic side of the visitors.

Messrs. Wm. Watson & Sons, Clontarf Nurseries, Dublin, made a pretty display of decorative outdoor Chrysanthemums, comprising Pomponium, Crimson Précocité, Comtesse F. de Cariel, Roi des Précoces, Liger Ligneau, Harvest Home, Ryecroft Glory, Queen of the Earlies, Crimson Pride, Rose Wells, Mychett Beauty, St. Crouts, Miss L. Stevens and Nellie Brown. This firm also staged some husky plants of Carnations, all in flower and bud.

Messrs. Hogg & Robertson, The Queen's Seedsmen, Mary Street, Dublin, who have made several grand displays of Tulips at the R.H.S. meetings during the year, here arranged a very tasteful display of Apples and Pears, ornamented with gay foliage and Pernettyas in variety.

Mr. John Forbes, Hawick, brought specimens of his new Begonia Caledonia. This is beginning to get known as a novelty which will quickly make itself very much in evidence as a companion to Gloire de Lorraine. In spite of the fact that Mr. Forbes had a very rough passage, being thirteen

hours late on the boat, the box of plants looked fresh, clean and healthy.

In justice to our own and other Press reporters we are constrained to remark that some of the officials of the R.H.S. of Ireland might show a little more courtesy to wielders of the pen and pencil.—
[EDITOR.]

SEVENOAKS AND WEST KENT.—

November 7th and 8th.

THE annual exhibition in connection with the above society was held in the "Club Hall," on Tuesday and Wednesday, November 7th and 8th, and was a great success.

The committee, with a view to bringing to the fore the decorative qualities of The Autumn Queen, altered the working of the schedule as regards the groups, so that, instead of a formal mass of large flowers, the forty plants which exhibitors were confined to was made most effective by the introduction of autumn foliage Ferns, Crotons, &c., and so pleased the committee and public generally that the old style of groups is, as far as this society is concerned, a thing of the past.

In a very keen competition, Mr. W. Tebay, gardener to Mrs. Ryecroft, Everlands, was first; each flower used being superb and fit to grace any show board, whilst the branches of Beech with which the flowers were interspersed produced a charming effect; second, Mr. A. Hoadley, gardener to F. L. Bevan, Esq., Kippington, who depended entirely on Crotons, Asparagus, and Ferns as a relief; this was a beautiful arrangement; third, Mr. Usher, gardener to J. T. Rogers, Esq., Riverhill. The N.C.S. Medal and Certificate went with the first prize in this class.

Groups in the second division on similar lines were a great feature, Mr. W. Read, gardener to Admiral Millar, being first. This group too carried the N.C.S. Medal and Certificate; Mr. Baldwin, gardener to J. Banks, Esq., Knole Paddock, was second; and Mr. E. Turner, gardener to the Rev. P. Thompson, Kippington, third.

The groups of twelve cut blooms on long stems, arranged in a space of 4 ft. by 3 ft., with foliage or plants, brought out eight competitors. Here Mr. W. Tebay again scored, followed closely by Mr. Crawley, gardener to W. J. Thompson, Esq., Oakfield Grange, and Mr. R. Potter, gardener to Sir Mark Collet, Bart., St. Clare, who were second and third respectively.

The Hall was made to look doubly attractive by the introduction of a class for hanging baskets. These, suspended above the other things, had a very telling effect. Mr. A. Hoadley was first; Mr. Heath, gardener to Mr. Petley, Riverhead, second; and Mr. Fox, gardener to H. Sowerby, Esq., third.

In a similar class the under-gardeners (the interests of whom the committee studies) came out well, Mr. Windsor, Beechy Lees, being first; Mr. Mallows, Beechy Lees, second; and Mr. A. Westcott, Woodleigh Gardens, third. In the class for a centre piece for table decoration, Mr. A. Reeve, Rosefield, was first; Mr. Windsor second; and Mr. Westcott, third. For hand bouquet, Mr. Westcott was first; Mr. Reeve, second; and Mr. Windsor, third. Specimen plants were good. Messrs. Baldwin, Usher, Huntley, and Heath being the most successful.

CUT BLOOMS.—In the open class for twenty-four cut blooms (twelve Japs. and twelve incurved) Mr. W. Tebay was easily first with a grand lot of blooms, his incurved being both massive and well developed, as were his Japs. Mr. Budworth, Horticultural College, Swanley, and Mr. Bligh, gardener to B. Cohen, Esq., Highfield, Shoreham, were equal second.

For twelve incurved, distinct, Mr. W. Tebay was again first; Mr. S. Cooke, gardener to De B. Crawshay, Esq., Rosefield, second; and Mr. Hough, gardener to Mrs. Lambarde, Beechmount, third.

For twelve Japs., distinct, Mr. Hawkes, gardener to the Rev. Stewart Saville, Hollenden, Tonbridge, was first; Mr. W. Tebay, second; and Mr. Bligh, third. For twelve incurved, not less than eight varieties, Mr. Hawkes was first, Mr. G. Latter, second; and Mr. Bligh, third. In a similar class for Japs., Mr. R. Edwards, gardener to G. Field, Esq., Beechy Lees, was first; Mr. S. Cooke was second; and Mr. A. Hoadley, third. For six of one variety, Mr. W. Tebay was first with grand blooms of Mrs. W. Mease; second, Mr. G. Cowper, gardener to H. Foster, Esq.; third, Mr. Bligh. Poinsettias and Ferns were well shown

by Mr. Latter and Mr. Fox; Zonal Pelargoniums and Cyclamen, by Messrs. Read and Hoadley respectively. Mr. R. Potter was well to the fore in the fruit classes.

Vegetables, as usual, were excellent, Messrs. Hoadley, Hawkes, Searing, and Heath doing best.

It will be noticed that the local champion, Mr. W. Tebay, was only once defeated, that is, in the twelve Japs, and when we consider he was representing the society for the Challenge Vase at the N.C.S. show, where he secured the second prize, supplying all the forty-eight blooms himself, this is a feat to be proud of.

Everyone who visited the show pronounced it the best ever held in Sevenoaks, and we think so too.

NATIONAL CHRYSANTHEMUM.—*November 7th, 8th, & 9th.*

In the report of the great autumn competition and fête of the National Chrysanthemum Society in last week's issue, some of the classes got crowded out, particularly those of fruit and vegetables. The more important of them are given below:—

Mr. W. Howe, gardener to Sir Henry Tate, Bart., Park Hill, Streatham Common, had the best vase of six blooms of Chrysanthemums in the open class division, where the arrangement with any foliage was allowed. He used Ferns, autumn foliage and Asparagus.

In the classes open to amateurs and maiden growers only, the Silver Gilt Medal for a vase of six blooms was awarded to Mr. E. Jones, 51, Bower Street, Bedford, who used Smilax, Ferns and Asparagus with his blooms. Mr. E. H. Chitty, gardener to S. Hardy, Esq., Cholmley Lodge, Highgate, N., received the Silver Medal. In the class for ladies only, the Silver Gilt Medal was awarded to Mrs. Strugnell, 213, Brixton Hill, Brixton. The Silver Medal went to Miss Easterbrook, The Briars, Farnham, Kent.

In the gardeners' and amateurs' class for two hand bouquets of Chrysanthemums, the Silver Gilt Medal was taken by Mr. Mark Webster, gardener to E. J. Preston, Esq., Kepey Park, Beckenham, who had very tasteful shower bouquets. The Silver Medal went to Mr. E. Cowell, 4, Fountain Cottages, Fountain Road, Lower Tooting. In the open class for two vases of Pompon Chrysanthemums, Mr. Mark Webster took the Silver Gilt Medal.

FRUIT.—There were four entries in the class for three bunches of white Grapes, Muscat of Alexandria being shown in each case. The first prize was secured by Mr. A. R. Allan, gardener to the Right Hon. Lord Hillingdon, Hillingdon Court, Uxbridge, with shapely, nicely coloured bunches. Mr. W. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, was a good second; and Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, came in third. Mr. W. Taylor came to the front for three bunches of black Grapes, showing richly coloured Alicante, large in bunch and berry. Mr. W. H. Lees came in second with large bunches of Mrs. Pince. Mr. Wm. Cruck, gardener to Herbert Thellusson, Esq., Brodsworth Hall, Doncaster, took the lead for Gros Colmar, having bunches of enormous size. He was followed by Mr. W. Taylor. Dessert Apples were in fine form and beautifully coloured. Eighteen competitors entered, and the lead was taken by Mr. R. Chamberlain, gardener to F. M. Lonergan, Esq., Cressingham Park, Reading. Mr. Walter King, gardener to Jeremiah Colman, Esq., Gatton Park, Reigate, was second; and Mr. Charles Ross, gardener to Capt. Carstairs, Welford Park, Newbury, came in third.

Pears, in the class for six dishes, numbered eight entries, and the lead was taken by Mr. Wm. Allan, gardener to Lord Suffield, Gunton Park, Norwich, who had grand samples. Mr. W. T. Stowers, gardener to G. H. Dean, Esq., 70, Harold Road, Sittingbourne, was second; and Mr. R. Potter, gardener to Sir M. W. Collet, Bart., St. Clere, Kemsing, Sevenoaks, third. In a similar class for kitchen Apples competition was also good. The leading award was secured by Mr. W. T. Stowers, gardener to G. H. Dean, Esq., 70, Harold Road, Sittingbourne, who was followed by Mr. W. Camm, gardener to the Duchess of Cleveland, Battle Abbey, Sussex.

VEGETABLES.—Special prizes were offered by N. Sherwood, Esq. (Messrs. Hurst & Son), for six dishes of Potatoes, and the first award was taken by Mr. E. S. Wiles, gardener to the Hon. Evelyn Hubbard,

M.P., The Rookery, Down, Kent, who was followed by Mr. Silas Cole, gardener to the Right Hon. Earl Spencer, K.G., Althorp Park, Northampton, and Mr. E. Chopping, Periwinkle Mill, Milton, Sittingbourne, Kent, respectively.

In the class for six dishes of Potatoes, for which the prizes were offered by Messrs. Daniels Bros., Mr. Chopping took the lead; Mr. E. S. Wiles was second; and Mr. A. Basile, gardener to the Rev. E. L. Powell, Woburn Park, Weybridge, came in third.

Special prizes were offered by Messrs. Fidler & Sons, in three classes for Potatoes. The first award for four dishes went to Mr. A. Basile. Mr. E. S. Wiles took the lead for a dish of a seedling Potato, showing Duke of Marlborough. He was followed by Mr. E. Chopping, and Mr. E. S. Wiles, respectively.

Mr. Robert Sydenham offered prizes for vegetables in thirteen classes, and the undermentioned classes were omitted in last week's issue. For eight white Turnips, Mr. E. Beckett, gardener to Lord Aldenham, Aldenham Park, Elstree, led the way with clean samples; Mr. R. Bassil, gardener to D. H. Evans, Esq., Shooter's Hill House, Pangbourne, was second; and Mr. James Gibson, gardener to R. W. Hudson, Esq., Danesfield, Marlow, came in third. Other prizes were awarded here. Mr. E. Chopping led the way for two dishes of Potatoes; Mr. W. J. Empson, gardener to Mrs. Wingfield, Amptill House, Amptill, being second; and Mr. E. Beckett, third. Mr. E. Beckett came to the front for Tomatoes, followed by Mr. C. Brown, gardener to R. Henty, Esq., Langley House, Abbots Langley, and Mr. H. Folkes, gardener to C. E. Strachan, Esq., Gaddesden Place, Hemel Hempstead.

In the class for three Savoys, Mr. James Gibson took the premier award with splendid samples, being followed by Mr. E. Beckett, and Mr. C. Penford, gardener to Sir F. Fitzwygram, Leigh Park, Havant, in this order. Mr. C. Brown had the best Red Cabbages; Mr. A. G. Gentle, gardener to Mrs. Dennison, Little Gaddesden, Berkhamstead, was second; and Mr. W. J. Empson, third. Mr. James Gibson had the best Celery in clean sticks of Standard Bearer. Here Mr. E. Beckett was second; and Mr. A. G. Gentle came in third.

MISCELLANEOUS.—The One and All Agricultural and Horticultural Association, Ltd., London, had an exhibit of various manures, and other specialities.

A Silver Medal was awarded to the Ichthemio Guano Company, Ipswich, for their exhibit. The Grapes placed at the Company's disposal by Messrs. E. & J. Batho, Nether Street Nurseries, Finchley, were worthy of special mention, grown as they are for market. Canon Hall Muscat is seldom grown for market, being rather difficult to manage.

SOCIETIES.

ROYAL HORTICULTURAL.—*November 7th.*

THE meeting of the above date was chiefly characterised by fine exhibits of Begonia Gloire de Lorraine, cut flowers of Chrysanthemums, and Orchids, with various small but interesting exhibits.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited a group of Orchids consisting largely of Cattleya labiata, now in season. They also had Oncidium Forbesii, Sobralia Lindeni, Laeliocattleya Novelty, Dendrobium Coelogyne, and the beautiful Cypripedium insigne Laura Kimball. (Silver Banksian Medal.)

Mr. James Douglas, Edenside, Great Bookham, Surrey, also exhibited cut flowers of fine varieties of Cattleya labiata, C. Loddigesii, Aerides suavisimum, and Coelogyne massangeana. (Bronze Medal.)

Mr. Ed. Kromer, Roraima Nursery, Bandon Hill, Croydon, staged many fine varieties of Cattleya labiata, the slate-blue C. l. Kromerae, and C. granulosa gigantea, the second of these being distinct and pretty. (Bronze Medal.)

R. Brooman White, Esq., Arddaroch, Garelochhead, N.B., made a fine exhibit of choice varieties of Odontoglossum crispum from his famous collection of that species, including O. c. Xanthotes White's var., and O. c. Geraldine, the latter finely blotched with brownish-purple. (Silver Banksian Medal.)

A fine lot of Cattleya labiata in rich and striking colours was put up by Leopold de Rothschild, Esq. (gardener, Mr. James Hudson), Gunnersbury House, Acton.

E. Ashworth, Esq. (gardener, Mr. H. Holbrook), Harefield Hall, Wilmslow, exhibited *Cypripedium* Io grande Charlesworthii, C. Louisa Fowler Harefield var., C. insigne George Ashworth, C. wilmslowianum, and *Laelia pumila* Ashworthiae.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, staged *Laelia pumila* Low's var., and *Cattleya howringiana* concolor, both very pretty. General Gillespie (gardener, Mr. Wm. J. Jeanings), Brynderwen, Usk, Monmouthshire, exhibited a beautiful variety of *Odontoglossum crispum andersonianum*. A. H. Smee, Esq. (gardener, Mr. W. E. Humphreys), The Grange, Wallington, had a grand form of *Cattleya labiata*. Norman C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oakwood, Wylam-on-Tyne, showed a beautiful *Laelio-cattleya*. A. S. Hitchins, Esq., St. Austell, Cornwall, staged *Cypripedium Hitchinsiae*.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gardener, Mr. J. Hudson), staged a magnificent group, or rather a long tableful of charming *Begonia Gloire de Lorraine* in moderate-sized pots. These were simply glorious, to use an expressive adjective. The quantity and depth of the blooms were quite phenomenal. (Silver Flora Medal.)

C. E. Shea, Esq., The Elms, Foots Cray, had a nice table of forty-eight Japanese *Chrysanthemum* blooms. These were extra good, and would have stood in a high position had they been at the Aquarium on the same date. (Silver Flora Medal.)

A. H. Holmes, Esq., Rodmerston, Sittingbourne, had a superb collection amounting to 120 dishes of Apples and Pears. The fruits were beautiful, highly coloured, and of good size. Chelmsford Wonder, Monk's Codlin, Newton Wonder, Hanwell Glory, Worcester Pearmain, Carlisle Castle, Sandringham, and others were quite superb. (Silver Knightian Medal.)

Messrs. Sander & Co., St. Albans, had a fine collection of recently-introduced fine foliage plants, with Orchids in bloom. *Dendrobium formosum giganteum* was represented in grand style. *Standiglotte's longiflora* was also there with others of greater or less note.

Mr. A. Rogers, Rendlestone Hall Gardens, Woodbridge, had a very much admired collection of Violets in the varieties Marie Louise, and others. (Bronze Banksian Medal.)

Messrs. Wells & Co., Earlswood Nurseries, Surrey, staged some extra good new Japanese varieties of *Chrysanthemums*. Mr. Louis Remy, Lord Salisbury, Miss Lucy Cheeseman, Marguerite Silhot, Francois Pilon, Sir Herbert Kitchener, Mr. J. W. Barkes, Sir J. W. Clark, &c., were large, full, and handsome. (Silver Gilt Medal.)

H. J. Elwes, Esq., Colesborne Park, Gloucester, arranged a splendid group of strongly-flowered Nerines, in which a dozen or more shades of colour might be seen. (Silver Banksian Medal.)

Messrs. James Veitch & Son, Ltd., Chelsea, had another of their attractive stands of the *Javanico-jasminiflorum Rhododendron* trusses, which are always so much admired.

The Duke of Rutland (gardener, Mr. W. H. Divers), Belvoir Castle, Grantham, staged eighty-two dishes of Apples and Pears, whose high excellence called forth a (Silver Gilt Knightian Medal.)

Messrs. John Waterer & Sons, Bagshot Nurseries,

Surrey, had a refreshing group of Coniferae. The whole stock of these was of a high standard of excellence, indeed, nothing finer could be seen in their way. *Abies nordmanniana*, *Cryptomeria elegans*, *Cupressus lawsoniana densa*, *C. l. aurea*, *C. lutea*, *Juniperus chinensis aurea*, *Taxus grandis*, and a host of other beautiful evergreen cone-bearers were to be noted. (Silver Flora Medal.)

QUESTIONS AND ANSWERS.

* * * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as *Carnations*, *Pelargonium*, *Chrysanthemums*, *Roses*, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Planting out Bamboos.—R. McL.: Autumn, particularly during October and the early part of November, is generally admitted to be the best time for planting trees and shrubs, but more particularly those of a deciduous nature. Bamboos are not deciduous, though frost often causes them to lose their leaves in severe winters and exposed positions. It has been found in practice that late spring or early summer is the time to transplant them, when they have commenced to make fresh growth by throwing up suckers. Under the circumstances then, we should advise you to put them in pots or tubs, according to their size for the winter, if not already potted. Being hardy they practically only require shelter, and if you merely exclude frost from the house in which they are wintered so as to preserve the foliage, the plants will be all the stronger when put out in May or June. Even then they should be planted in positions sheltered from boisterous wind.

Holly Hedges.—W.H.W.: Holly Hedges may be planted during October and up to the middle of November. Small plants might even be put in during mild, open weather at any time during winter; but a safer plan would be to wait till the end of March or the beginning of April, as growth would soon be recommencing after that. Some planters have found the end of August and September the best time to transplant Hollies of large size, and others say that April, particularly if showery is the best time for such specimens. Of course they would require to be lifted with large balls of soil, and to be well watered and frequently syringed overhead till they recommence growing. The distance at which they should be placed to make a good fence would depend upon the size of the plants used; but we should advocate the use of plants about 18 in. or 2 ft. high; and unless they are very hushy and wide we should put them in at a foot apart, because they would soon become quite close and impenetrable if they are well managed and the soil is good. A sandy, well drained loam is best for them. Never use a shears in trimming Holly hedges, as they disfigure the leaves by cutting many of them through the middle. The knife is the best instrument with which to cut the shoots close above a bud. This

should be done when the young leaves made in summer have become firm. The wounds then heal over before winter. By looking over the hedges again at the end of February, very little trimming will then be necessary, if the summer pruning was attended to, but by so doing they will appear neat for the greater part of the year, and yearly become more and more impenetrable.

Rare Flowering Shrubs.—G. J. P.: Most of the species you mention are grown by Messrs. J. Veitch & Sons, Ltd., Kings Road, Chelsea; some of them at least are grown by Messrs. R. Veitch & Son, Exeter; and many of them are also cultivated by Messrs. Dicksons, Ltd., Chester.

Male and Female Yew Trees.—Fletcher Moss:—The question of the sex of Yew trees has always been a troublesome subject to planters who desire to raise plants from seedlings. Practically it cannot be determined till the trees develop flowers. It has been suggested that the flowering period might be accelerated by ringing a branch on each tree, after the said branch is five or six years old. This would have the effect of staying or checking vegetative growth, and causing the branch to swell above the place from whence the ring of bark has been removed. Thus you see the process must be a tedious one. Plants are usually raised from seeds; but the varieties are propagated by cuttings, 7 in. to 10 in. in length, and inserted 5 in. deep in the soil during April and again in August. Our forefathers, when planting male and female trees by churches and homesteads must have raised plants from cuttings of trees they knew to be male and female. If they raised their trees from seeds they must have grown them in nursery lines till they flowered and then transplanted them. Yews may be transplanted at any age if proper care is taken in performing the operation. As you say, the trees raised by nurserymen from cuttings may have several stems; but we consider that a matter of minor importance. For hedges they are perfectly suitable. If intended for planting as isolated trees you can remove supernumerary stems with the knife to the base, or merely take off the tops of those you do not want. You can trim Yews into any shape you like, as they bear the knife and shears well.

Names of Plants.—J. R.: 1, *Arbutus Unedo*; 2, *Chimonanthus fragrans grandiflora*; 3, *Veronica Andersoni variegata*; 4, *Erica gracilis*.—T. B.: 1, *Asplenium bulbiferum minus*; 2, *Asplenium Bellangeri*; 3, *Aspidium falcatum*; 4, *Pteris hastata macrophylla*; 5, *Adiantum hispidulum*; 6, *Pteris quadriaurita argyrea*.—R. M.: *Hedera Helix dentata*; 2, *Hedera Helix arborea*; 3, *Gaultheria procumbens*; 4, *Daphne fionlana*.—A. L.: a fairly good form of *Cattleya labiata*.—A. G.: 1, *Selaginella uncinata*; 2, *Selaginella emiliana*; 3, *Agapanthus umbellatus variegatus*; 4, *Sibthorpia europaea variegata*; 5, *Asplenium flabellifolium*.

Communications Received.—John Peebles.—J. Mayne.—Omega.—W. J. F.—R. Owen.—R. W.—A. G. B.—J. H.—A. L.—G. C.—A. D. W.—W. M.

TRADE CATALOGUES RECEIVED.

HERD BROS., The Nurseries, Penrith.—Forest Trees, Ornamental Trees, Fruit Trees, &c.



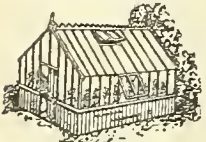
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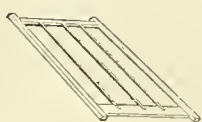
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"Mum Cuttings I assure you I am well pleased with them. I laughing at the contrast of those from plants which exhibition blooms had been grown, and yours—they are sturdy plants and no mistake."

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SWANLEY, KENT.

National Chrysanthemum Society.

EARLY WINTER EXHIBITION,
Royal Aquarium, Westminster,

DECEMBER 5th, 6th, and 7th.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, NOVEMBER 25th, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, November 27th.—Messrs. Protheroe & Morris' Sales of Dutch and other Bulbs during each day of the week except Saturday, at their Auction Rooms, 67 & 68, Cheap-side, London, E.C.

WEDNESDAY, November 29th.—R.H.S. Meeting at Drill Hall.

THURSDAY, November 30th.—Dover Flower Show.

SATURDAY, December 2nd.—Worsley and District Agricultural and Horticultural Society's Exhibition.

EXHIBITION AND GARDEN ROSES.—Roses may not be strictly in season, though the poet's version that "the Rose has but a summer's reign" is by no means correct at the end of the nineteenth century. Books and descriptive lists of Roses may be in season at any time. A committee of the National Rose Society has prepared and issued a fourth and revised edition of "A Descriptive Catalogue of Exhibition and Garden Roses." The last edition was published six years ago, but the present one is practically new, having been revised and brought up to date, the new varieties of importance for the present year being included. Select lists of Roses suitable for different purposes have been added to the catalogue for the first time.

The first and chief attention is given to the best exhibition Roses belonging respectively to the hybrid perpetual, hybrid Tea, Tea and Noisette and Bourbon, sections. The lists under these headings are very select, so that of the 2,000 or 3,000 varieties in cultivation at one time or other, only a few are considered worthy of cultivation for exhibition purposes. In other words we might say that they would have very little chance of success in open competition at first-class shows. Something like 77 are included in the list of hybrid perpetual Roses, independently of those which are bracketed with several of them as practically synonymous. One of the more interesting points about these hybrid perpetuals is their comparative youth, as a glance down the list will show. All of them belong to Victorian age, thus indicating the progress that has been made in exhibition Roses during that relatively short period. The oldest Rose here listed is General Jacqueminot, put into commerce in 1853, and at present one of the most popular market Roses. The next younger is Sénateur Vaisse, the best of the old crimson Roses. Charles Lefebvre, Maurice Bernardin, and Prince Camille de Rohan come next in order for 1861. Beauty of Waltham appeared in 1862; and Duchesse de Morny, Madame Victor Verrier, and Marie Baumann come down to 1863. The others are pretty evenly distributed over the years

that follow down to the latest additions to first-class Roses during the present year. All of these are tabulated in the first of six columns across the pages of the catalogue, the names being followed by the raiser or introducer's name and date; the form of the flower; colour of flower; habit of growth; and remarks. To those about to enter the lists of exhibitors the catalogue should be of great value in directing his attention to those varieties that are most successful on the exhibition boards. The variety Maurice Bernardin has three others bracketed with it as not sufficiently distinct for any two of them to be included on the same board. There is an interval of several years between the raising of each, and the question arises whether they have the same or a different parentage; but it is doubtful whether this can be settled by authoritative records.

The hybrid Teas are practically of much more recent origin, La France, going back to 1867, being the oldest. Captain Christy followed in 1873; but all the rest of the fourteen varieties tabulated belong to the eighties and nineties. Many others have appeared that hardly come up to exhibition standard, so that they are relegated to the category of Garden Roses.

Something like 37 varieties fit for exhibition purposes are included in the Tea and Niolette section. The oldest dates back to 1838, having reigned in the esteem of cultivators only a year less than the Queen has been on the throne. This is *Devoniensis*, which was followed by *Climbing Devoniensis*, exactly 20 years later. For exhibition purposes, however, the two are regarded as synonymous. They were followed in succession by *Niphetos* (1844), *Souvenir d'un Ami* (1846), *Madame Bravey* (1848), *Souvenir d'Elise Vardon* (1854), *Rubens* (1859), *Maréchal Niel* (1864), and *Catherine Mermet* (1869), the rest being of more recent introduction. Tea and Noisette varieties of first-class merit are thus older than those of any other section here listed. Only one of the Bourbon Roses is tabulated as fit for exhibition purposes. Some good illustrations represent various types of Roses.

Garden or Decorative Roses are divided into summer and autumn flowering; but these are again divided up or classified in a great number of sections according to their botanical affinities. It is astonishing what a number of Garden Roses there are at the command of the cultivator. Nevertheless relatively few gardens could furnish a first-class stand of them capable of securing any of the National Rose Society's prizes at the Crystal Palace. Leaving out of consideration our native British Roses the decorative class includes the oldest Roses in the country. The Cabbage and common Moss Roses, and the Copper and Yellow Austrian Briers were recorded as far back as 1596, and probably they were cultivated even before then. The origin or history of these Garden Roses is interesting, though it may be stated that many of the most popular or interesting have no history whatever. The origin of the true York and Lancaster as well as *Rosa Mundi* or Village Maid (the latter often but erroneously passing muster in gardens for the former) is lost in obscurity. The catalogue is obtainable only from the secretaries, Rev. H. Honeywood D'Ombain, Westwell Vicarage, Ashford, Kent; and Edward Mawley, Esq., Rosebank, Berkhamstead, Herts.

Cox's Orange Pippin is being extensively planted by Mr. Webb, of Hillfoot Farm, Beenham, Reading. He is just now planting 1,000 of this variety on his farm. Sale at 25s. a bushel is readily found for the fruits.

Grapes at Lincoln's Inn.—About fifty bunches of Grapes were gathered off a Vine recently at New Square, Lincoln's Inn.

The Muckross Estate, including the Lakes of Killarney, was put up for sale by auction on Tuesday last, but was not sold.

The "Hurst & Son," Musical Society (entering upon their second season), announce their first Ladies Evening Concert to be held at the Pillar Hall, Corn Exchange Restaurant, Mark Lane, E.C., on Tuesday, November 28th. Tickets (of which there is a limited number) may be obtained from the Hon. Sec., "Hurst & Son" Musical Society, 152, Houndsditch, London, E.

Weather in London.—The weather which affects everything by its condition over a period or at a certain time, has continued very mild and fine during the past seven days. Fogs have hung around and about London for a goodly part of the time, but this has been the only disagreeable element. *Tropaeolums*, *Dahlias*, and other very tender plants are to be seen in healthy condition within not a few of the suburban gardens.

"The Rational Method of Treating Fungoid Diseases."—This is the title which Messrs. Wm. Wood & Son, Ltd., North British Wharf, Wood Green, London, N., have given to a pamphlet which they are sending out. The pamphlet deals with the modern methods now being employed in plant pathology and the "*Materia Medicae*," which the authors, among others, have so largely introduced and are advocating. Sprays and other contrivances are enumerated as having been, and as still being, day and daily used for the suppression or abolition of fungoid attacks. Those interested in this study are recommended to have a look through the five pages containing the facts, arguments, and deductions.

Death of Alexander Thomson, Esq.—It is with regret that we record the death of this gentleman, who died early last week after an illness which has long been a bane to him, at his home, Trinity Grove, Trinity, Edinburgh. The deceased was widely known in business circles, being a brother of the present Lord Provost of Edinburgh. He was a partner with his brother in business as a wood merchant at Granton, near Edinburgh. Though very successful and keen in business, he yet was a reserved man and loved to enjoy his leisure in the cosy and well planned garden around his residence. Our readers may recall some views and notes which we lately published on Trinity Grove.

Shirley Gardeners' Mutual Improvement Association.—The monthly meeting of the above society was held at the Parish Room, Shirley, Southampton, on Monday, 21st inst., there being a good attendance, Mr. B. Ladhams, F.R.H.S., presiding. There was a very good exhibition of Chrysanthemums, and the item for the evening was a discussion on the exhibits. Several members spoke on the variety, usefulness, training and diseases of the Chrysanthemum generally, and of those exhibited particularly; and a very good and useful debate was the result. Amongst the exhibits were some seed pods of *Magnolia*, *Catalpa* and *Ampelopsis Veitchii*, the *Catalpa* being very fine and curious. Hearty votes of thanks to the exhibitors and chairman closed a very pleasant evening.

The People's Palace.—As treasurer of the People's Palace Horticultural Society, I venture to bring before you our work and necessities. The society has now been established for seven years, and has held, with unvarying success, exhibitions in the spring, summer, and autumn at the People's Palace. We have recently established a children's section to interest the children of East London in the cultivation of flowers, by giving prizes for plants grown in their homes, and by lectures and practical demonstrations in the simplest elements of horticulture. The gardens of members are visited (where such exist) and prizes are given for excellence in this department, in addition to those offered at the shows of the society. The additional expenses oblige the society to appeal for financial help. The subscriptions of the working men and women members, which are very small, need to be supplemented by help from others who have at heart the interest of spreading a love of flowers amongst the people of East London. I shall be glad to acknowledge the receipt of all subscriptions sent to me at the Anchor Brewery, Mile End Road.—Arthur F. Charrington, Hon. Treasurer.

We very much regret to hear of the serious illness of Mr. William M. Welsh, the well-known partner in the old established firm known as Messrs. Dicksons & Co., 1, Waterloo Place, Edinburgh.

Royal Horticultural Society's Examination in Horticulture, 1900.—The day suggested for the Examination, April 17th, being Easter Tuesday, and highly inconvenient to many, has been altered to *Wednesday, April 25th*.—W. Wilks, Sec., Nov. 1899.

The Kaiserin was presented with a bouquet of Roses and red Orchids by Miss Edith Barber, the daughter of the Mayor of the Royal Borough, on the arrival by train of the German Emperor, the Empress and suite, at Windsor last Monday.

Birds and Fruit.—Mr. J. Mayne says he noted what we said respecting the tits on p. 148. They pass over the maggoty fruits and spoil the very best they can see. He finds all the feathered tribe tarred with the same brush. For instance, in the Strawberry beds all the finest fruits get devoured first. The blackbirds are the miscreants here, and go for size first, and small ones afterwards.

Gardeners' Royal Orphan Fund.—The subscription sale of flowers, work, &c., so energetically organised by Mr. M. Todd, of Shandwick Place, at the recent Edinburgh Chrysanthemum Show, proved very successful, and evoked great interest among most of the visitors. It is computed that something like £30 will be sent to the Fund. The first prize of an upright Grand Piano fell to a gentleman who had but one sixpenny ticket, and the second prize was won by R. W. E. Murray, Esq., of Blackford House, who had purchased about sixty tickets.

Hen Manure.—A liberal quantity of hen manure mixed with the potting soil is a good combination for pot plants in general. Its superiority over cow manure lies in the fact that it contains both the urine and the solids, and contains a far greater amount of nitrogen in a more soluble form. It is quicker in its action than cow manure and is much more suitable if your potting soil be of a heavy tenacious nature. If your potting soil be sandy and friable and you should wish to increase its tenacity, or moisture holding properties, cow manure would be most suitable; but for a better chemical effect I would also add some hen manure.

Cricket Club Dinner at Kew.—A dinner in connection with the Royal Garden Cricket Club, Kew, was held at the "Rose and Crown" Hotel, Kew Green, on Thursday evening, November 16th. Mr. S. Rowe occupied the chair. Upwards of fifty members and friends partook of the excellent spread which was provided. Mr. A. Williams was accompanist for the evening. The following toasts were proposed and heartily responded to, viz.: "The Queen," "Club and Officers," "Army, Navy and Reserves," &c. Mr. C. Girdham recited Kipling's poem, "The Absent-minded Beggar," after which, a collection was made on behalf of the *Daily Mail War Fund*, which realised £1 10s. 6d. The following members and friends, contributed songs, etc., during the evening:—Messrs. Stuart (Violin), Heath, Heald, Baddileys, Wood, Quinton, Roekins, Page, Mark, Smith, Watford, McAllister, Walker, and Arden. The singing of "Rule Britannia," and "Auld Lang Syne," brought a very enthusiastic and enjoyable evening to a close.

The Use of Fruit in Diet.—Fruits have the fullest effect when taken into an empty stomach, either alone or with grain foods, such as bread, porridge, rice, and other foods like this. When we eat fruits after having finished dinner, lunch, or other diet wherein we consume much oily matter, the effect of the fruits is nullified. They are better, too, if eaten free from vegetables. In the morning, says *The Farmers' Gazette*, they are not only exceedingly refreshing, but they serve as a natural stimulous to the digestive organs. Apples, Strawberries, Currants, Figs, Tomatos, and Blackberries stand high as medicinal and nutritive fruits, and the law with these, to obtain the fullest results, is to take them on an empty stomach, preferably before breakfast. "The good effects that would follow the abundant use of fruits are often more than counterbalanced by the pernicious habit of saturating them with sugar. Very few fruits if thoroughly ripe, and at their best require any sugar, particularly if eaten in a raw state."

Mr. Robert Greenlaw, of Messrs. Dickson & Sons, Hanover Street, Edinburgh, and formerly general foreman at Scone Palace, has been appointed gardener to Henry J. Younger, Esq., D.L., at Benmore, Kilmun, Argyleshire.

The Sensitive Plant.—At a meeting of the Linnean Society of London, on November 2nd, Prof. Stewart, F.R.S., F.L.S., exhibited and made remarks on a preparation of the leaves of *Mimosa pudica*, showing the diurnal and nocturnal positions. He also exhibited the embryo and egg-cases of *Cestracion Philippi*.

Co-operation amongst Microbes.—Nitrosomonas, the microbe which changes Ammonia into nitrous acid, and Nitrobacter, which changes nitrous to nitric acid, are unable to break down any substance containing organic nitrogen, either when sown together or separately. If, however, *Bacillus ramosus*, which is capable of attacking organic matter, is added to the above, then all the three changes take place, that is, nitrification is carried on till the contained nitrogen is converted into nitric acid.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of this society was held at St. John's Parish Room, Redland, on Thursday last, Mr. C. Lock presiding over a moderate attendance. The subject for the evening was "The Management of Bees," a paper being read by Mr. Kitley, of Redland. With the aid of a modern bar-frame hive and appliances, he made the subject very interesting and showed how bees could be made not only profitable, but of much help to those interested in horticulture. He advised those of his audience who contemplated keeping bees, to get at least an elementary knowledge of the subject before commencing, and gave many useful hints on manipulating, and the general management of bees. Mr. Kitley was cordially thanked for his lecture. Prizes for three heads of Cauliflower were awarded, 1st, Mr. Taylor; 2nd, Mr. McCulloch; and a Certificate of Merit to Mr. W. Marsh for 12 Apples, Cox's Orange Pippin.

The Eye-spot of *Euglena viridis*.—At the meeting of the Linnean Society on the 2nd Nov. Mr. Harold Wager, F.L.S., read a paper on the eye-spot and flagellum in *Euglena viridis*. He showed that the principal vacuole at the anterior end of a *Euglena*-cell is in communication with the "gullet." The eye-spot, which consists of a mass of pigment granules, is curved around the gullet in the region of the vacuole. The flagellum expands just beneath the eye-spot into an oval or nearly spherical enlargement, and below it is attached to one side of the principal vacuole by means of two basal filaments. The enlargement beneath the eye-spot is probably functional in controlling the movements of the flagellum, and may be stimulated by the light absorbed by the eye-spot. A discussion followed, in which Prof. Howes and Dr. D. H. Scott took part. *Euglena viridis* is an object of great beauty under the microscope, but in a state of nature it is often responsible for the green slime upon stagnant pools of water.

Proliferous Awn of Barley.—Rev. G. Henslow, F.L.S., read a paper on the proliferous state of the awn of Nepal Barley, at the meeting of the Linnean Society of London, on Nov. 2nd. After describing the two varieties *Hordeum coeleste*, vars. *Aegiceras* and *trifurcatum*, he showed that the inverted flower buds (which constitute the peculiarity of the monstrosity) were different in two varieties. In *H. Aegiceras* it commenced at a bend in the flattened awn, with an axial protuberance arising from the middle point; in *H. trifurcatum* the hastate form began with two protuberances, one on each side. In Prof. J. S. Henslow's figures (Hooker's Kew Journ. Bot. i. 1349, pp. 33-40, pls. 2-3) the arrested awn widens, the edges folding over until it forms a "cucullus," while the lateral processes of various shapes grow out at the base (really inverted summits) into what he termed "wings." His material, however, was not sufficient to enable him to interpret either the cucullus or the wings. The Rev. G. Henslow's specimens showed that the former often assume the form of two glumes more or less coherent by their edges, while the wings became their awns. Dr. O. Stapf, in criticising the paper, entered very fully into the structure and development of different species of the genus *Hordeum*.

A Monster Apple.—Messrs. S. McGredy and Sons, at Portadown, have on view, in their show rooms, one of the largest Apples which anyone ever need wish to see. It was grown by T. Dawson, Esq., J. P., Corncairn, Portadown, the variety being Peasgood's Nonsuch. It is 13 in. in circumference, and weighs 21½ oz. This is not uncommon, yet it is worthy of note.

The London Fruit Traders.—A successful meeting of tradesmen and workers connected in one way or another with the fruit trade in London met at the Floral Hall, Covent Garden, on Wednesday, November 9th, for the purpose of doing what they could toward the Mansion House Fund for the benefit of widowed soldiers' wives and their children. £1,000 was soon subscribed, and resolutions passed to put an organisation on foot for a greater amount. Young lads with boxes were to be seen on Lord Mayor's Day collecting on the streets for the Fruit and Flower Trade's War Fund. Why cannot the trade do something equally great for the Gardeners' Widows and Orphans?

SALVIAS.

IN private places where the gardener has a large show house or conservatory to keep gay at this time of year, varieties of the above come in most useful just now, and help to brighten many a centre bed or corner which would otherwise contain foliage plants, probably, unless the 'Mums are made to do duty in such structure. Even then *Salvias* are always welcome, as they add a bit of colouring which the *Chrysanthemums* lack, though a good many condemn them on account of their bloom so soon falling; but this argument does not prevent me from growing a good number. Only a fortnight or so ago I found a batch most helpful in putting up a miscellaneous group of flowering and foliage plants. In spite of having had to convey them seven miles by road, they were still very presentable after their return journey.

Cuttings should be taken in March or April, and given a slight bottom heat (especially *S. Pitcheri*) when they soon emit roots. Care must be taken that they do not damp, and to pot them up before they have a chance to get spindly, placing them in a vinery or Peach-house just to give them a start. After ten days' time they can be moved into a cold frame, but not subjected to cold draughts. The little plants should have their points removed as soon as rooted. I generally do this before potting them off, and this operation must be constantly renewed so as to get good bushy plants, repotting when necessary and staking them in the open towards the middle of May, but a bit later further north. Their final shift should be into pots varying in size from 7 in. up to 12 in., according to variety and strength of plant. I formerly used to plant mine out early in June and pot them up in September, but discarded that practice some four years since, not having a suitable house or pit to receive them at that date. I found that the plants suffered rather badly, sometimes, especially should rough winds and rain set in.

The earliest to flower with me is a pink one, *S. Bethelli*, opening its flowers towards the middle or end of September; so this variety should not be pinched so late as other sorts I shall name. During the summer months and until they are housed the plants should have plenty of space given them, and be syringed each evening when not wet, well working it up underneath. *S. splendens* and *S. Bethelli* are two varieties that appear to fall an easy prey to red spider. The plants should be staked and tied when about 18 in. high, as most of the varieties are very brittle and easily get ruined, if at all neglected in this respect. When the pots are filled with roots, manure water, not too strong, may with advantage be given them two or three times a week; and an occasional dose when in full bloom does them no harm. We usually are guided by the weather as to getting them under cover, sometimes the third week in September; while this year it was October 10th, before we saw danger ahead.

S. Bethelli, I mentioned just now, is a fairly strong grower, and should be given 10 in. pots. *S. splendens floribunda* is a very vivid scarlet and decidedly an improvement on the old kind, though not such a strong grower, but the spikes are much more compact, and as far as my experience goes, it holds on its flowers better than the type; 8-in. pots

are quite large enough for this variety, and it comes fairly true from seed. *S. Pitcheri* is a beautiful pale blue and has been much admired here. It was in flower on October 20th, and is still showy the third week in November. This does well in 6 in. or 8-in. pots and can be divided similar to *S. patens*, another lovely blue that does well outside during the summer. *S. Pitcheri*, hardy here, but only now coming into bloom, is rather too late to be of much service. *S. rutilans* (Pineapple-scented foliage) is just now opening its flowers and is of a pinkish-red, rather small but very effective. This is a robust grower, so we afford them 12-in. pots. This does not require so much stopping as *S. splendens*. The latter variety will persist in showing flower at almost every joint, so would be in full flower in the month of August if not well looked after in the way of pinching. This and *S. Bethelli* do well outdoors, flowering abundantly during September and October, if not cut down by frost. I generally keep *S. splendens* and *S. rutilans* until the spring when they again become one mass of flower and mingle well with *Marguerites*. The only drawback with them is their losing so much foliage.

Those enumerated are the only kinds I grow now, but had *S. Heeri* at one time as well as *S. gesnerae-flora*, a bright scarlet and flowering in spring. The latter I must get again. Some twelve or fifteen years ago a new kind was brought to the front, called *S. splendens Bruanti*, and as far as my eye can carry me I see little or no difference to the variety just named, *S. splendens grandiflora*. What say other *Salvia* growers?—J. Mayne, Bickton.

DANESFIELD, GREAT MARLOW.

ABOUT the middle of last month we had a turn through the gardens of R. W. Hudson, Esq., Danesfield, Great Marlow, Bucks., where we found an excellent supply of vegetables, notwithstanding the extreme drought of the past season, and the fact that the gardens are situated on the top of a chalk ridge. The advent of rain during the autumn no doubt helped the outdoor garden immensely, coupled with the excellent tilth to which the garden had been subjected.

In a sheltered situation we came upon a vigorous and healthy sowing of the Autocrat Pea, then in flower and setting its pods, some of which were well advanced. Spinach was good, no sign of disease being evident, although this crop has been causing a deal of disappointment in past years. Precautions had, however, been taken in making a sowing of Spinach Beet as a substitute for winter Spinach, and that also was in good heart. Sutton's Prizetaker and Musselburgh Leeks were strong and distinct, the latter being characterised by a deeper glaucous hue. The Lyon Leek is a favourite with Mr. Gibson, the energetic gardener. Late Turnips were just heading up, and will be good for winter use.

There were several plantations of Celery for early and late work. Sutton's Ar with dark green foliage and red stalks was even and true. Standard Bearer was also in the early plantation. A later plantation was just being finally earthed up, and the quality left nothing to be desired. Good cultural attention is given to Celery, as was proved at the Royal Aquarium the other week, where the Danesfield exhibit took the first prize in keen competition.

Root crops were in splendid form, including long and shapely samples of Intermediate Carrot and the Student Parsnip. The same may be said of Tender and True Parsnip, which is distinguishable from the former by being much whiter in colour, even externally.

Stansted Park Cabbage Lettuce is reckoned a good variety for winter use. Onions had ripened up well, the bulbs of Ailsa Craig being large, firm and likely to keep well.

In the nursery ground, low down in the valley, a large area had been devoted to winter greens of various kinds, including Cauliflowers, Savoy, and Brussels Sprouts. Amongst the latter was an unnamed sort of great promise, one of Messrs. Sutton & Sons' seedlings. Six long lines of it were perfectly true to character, being light green, and 2 ft. high throughout. Other varieties on either side were taller and more unequal in height. The sprouts on the seedling in question were filling up and making dense pyramids, so that by this time they must present a handsome appearance from a gardener's point of view. Every line could be

picked out as distinct from the other sorts grown. Amongst the Savoy, Best of All had large heads ready for use. The foliage of this sort is conspicuously glaucous, and in that respect afforded a striking contrast to the deep green and finely wrinkled leaves of Sutton's Perfection. The heads of this latter variety were smaller, but almost stemless, the foliage lying upon the ground. The variety was quite a model in its way, and highly suitable for table use. Broccoli was also abundant and good.

At the top of the fruit and vegetable garden proper, is a bedding design planted with Tea, Noisette, and other Roses, from which basketfuls of blooms were being cut. Madame Lambard, Mdle. Cecile Brunner, W. A. Richardson, Perle d'Or, Red Pet, and others were amongst those flowering most freely. Sweet Briers were gay with red fruits.

Large quantities of Foxgloves were ready for planting out in the shrubberies and about the lawns. Wallflowers were also plentiful, as well as Campan-

pin were gathered off maiden trees. The same may be said of Beauty of Kent, Peasgood's Nonsuch, and Bramley's Seedling. Other varieties that did well were Blenheim Orange, Dumelow's Seedling, Court Perdu Plat, and Ribston Pippin, the latter being wonderfully coloured.

THE HOUSES.

On a previous occasion some notes were given in these columns concerning the Chrysanthemums, so that only the other occupants of the houses need now be noticed. A fine batch of Cyclamen, from seeds sown in September, 1898, was growing in 48 and 32-size pots. The foliage completely covered the pots, and buds in abundance were pushing up from the crowns. They are grown in loam off the estate, enriched with bones, wood ashes, and leaf-mould. On the opposite side of the same house the staging was occupied with a fine lot of *Primula chinensis alba plena* and the single pink-flowered Princess May, both in fine condition. In another

in plants of various sizes, the more forward commencing to bloom. They will keep up a display till April. A batch of B. Gloire de Sceaux was also in excellent condition. Well grown *Calanthes*, mostly C. Veitchi, occupied the other side of the house. The stove was filled with the usual complement of fine foliage plants and a considerable variety of Orchids. *Coelogyne cristata* has now been brought into excellent condition, with large pseudo-bulbs, and may be expected to flower well. Others noted were *Lycaste cruenta*, *Laelia anceps* (from Morado), *Dendrobium fimbriatum*, *D. f. oculatum*, *D. wardianum*, and numerous *Cypripediums* throwing up their flower scapes. The whole garden is undergoing great improvement.

CHRYSANTHEMUM BONNIE DUNDEE.

The neatness and sparkling colours of well-grown blooms of this incurved variety are its special charms. In spite of its medium size, a glance at the winning stands, recorded in our pages during the past two or three weeks, will show that it holds an honoured position in the eyes of the judges, the growers, and, for the matter of that, the general public. It is larger than D. B. Crane, in which category it may be placed, and the colours are considerably different. The upper surface or inner face of the florets is orange, while the reverse, which alone is visible in the natural position, is old gold, lined and shaded with rosy-bronze. The edge of the outer surface is yellow. It is a beautiful, globular flower, with florets of great substance, and rounded at the tips. The best flowers are obtained from the terminal buds. The habit of the plant also is good. A First-class Certificate has been awarded it by the N.C.S., and an Award of Merit by the R.H.S. For the benefit of our readers who have not yet tried it, we are enabled to give an illustration of it through the favour of Mr. Robert Owen, Floral Nursery, Castle Hill, Maidenhead.



CHRYSANTHEMUM BONNIE DUNDEE.

CHRYSANTHEMUM NOTES.

GLASGOW BOTANIC GARDENS.

AGAIN the citizens of Glasgow are enjoying the gorgeous display of Chrysanthemums at present on view in the Kibble Palace. The doors were thrown open to the public on Saturday afternoon, and though the weather was extremely unpropitious the continuous stream of visitors was unabated till the inexorable shades of night brought perforce the animated scene to a close. The Kibble is not lighted with gas or electricity, which is truly a pity, for we think at such an occasion, the effect would be intensely beautiful.

The plants as usual are arranged in the emptied basin of the water pond immediately under the large dome at the entrance to the Palace. They are built in the form of a flat cone which terminates with a fine specimen of *Kentia belmoreana*. What we consider a great improvement in the arrangement this year is that the conical mass of plants is not carried so high as in former years. By this arrangement a better view of the individual flowers is attained, and on the whole the effect is more imposing as well as pleasing. All the plants are named with neatly printed cards. The print is large and consequently easily deciphered from the circumambient footpaths.

The arrangement of the plants, both from a symmetrical standpoint and an artistic effect, is the best we have yet seen in the gardens, and though a rule were laid from the base to the apex we believe there would scarce exist a deficiency in the lines and curves of the cone.

We wonder if a tenth of the visitors ever think how the construction of the masonry of such a floral pile is achieved.

Notwithstanding the many novelties on view, old favourites, we observe, are hard to beat, and are truly and most tenaciously holding their own. Mutual Friend, Mrs. Dewar, Mr. Bilsland, Vivian Morel, Louise, Charles Davis, Amiral Avellan, M. Pankoucke, and many others were exceptionally fine, and are evidently kinds which can be relied upon.

When the visitor's eyes are satiated, as he paces round and round the pile (over 1,500 plants), he finds another magnificent mound at the other end of the corridor in the interior of the Kibble.

ula pyramidalis and the Cup-and-saucer strain of Canterbury Bells (*C. Medium calycanthema*). All of these were strong and intended for planting out.

FRUIT ROOM.

It was too late to see the fruit upon the trees, but the produce in the fruit room was ample testimony to the quality of the fruit. Much of the wall space had been planted with young trees not yet in bearing; but the old trees, chiefly on the outside wall, gave a good account of themselves. The borders were deeply trenched, the trees root pruned, and a goodly supply of bones and wood ashes were put into the soil within reach of the trees. Towards the end of the season, when the roots began to take hold of the fresh material, the fruits swelled up rapidly. From an old tree of Pear Beurré Diel some grand fruits were obtained, one of them turning the scale at 1 lb. Marie Louise also did well, some of them weighing half a pound each.

Some highly coloured fruits of Cox's Orange Pip-

house Sutton's Giant strain of Chinese Primulas was in equally fine condition.

Malmaison Carnations were grown in quantity, all vigorous, healthy, and without a trace of disease, there being no such thing on the place. The Carnations had been layered in frames, put in 3-in. pots and then into 32-size. Of Princess of Wales alone there were 600, besides last year and this year's set of new varieties. Calypso is a fine variety but rather a tall grower; and Mrs. Martin Smith comes into the same category. Church Warden is notable for its dwarf habit and broad leaves. Fine also are Lady Grimston and Mdme. de Satge. Last year's plants have twelve to sixteen growths, making dwarf and bushy specimens of great robustness. Tree Carnations are also grown in some quantity, and had just commenced flowering. Mrs. Leopold de Rothschild, Alfred Rothschild, Winter Cheer, and La Nieve were amongst the more notable.

Begonia Gloire de Lorraine filled half a house

The best plants, however, are naturally put into the cone at the entrance. Either side of the corridor is luxuriously lined with bush plants laden with masses of bloom, and extends toward the bank above referred. The effect is very fine indeed. The immense masses of colour contrast very imposingly with the green suspending creepers dangling in mid air from the lofty roof, and the tall Dicksonias, Camellias, Acacias, etc., in the distant background; as some lady visitors put it, it is a glimpse of a veritable fairy land.

The citizens of Glasgow and the Council owe a deep debt of gratitude to the untiring energies of the curator and his assistant, for yet again producing a display of Chrysanthemums second to no previous effort. The resources of those whose duty it is to cater to the public taste, ever variable, for ever increasing in demand, must assuredly be inexhaustible. Mr. Birse, Mr. Dewar's assistant and grower, is a man of considerable experience in the growing of the popular flower. This year unmistakably has won for him additional honours in his enthusiastic avocation.—*Gemma*.

Kitchen Garden Calendar.

WE are now nearing the time when it is of the utmost importance that a watchful eye be kept on Broccoli. In case there might be a sharp frost, have material in readiness that protection may be afforded with the least possible delay. Broccoli is a vegetable that will keep good for a week or so at this time of the year if the plants are pulled up and hung in a cold shed away from frost; but like other vegetables the flavour is never so good as when used as soon as gathered. Therefore, as long as it is safe to leave them in the open ground this should be done. Where there is a quantity of cold pits (and no place ought to be without them), some of the most forward plants could be taken up and planted close together in these. By doing so it will be possible to cut fresh heads all through the winter unless the frost should be too severe to admit of opening the frames.

FORCED VEGETABLES will now begin to be in demand. French Beans up to the present time in favoured places along the south coast have been gathered from the outside; but the late frosts will have put an end to them now; therefore, recourse must be had to those growing under glass. Afford all air possible to such, whenever the weather is favourable, that the plants may be kept sturdy. Make another sowing, or plant out those that have been forwarded in small pots to save time. This being the most dull period of the year it will be necessary to put in larger batches to keep up a constant supply; and now that some of the fruit houses will be started small sowings could be made in these, as no harm will be done to the Vines by so doing.

Potatoes may now be planted in heated pits or in pots for a first supply; but this ought not to be done at present unless sufficient heat can be maintained to promote a healthy growth till the tubers are large enough for use. Unless a free growth be made the young Potatoes are ill-flavoured. Water must be given sparingly, no more being afforded than will keep the soil moist. Other batches should be started into growth in shallow trays that time may be saved after planting.

Asparagus will start more readily now that there has been a little frost to mature the crowns. It is well to have a good stock of roots ready for lifting so that batches can be introduced as required. To prevent the ground from becoming frozen to such an extent as to prevent lifting, the beds ought to be covered with litter so as to exclude the frost. As the nights are now so cold, the lights over beds in which Asparagus is being forced should be covered with mats as soon as darkness sets in, but they ought to be removed in the morning as early as possible that the growth may have all the light possible on these short days.

Frames containing Lettuce, Cauliflower, Endive, and the like must be well looked after that the plants may be kept as hardy as possible. Do not allow any fallen leaves to accumulate, as these will help to hold the moisture round the plants.

Mushroom and forcing houses will now be fully occupied. As beds become exhausted in the former,

these should be cleared out to make room for others, manure having been prepared in readiness. It is also advisable to get in a good stock of soil, stocking it in a dry place before severe weather sets in, as nothing is more un-business-like than to have to wait for material; and as this cannot be had in good condition unless preparation has been made beforehand, let such work have early attention. In the forcing house, Seakale, Rhubarb, Chicory and Endive will each require attention. Be careful not to water the two latter or the foliage will damp off. If the other is afforded a good watering when put in, no more will be required till the crop is ready to gather, unless there are signs of the soil becoming too dry.—*Kitchen Gardener*.

HARDY FRUIT GARDEN.

THE PLANTING SEASON.—The present time is the most favourable possible for the planting of fruit trees. Thousands of trees, shrubs, and plants will have been put into their positions already, and thousands will yet be planted before this month has finished. On light soils we have had just a fine supply of rain to penetrate even the deep sub-soil. Planting operations can go on as they have been doing almost uninterruptedly for some time past, but on heavy soils the work has been, during the recent wet weather, abandoned. It is worse than anything else to put in young trees to soil which is sticky, cold it may be, and certainly unsuitable. The ideal site and soil, or soil conditions, should have a fair share of warmth, the particles ought to be in a moist state, and the mechanical conditions of the soil such as allows one to work tools cleanly and freely. An open station, so long as it does not subject the tree to too much exposure or checking influence, should generally be striven for.

Plums, Pears, Apricots, and Cherries are from necessity, or because of surer and better results, given on most occasions the shelter of a wall. Cherries do well on a west wall. Plums will succeed admirably either on south or west walls, preferably the latter in the south, where drought and heat are more in evidence, but in the colder parts of the land, I should prefer a warm sunny south wall. In sheltered positions Pears will bear good crops continuously either from an east, south, or west wall, but here again we would prefer to allow them the south side. A plan not often adopted, but which has been known to succeed, is the method of planting a tree on the south side, and to take a branch, or more than one branch, through holes in the wall near the basement, and train these over as much of the north side as possible. The other branches of the tree on the south side can be trained to cover the wall there. So thus a gardener who wishes to be rigidly economical may go a long way in this direction by securing two crops from one tree, one early and the other later.

Morello Cherries generally find their place on north walls beside the Black Currants and Raspberries. Apricots and Figs, where the latter are attempted in the open, must have the cosiest positions in the garden. The planting itself should be done thoroughly and carefully. Possibly, no gardener in the kingdom really needs any directions in this matter; therefore, let me only advise all planters to put their knowledge to its strictest use, and to avoid any slurring or scamping. It really cannot be done with impunity.

DISTANCES AT WHICH TO PLANT.—A very great deal depends upon the manner of the garden to be planted, the varieties of the different kinds of trees, and the uses of them. We may take the tightly packed little garden of 4 acres as a standard from which to judge and make comparison. If one has ample space at command it would be foolish to compress them. Standard or dwarf standard Apples, which are meant to be kept pruned, may be planted at 20 ft. apart. Bush and pyramidal Apples need not be more than 15 ft., and if need be there can be Gooseberry bushes between these.

Espalier trained Apples or Pears will be found to stretch out a goodly distance in a year or two, but if they do well after having had a year or two's trial, and are becoming somewhat crowded, they may be lifted and re-arranged. Pears in the open occupy much the same space as do the Apples. Plums are not so often planted in the open, but, perhaps, a yard

more may be given to them, seeing that they make shoots so very strongly and rapidly.

VARIETIES.—One generally likes to give a list of typically good varieties of fruits, but while this may be done, the caution must be given not to depend altogether upon lists, especially as coming from writers who practise in a certain part and forget that other varieties are more successful in localities away from their own. The following are found in perfection over a large area in the south:—Golden Noble, Peasgood's Nonsuch, Wealthy, Allington Pippin, Cox's Orange, Lady Sudeley, Bramley's Seedling, Warner's King, Red Winter Reinette, and Lane's Prince Albert, which are serviceable either as dessert or culinary Apples. Pears that are reliable and far-famed may include Louise Bonne of Jersey, Doyenné du Comice, Marie Louise (warm soils), Easter Beurré, William's Bon Chrétien, Pitmaston Duchess, which are all juicy and splendid eaters. Catillac, Souvenir du Congrès, and Vicar of Winkfield are good for stewing. For a long keeping variety, the Josephine de Malines Pear may be mentioned.

Moor park, Grosse Peche, and Powell's Late are all first-rate Apricots. Of Plums, we may enumerate Magnum Bonum, Victoria, Kirk's, Denniston's Superb, Coe's Golden Drop, Cox's Emperor, and Pond's Seedling. As a rule, it is best to allow all trees a fair amount of annual extension, otherwise they become decrepit and perverted.—*J. H. D.*

Gleanings from the World of Science.

AT a meeting of the Scientific Committee of the Royal Horticultural Society on the 7th inst., the undermentioned subjects were discussed:—

Effects of Fog.—Mr. Wright sent some Vine leaves from Chiswick to show the injurious effects of the recent fogs in the gardens of the Royal Horticultural Society. All the Muscat class of Grapes were most injured, the foliage being all scorched and the fruit more or less covered with a deposit. It was observed that the fog was remarkably early in the season. Prof. Church noticed that it was peculiarly pungent, causing a hundred buds of a Camellia to fall in a single day. Injury was also done to Orchids in Chelsea and Gunnersbury. The real cause of the injury is the presence of sulphurous acid gas, as well as the mechanical accumulation of sooty matters.

Amaryllis reversion.—Rev. W. Wilks brought an Amaryllis, the flowers apparently having more or less reverted to the primitive form of Hippeastrum, from which the modern types were descended through hybridisation.

Foxglove, Hybrid.—A flowering spike of a hybrid between a white-flowered Foxglove and Digitalis lutea was sent by Mr. Wilson, of St. Andrews. It was remarkable in having much smaller flowers than those of the usual form of D. purpurea × D. lutea; and though possessing perfect pistils, there were no stamens. Moreover, the flowers were white, but slightly virescent. The white Foxglove was the pollen parent.

French Vineyards Injured.—Dr. Masters observed that having lately seen the vineyards of the champagne country, also those near Neuchâtel and Geneva, he did not observe a single perfect bunch of Grapes. They appeared to have rotted early in the spring, through frosts prevailing at the time fertilisation was taking place.

Pinus aristata.—He also exhibited cones of this rare Californian Pine. They are remarkable for bearing a needle-like spine at the back of the thickened end of scales, the so-called hypophysis. It was a question whether this be not a variety of P. balfouriana, which grows in the same country and only differs in the absence of the spine. It is a good maritime species, bearing dense foliage. They were received from Mr. Croucher, of Crief.

Pelorian Mentha.—Rev. Geo. Henslow showed a drawing of a regular flower of Mentha rotundifolia, found wild by the river Wye, near Ross.

Symphoricarpos racemosus.—This is the botanical name of the Snowberry tree. It is a capital plant or shrub for game covert, and does fairly well beneath the shade of trees.

HINTS FOR AMATEURS.

Chrysanthemum Cuttings.—The culture of chrysanthemum begins, may we say, about November 20th of one year, and ends on November 19th, twelve months forward, in other words we are never free. At this season when every lover of flowers is enjoying the rich diversity of the many shades which are to be found in the Chrysanthemum, we are yet busy, or about to be busy, in preparing for next year's plants. Cuttings have to be secured, and most of these shall have to be put in between now and the first fortnight of the next year. Good cultivators like to start well. Jockeys depend almost entirely on a good start if the race, which they have before them, is to be laid to their credit. It is the same everywhere else and at everything else. "A work begun is half done" is what we used to write in the school-boy copy books. "A sure foundation is the secret of success." These are two maxims quite applicable, because more or less with the same definition, as advice for the amateur or professional Chrysanthemist. Stout, firm, and not too lengthy base shoots, those around the stool of the plant, are what are wanted. Now, in regard to the conditions in which the cuttings are struck, almost as many strike their cuttings in a warm atmosphere—say 60°—as those who prefer cold treatment. Speaking from experience heat may be recommended for the amateur who has not such constant leisure or probably so great perception as to likes and dislikes of his pets. The process is also facilitated and the chances of damping off obviated from allowing a modicum of warmth. Long narrow boxes about 9 in. or one foot deep should be looked out, and thoroughly crocked with clean pot chips or rough cinders. Above this spread the usual layer of rough leaves—half decayed—or of lumpy fibrous loam. Then the compost should be of the lightest description possible, nearly all sand in fact. It should, however, only be shallow but firmly pressed.

Making and Inserting the Cuttings.—Having made these preliminary preparations, the cuttings may then be sought out and made. Pull them away from as far down as possible, and after trimming off a few of the lower scales and leaves so as to secure about 1 in. of clear stem, make a sharp transverse cut close below a joint or node. Then the cutting may be said to be ready for insertion. Make a hole for its reception by means of a dibble or a pencil even. Make sure that the base of the cutting is firm and the soil around it likewise compact, the cuttings being about 2 in. apart. A watering from a very fine rosed can, using tepid water, should be given after this. According to whether your boxes are on stages above hot-water pipes or on stages away from their influence will the necessity for frequent or only occasional waterings be regulated. Panes of glass ought to be stretched across the top of the boxes to prevent too rapid evaporation. These must be turned once or twice during the day, certainly every morning at least. By constant attention for three weeks or more the care bestowed will be rewarded by seeing the plants starting to grow. Lift one or two to see in what condition the roots are. If these are thought to be numerous and long enough for the needs of the plants lift the batch carefully and pot them off into small thumb pots. Keep them still in a moderately warm house, placing them on a shelf near the glass. They should not be allowed to remain in a house whose temperature will excite growth too rapidly. An occasional dewing of the foliage will add to its freshness and vitality; it will also obviate the need for so much watering.

Solanums.—The herried Solanums are plants of much service in the amateur's collection. They are highly ornamental during a large part of the dull season, and they can be grown year after year with such ease that no one need be shy of attempting to rear or furnish a supply. Probably the best plan is to buy bushy plants, and after these have stood service through December and January to cut them back then and to start them in a cool greenhouse. The old balls of soil should be shaken out and repotted in fresh material, water being sparingly given until summer growth is brisk.

A Plea for Prunus.—The double flowering Plums of the species *P. divaricata* and *P. triloba*, though always admired and much praised when seen at

their best in April, are just apt to be overlooked at this, the special and proper planting season. Of course, from various causes or reasons would-be planters cannot always carry out their desires just at the proper time, and for them their reasons are sufficient. As already said, the species of *Prunus* are highly ornamental and graceful. Their long, arching sprays, thickly crowded with double white or pink flowers in view out upon a lawn are perfect in their loveliness. If they are planted in groups of twos and threes the pretty effect is correspondingly increased. *P. sinensis* fl. pl., which may be found at times in pots for conservatory use, is still another variety whose charms may in all soundness be recommended. In all fairly well sheltered positions either of the species mentioned may be safely relied upon. Of course, where a wall can be given to them the increased floriferousness of the trees fully repays the consideration. *P. triloba*, it may be noted, flowers chiefly upon the young wood, so that an annual cutting out of old wood is almost necessary to allow the young shoots room for vigorous development.

The purple foliaged *P. Pissardi* may also be included in the selection. When one comes to think of it, too, the words written lately by the Rev. Dean Hole are full of truth. "That we require, in our none too cheerful land, more bright foliaged shrubs to gladden us with their gaiety." The Golden Elder, the purple Berberis, and the Mahonia, *B. Aquifolium*, *Negundo*, and *Acers*, purple, copper, other Beeches, *Cornus mas variegata*, Hollies, and a few other things may here be included as a short list of shrubs with coloured foliage for present planting.

The Rose Acacia.—Here also we have a superbly beautiful hardy flowering shrub. It is a native of some parts of North America, but to grow it to perfection it ought to have a position on a wall in the north, though it is perfectly hardy in the south. This is not so much because of any need for shelter, but rather from the fact that unless the tree is unusually well protected from high winds, it is very liable to snap many of its shoots, owing to their extreme brittleness. It is, however, well worth its place. The long racemes of flowers are of a deep and distinct rose colour.

The Making of Pergolas and Porches.—Through the winter when so many out-door improvements or alterations are generally effected, the operations of adding pergolas here and there as an adjunct to already existing objects, or for the wish of having an additional shaded and sheltered walk, and a means of giving support in a compact yet efficient manner to a variety of climbing plants, may be taken in hand at any time. It is a good plan to choose a low wall as a means for establishing one side of the set of piers. Short piers or pillars of stones or bricks should rise from the top of the wall so as to support transverse beams at a height of about 8 ft. Pillars from the ground should be erected opposite those on the wall, and about 8 ft. wide from the said pillars. These can either be square, rounded, or angular, but when finished they should not be unpleasant or uncouth. They may even be plastered in a rough and ready way, and afterwards painted with cement wash. Oak beams or beams of a wood whose lasting properties are proven, ought to be fastened firmly across the top as supports from pier to pier. These need not necessarily be shaped, indeed, the natural boughs are much the more picturesque. It must be made a point to have them firm. Ampelopsis of various kinds; Vines, Wistarias, Jasmines, Climbing Roses, *Aristolochias* and other things not excluding Currant trees, may be planted against the outside of the piers to be trained over the pergola as here described.

Window Gardening.—Plants in the windows of dwelling houses are not having a bad time of it at all. In many parts the foggy weather is certainly against their well-being, otherwise one cannot complain. An even and fairly warm temperature ought to be the aim of the window-gardener. They do not require much water at this season, but remarks on this heading have already been given. Do not expose them to the effect of injurious gases.—*Beacon*.

Carnation Shipments.—We note that Carnations have been proved to last and travel well in hermetically sealed glass bottles. The statement is open to doubt, but the fact of a still air being maintained within the bottle must go a long way towards saving the bloom from the withering effects of evaporation.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Destruction of Ants and Woodlice.—S.: These troublesome little creatures are very difficult to eradicate, and persistent measures must be adopted if you wish to make a thorough clearance. Baits must be laid. Poisoned baits we must abrogate. Boiled bran and Potato flour attract large numbers, and if small doses are placed about here and there among the pots or by the sides of walls at the parts they most frequent, they can be demolished wholesale by scalding them as they are found. This is really the most effectual cure.

Liming the Soil.—J. Johnstone: The use of lime, pure and unslaked lime, is not so much for any eradication or suppressing effect it has on vermin as for its "correcting" power, the power it possesses for transforming sour soils to a pure, fresh, and wholesome state. It neutralises the acrid and harmful acids. Such is the shortest explanation, and more need not be given here. Apply for the extinction of vermin, or at least as a suppressive agency, from one to three tons per acre of gas-lime, according as you think your land stands in need. Leave it exposed for some time before use. As a help to failing or over-rich lands give about five tons per acre. We would bring to your attention Dyke's essay on "Manures and their Application."

Begonia Gloire de Lorraine.—Stevens: We certainly do not wonder at your enthusiasm after seeing a hatch or rather "a glorious tide of jingling pink" of the above plant. You seem eager to start and grow plants right off, but you may have to wait till the flowering period is over in April before you secure cuttings. Notes upon its treatment have appeared in various of our issues.

Thatching an Out-house.—Amateur: We cannot claim to be adepts at such work as you are desirous of attempting. We could strongly advise you to get a practical man to do the work. By contract it should only cost you about a shilling per sq. yd. The straw or heather, whichever is to be used, must first be laid out in straight bundles. Unthrashed wheat straw is also recommended. This may be closely and firmly pegged down by means of wooden pegs and strong tar twine or wire. Begin at the bottom and work upward, feathering down each handful so as to fill the interstices if any, of the lower levels. As the work proceeds the whole should be lathened, cut and beaten to make a firm, and watertight roofing. Roofing felt would be probably cheaper in the long run.

Growing Winter Lettuces.—John Storm: It is hardly worth while, we think. Still if you have no better use for your frame, by all means set about preparing a bed. A mild hot bed is generally made by mixing leaves with fresh stable dung and treading these in firmly. One foot of soil should be placed over this and when it has become somewhat warmed the young plants which must be sown at once or secured from some one, may then be put in. Water them with tepid water and keep the frames closed for a fortnight. When the plants have caught root and are growing well ventilate the frames freely, though they must be kept well protected during hard weather.

Planting Pansies.—Grower: Plant them now, in rich, light, open, and moist beds.

Arum Lilies.—Fred Donnigan: Properly they are natives of the British Central African tracts. By naturalisation in Great Britain they have become wonderfully hardy. Your plants should flower in March or April if all goes well. We would not advise feeding them till the flower spikes show, unless they appear stunted.

Primula obconica.—G. Drew, Salisbury: Practically any time will do for the sowing of seeds. Nice little plants coming on now will flower next summer. Or a spring sowing, say in April, will furnish tidy plants for this time a year hence. One item the most

careful with, and that is watering. We often harp upon this string, yet the string is still fresh, and as it gives the keynote to the other strings or items of culture, we perforce must continue to harp. Do not sow too deeply; shift by small measure, keep the plants clean, stout, and growing.

CHRYSANTHEMUM LADY HANHAM.

FROM the original Vivand Morel three sports have originated in this country, namely, Charles Davis, Lady Hanham, and Mrs. J. Ritson, all of which belong to the Japanese type of Chrysanthemum. Sports are chiefly confined to variations in colour, as in this case; but on several occasions we have noted variations in form, though they do not appear to be either constant or popular. Strikingly distinct form

helping to win prizes in open and frequently keen competition. The accompanying illustration of it, obligingly lent us by Messrs. H. Cannell & Sons, Swanley, shows the form of the bloom, though much under the natural size.

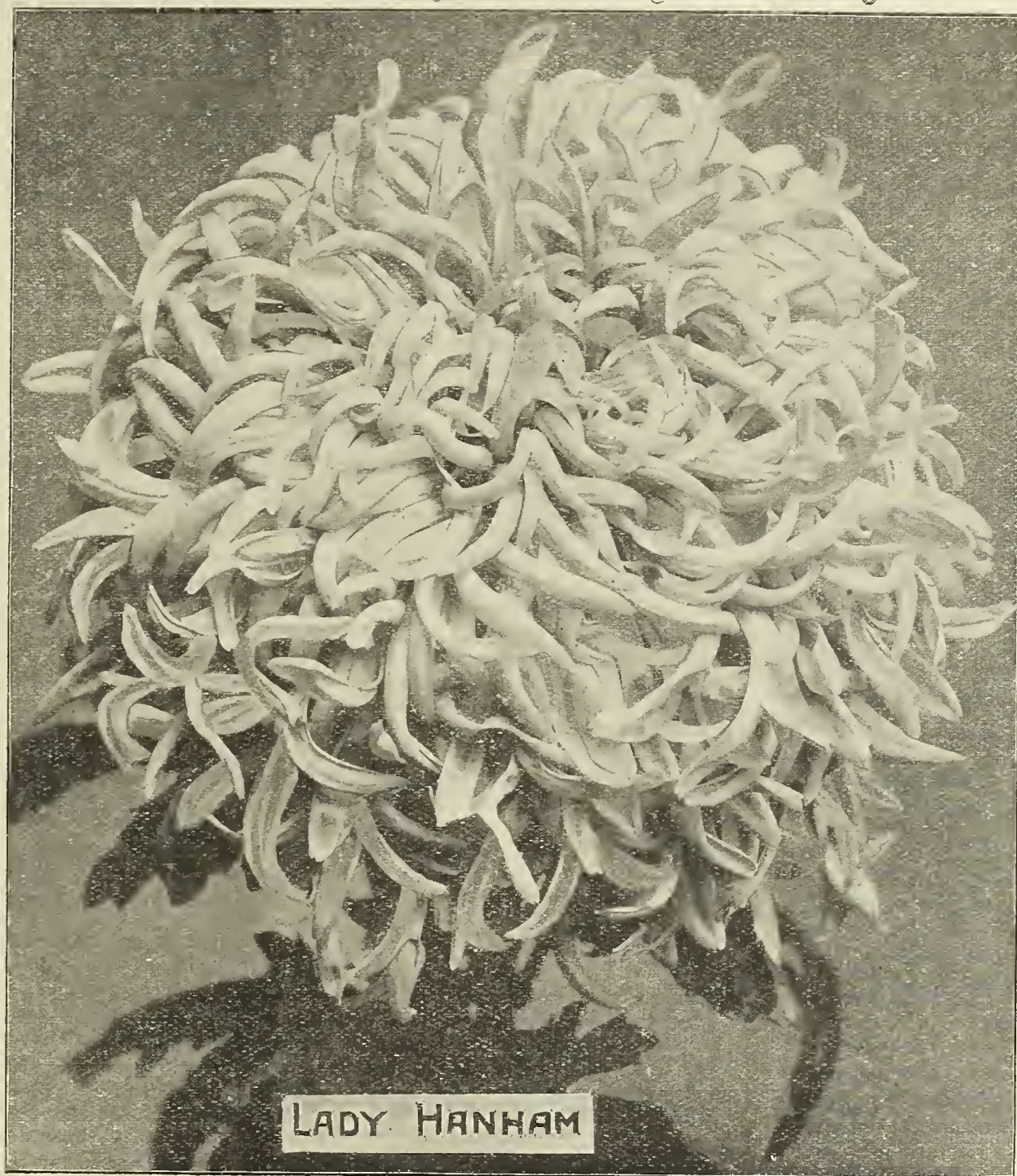
CHRYSANTHEMUM SHOWS.

BIRMINGHAM.—November 7th, 8th and 9th.

THE great annual show was again held in the commodious Bingley Hall, Birmingham, and the results justified the use of that place in preference to confined premises in which the shows were held a few years ago. This great Midland show is so centrally situated, and access by rail so convenient, that we feel sure it would even be more successful if

Esq., Edgbaston. For six Japanese specimens Mr. C. Brasier was again to the fore, showing fine plants of popular varieties for this kind of work.

Another fine feature was furnished by the groups of Chrysanthemums intermixed with fine foliage plants. The competition was excellent, there being no fewer than six entries in the class for groups of 240 superficial feet each. A nice arrangement by Mr. J. V. Macdonald, gardener to E. H. Kenrick, Esq., secured him the leading award. He was followed by Mr. Brasier. Mr. J. Waldron took the lead in the other group, beating Mr. E. J. Muston easily. Dinner table decorations also showed some spirit, there being no less than nine of them, which attracted a considerable amount of attention from visitors. The first prize table consisted of a graceful arrangement of orange-coloured Chrysanthemums



CHRYSANTHEMUM LADY HANHAM.

and constancy are requisite for a Chrysanthemum to attain popularity. Amongst the four colour varieties named above Mrs. J. Ritson is not always strictly constant in colour, so that as far as our observations go it is the least popular of the four. Lady Hanham is a beautiful salmony-pink sport from Charles Davis, and though many had their misgivings at first with regard to its distinctness and constancy, we can say that it has come well up to optimistic expectations, if its frequency upon the show-boards is any guarantee. It was plentifully exhibited at the great November exhibition of the N.C.S., and reports from various provincial sources show that it is popular with gardeners, because it comes up to expectations on the show-boards by

it was arranged so as not to clash with the show of the National Chrysanthemum Society.

Amongst the classes set apart for trained specimens, the chief attention was centred upon that for nine trained Chrysanthemums, exclusive of Japanese. The specimens were certainly effective so that the hand of growers has lost none of its cunning. Mr. C. Brasier, gardener to Lady Martineau, Edgbaston, secured the premier position with a well-grown and profusely flowered lot. He was followed by Mr. J. Waldron, gardener to G. Cadbury, Esq. The latter came to the front for three pompons, showing well-flowered specimens; and in the class for singles he was equally successful. In the latter class he was followed by Mr. A. Cryer, gardener to J. A. Kenrick,

and Ferns, and was set up by Mr. J. A. Tidmus, Spark Hill, Birmingham. Messrs. Pope & Sons, King's Norton, Worcestershire, tabled the best lot of floral devices, baskets, bouquets, &c.

Cut blooms are always a good feature of the Birmingham shows, and on this occasion formed no exception. For twenty-four Japs., distinct, the competition was keen. The leading honours were carried off by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby. Some of his finest blooms were Mrs. Mease, Mdme. Carnot, Mrs. H. Weeks, M. Chénon de Léché, &c. There were not many points between him and Mr. C. Crooks, gardener to the Dowager Lady Hindlip, Droitwich, who was second. Strange to say the posi-

tion was reversed for twenty-four incurved varieties, Mr. Crooks beating Mr. Goodacre with neat blooms of J. Agate, C. H. Curtis, Mrs. W. C. Egan, Duchess of Fife, Robert Petfield and others. Mr. Crooks also led the way in the classes for eighteen and twelve incurved, eighteen Japanese, showing good stands in each case. For six yellow Japs. of one variety and six of a white variety he was also first.

Messrs. Thomson & Co., Sparkhill, Birmingham, were to the fore as usual with their Chinese Primulas, which toed the highwater mark of cultivation of previous years. In the classes for twelve, six and six Fern-leaved varieties, they took the premier awards.

VEGETABLES.—It is seldom that vegetables are seen in such large quantities at an autumn exhibition, and it is very doubtful if higher quality has ever been seen than in the special class for twelve dishes of vegetables offered by Messrs. Sutton & Sons, Reading. The liberality of this firm is often noted, but we do not remember of £12 being given as a first prize for vegetables, £6 as a second, and a third of £3. The result of this competition afforded much speculation as to the ultimate winner, while the vegetables were being arranged. So close were the merits of each dish that the judges evidently shared this view by the awarding of equal firsts to Mr. James Gibson, gardener to R. W. Hudson, Esq., Danesfield, Marlow, and Mr. H. Folkes, gardener to C. E. Strachan, Esq., Gaddesden place, Hemel Hempstead. Mr. Gibson was particularly strong in Cauliflower, Leek, Celery, Onions, Carrots, Beet, and Turnips; while Mr. Folkes showed grand Onions, Celery, Potatoes, Carrots, Beet, etc. Mr. Lye, gardener to Mrs. Kingsmill, Sydmonton Court, Newbury, was an uncomfortably close third, showing grand produce; with Mr. Wilkins, Blandford, Dorset, a good fourth. Messrs. Webb & Sons also offered prizes with several other seed firms. Mr. Pope, gardener to the Earl of Carnarvon, took the leading honours.

MISCELLANEOUS.—Messrs. J. Laing & Sons, Forest Hill, London, put up a collection of Apples and Pears attractively arranged. A bit of bright colour was afforded by Begonias, and fine foliaged plants served to lighten the whole. (Gold Medal.) Mr. W. J. Godfrey, Exmouth, Devon, put up a splendid group of Chrysanthemums, not for competition, and his efforts were rewarded with a Gold Medal. Mr. Deacon, gardener to the Right Hon. J. Chamberlain, Highbury, Moor Green, Birmingham, set up a splendid group of stove and greenhouse plants, foliage and flowers being well contrasted. (Gold Medal.) Messrs. W. Wells & Co., Earlsfield Nursery, Redhill, Surrey, made a feature of his speciality in Chrysanthemums, for which he received a Silver Medal. A fine collection of fruit and shrubs was set up by Messrs. R. Smith & Co., Worcester. (Gold Medal.) Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, had a collection of vegetables and plants. (Silver Medal.) Messrs. Clibran & Son, Altrincham, showed Celosias and Salvias in bright array. (Silver Medal.)

ISLE OF THANET.—Nov. 8th and 9th.

THE thirteenth annual show of the Isle of Thanet Chrysanthemum Society was held at Margate, and in many respects it may be described as the most successful effort which has yet been put forth by the society. From an expert's point of view the exhibition was regarded as excellent, and the large attendance of the general public on the opening day was sufficient testimony to the popularity of the show. It is not a mere empty compliment to say that it is one of the best shows seen outside London. That was the declared opinion of one of the judges a year ago, and the professional gentlemen who were engaged in that capacity this year, without hesitation agreed that this year's display could give points to the best of its predecessors. The classes were numerous and covered a wide range, and it was noticeable that the committee had profited by some hints thrown out by one of the judges on a previous occasion, and amongst other improvements in the conditions allowed the use of foliage plants in the groups which are always one of the most attractive features of the show. A valuable silver cup, secured by Mr. Powell Cotton, of Quex Park, in his foreign travels and presented to the Society, was put up for competition for the first time, and was won by Mr. J.

Cornford. There was a long list of prizes, and several National Chrysanthemum Society Medals were presented to exhibitors. The arrangement of the exhibits was very attractively carried out, and to this end the handsomely decorated and commodious hall by the sea well lent itself.

Besides the floral exhibits, there were several stalls showing handy articles for the use of the gardener. Amongst others, Mr. Bing, of South Bank Nurseries, Margate, brought Ichthemic Guano to the notice of visitors. The prizes and certificates were publicly presented by the Mayor of Margate, and the Rt. Hon. James Lowther, M.P. for Thanet, also took part in the proceedings.

SIDMOUTH.—November 9th.

THE Manor Hall, attracted a goodly number of people on the above date to view the produce, flowers, fruit, plants, and vegetables, grown in Sidmouth, Salcombe Regis, and Sidbury, the show itself proving a success in every way, entries rather above those of last year, while the weather was fine up to 9 p.m., which was fortunate for the society.

Major Balfour helped the show to no little extent, putting up a grand bank of 'Mums, Richardias, Coleus, Cypripedium insigne, Dracaenas in variety, Palms, and four very fine plants of Adiantum cuneatum, quite 4 ft. across, and a picture of health. A Certificate of Merit was awarded to these groups, three in number, as well as to Mr. H. Berwick for his showy and telling collection of flowering 'Mums, at the back, faced with a grand collection of sixty dishes of Apples, and twelve of Pears, which included the same varieties Mr. Berwick showed at the Crystal Palace, Aquarium, and lastly, at Birmingham, where he was awarded a Gold Medal.

For a group of plants, general effect and quality to be considered. Dr. Macindoe was first; and a trade grower, Mr. W. Cross, second. For another group open to gardeners and amateurs only, Dr. Macindoe again led, followed by Mr. T. Kennett-Ware.

Some good plants were shown in classes for six Japs., also for six various, cut blooms; eight trebles (Japs.) shown with long stalks, Mr. Cross was to the front followed by Mr. Kennett-Ware. For twelve blooms, distinct, the same order was maintained.

For six yellow blooms the two exhibitors changed places.

The best six pompons (bunches), of not less than three varieties, found Mr. J. Colwill, the well known fruit grower of Sidmouth, to the fore.

Mr. Cross was again victorious in the class for six whites; and Mr. Colwill, second.

In the class for twelve blooms, three of a kind, and for the best bloom in the show, Mr. Cross was the grower.

There were classes for table plants, Primulas, Cyclamen, Violets, Palms, Ferns, &c., all well contested. The best arranged table decorations, Chrysanthemums only, came from Mrs. Colwill; second, Miss Slee. Four competed here. Vases of flowers and foliage, baskets of Chrysanthemums and Ferns, also of foliage, hardy, and berries, helped make the show a success.

Fruit was also well shown, and for the heaviest dish of five Apples Mr. Clarke beat Mr. Colwill, as well as in the class for a collection of twelve culinary varieties. Class XXIX., though, found Mr. Colwill at the top for twelve varieties, dessert, followed by Mr. Clarke. There were about a dozen other classes for Apples and Pears, the prizes going to the above two; also Mr. H. Newton, Rev. Clements, Dr. Leon, Miss Kennedy, and Rev. W. Vickers. Grapes were poorly shown. Mr. Colwill took first with Alicante; Mr. Clarke, second, with Hamburgs, more red than black.

There were classes for amateurs not employing a gardener, and cottagers combined, for specimen plants, cut blooms, collection of vegetables, and wild flowers for cottagers only, all of which were well shown.

HARROGATE.—Nov. 5th.

THE fifth show of the Harrogate Chrysanthemum Society had a very successful opening day, a large and fashionable company assembling to view the various exhibits. Mr. John Pettinger, Strawberry Dale Nursery, Harrogate, was first for a magnificent group of Chrysanthemums arranged for effect, nearly every bloom being of exhibition size, thus

pulling them far ahead of the other competitors. The second prize went to E. Beckett Faber, Esq., Belvedere, Harrogate; and the third to Mrs. Whitham, Stafford House, Harrogate. Mr. Pettinger also took the premier award for twenty-four Japanese blooms, and was followed by — Wilson, Esq. Tranhy Croft, near Hull, and Mr. Sheepshanks, Harrogate, in this order. Mr. Pettinger attributes his success to the use of Ichthemic Guano.

BURTON AND SHOBNALL.

November 11th.

St. George's Hall, Burton, was the scene on Saturday November 11th., of the 14th annual show of the Burton and Shobnall Chrysanthemum Society. The shows have increased and gained in popularity at a rate which is most satisfactory to those who have the honour of arranging and abetting in the exhibitions. This year's show proved to be very successful. The following refers to the more important classes, and to those who took the leading prizes.

CUT BLOOMS; OPEN CLASSES.—The N.C.S. Certificate and first prize for twelve distinct Japanese blooms fell to the lot of H. H. Jackson, Esq. (gardener, Mr. J. Sutton), Moat Bank, Burton. Mr. Evershed's gardener, Mr. H. J. Neale, came second in this class; and third, Councillor Roberts (gardener, Mr. S. Durose). Mr. Sutton again won in the class for twelve incurved blooms, Mr. S. Durose following in the second place. For six distinct varieties of Japanese blooms the honour once more fell to Mr. Sutton who, indeed, when all the classes had been inspected, was found to have "cleared the boards." Mr. Neale was in the second place, and third, Mr. Pugsley. The class for twelve bunches of singles, not less than six varieties (not dishudded), three terminal sprays to form a bunch, and with Chrysanthemum foliage as relief, made a feature of much interest and beauty in the show. The winners here were Messrs. Sutton, Neale and Durose, in this order:—The champion incurved bloom in the open class was Madame Ferlat, shown in Mr. Sutton's stand. He also had the best Japanese bloom in the show, this being a fine specimen of Mrs. G. W. Palmer. The names of the chief prize takers occurring in the section exclusively for members, were:—Messrs. E. J. Upton, H. Watson, E. Causer, G. Gopsill, J. Copestake and F. Goodhead. Mr. E. J. Upton had the champion incurved bloom in this section, it being Lady Isabel; while Mrs. H. Weeks was shown by Mr. E. Causer as the best Japanese.

DULWICH.—November 14th.

ONE of the finest, if, indeed, not the finest Chrysanthemum shows which the above district has ever had, was held on Tuesday, November 14th, at the Public Baths, Dulwich. The entries are said to have been more numerous than previously. Much of the continued prosperity of any society depends a good deal upon those in management. Mr. Witty, whose portrait and biography appeared about three weeks ago in the GARDENING WORLD, is the genial and able chairman, while the post of secretary falls to Mr. F. W. Milbourne. The opening ceremony was performed by Mr. G. Whiteley. He spoke of the early shows which had been held in the Temple Gardens, bringing in at the same time the couplet—
First to the church to hear the nice anthem's hum,
And then to the gardens to see the Chrysanthemum.

Votes of thanks were given to exhibitors and judges. The following is a list of the prize-winners:—

The prize in the open class for a group of Chrysanthemums, covering 60 sq.-ft., was won by Mr. G. Smith; the second award falling to Mr. S. Bennett, while in the third place came Mr. W. Brannan.

Mr. A. M. Falkner was first for six bush plants, and second, Mr. W. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill.

For twelve cut Japanese blooms in distinct varieties, the order of the prize-winners was Mr. W. Taylor, first; Mr. H. B. Elson, second; and Mr. H. G. McLean, third. Mr. Taylor also won for twelve distinct incurved varieties. For six bunches of pompons, Anemone pompons or singles, Mr. H. G. McLean beat Mr. Meridew and Mr. A. M. Falkner.

Mr. A. M. Falkner, as an amateur, won the first prize for a group covering 50 sq. ft.; Mr. A. Patman was second; and Mr. H. Wells, third. For a group of twenty-four plants in pots, Mr. H. W. Wells was

here the winner. Mr. H. F. Foster came in second. Other names which were more frequently seen are Messrs. W. S. Barham, G. F. Baldwin, W. Martin, F. E. Gale, J. Pays, and R. Parfitt.

Miscellaneous groups were set up by Messrs. John Laing & Sons, of Forest Hill and Catford; by Messrs. John Peed & Son, of Roupell Park Nurseries, Norwood Road; by Mr. Witty; and another from Mr. W. Taylor, gardener to C. Bayer, Esq.

EASTBOURNE.—November 14th and 15th.

THE above was held in the Floral Hall, Devonshire Park, Eastbourne, on Tuesday and Wednesday, the 14th and 15th. The weather being fine there was a good attendance, so that the society may be congratulated in that respect. There are few towns that have a better place for holding such an exhibition. The buildings are well lighted, airy, and in every respect suitable for holding such; and great credit is due to the committee for the manner in which the show was arranged. The two ends of the building were occupied with non-competitive exhibits, consisting of Palms, Lilies of the Valley, Narcissus, Roman Hyacinths, etc., which had a very pleasing effect. There were also some fine collections of hardy fruit from Messrs. Cheal and Sons, of Crawley, and Thomas, of Wannock.

Cut blooms, considering the season, were very good. In the class for twenty-four Japs., Mr. J. Coles, gardener to H. Faure Walker, Esq., Highley Manor, Balcombe, was first. His Mdme. Carnot, Mrs. Mease, and G. J. Warren, were very good. Second, Mr. J. Siredwick, Silver Hill Park, St. Leonards. In the class for twelve Japs., the former was again first, and he also took the primary honours for six of one variety, his stand of Mrs. Mease being very fine indeed.

Vases of six blooms, arranged with any kind of foliage, were a fine feature, there being a strong competition; and here again Mr. Coles took the premier award, Mr. Allen, gardener to Lord Brassey, Normanhurst, Battle, being second, and Mr. Camm, gardener to the Duchess of Cleveland, Battle Abbey, third. There can be no doubt but that the blooms are shown much to the best advantage in this manner; but it is desirable that they should be placed on low tables that the blooms may be seen to better advantage.

Groups were not numerous, neither was there a strong competition, either for Chrysanthemums set up with Palms or miscellaneous collections. Nothing looks so formal as to see a group of Chrysanthemums put up like a hay cock; it is quite unnatural. The flowers are stiff enough of themselves without making them more so by this unsightly grouping. In the miscellaneous collection there was a very pretty arrangement from Mr. Sheath, of Woodside, Hastings; but it was rather too flat, otherwise the effect was good, and gained for him the first prize. Mr. Jupp, gardener to G. Boulton, Esq., Torfield, Eastbourne, was second. There was a strong competition in the class for table decorations, some of which were very pretty. The first prize went to Mr. A. F. Jenner, Beaufort Lodge, Battle; the second to Messrs. Durrant Young and Son, Eastbourne.

Fruit was very good and well represented, except in the class for white Grapes. Mr. Allen, gardener to Lord Brassey, took first for both dessert and cooking Apples, Mr. Thomas, of Wannock, being a close second. The same two exhibitors also divided the honours between them in the classes for Pears.

Vegetables were numerous and of good quality. The principal prize takers were Mr. Breach, of Gilbert House, Old Town; Messrs. Durrant Young and Son, Mr. Gore, of Polegate; Mr. J. A. Goldsmith and Miss Wickens, all of whom showed excellent produce, particularly considering the season.

LIVERPOOL HORTICULTURAL ASSOCIATION.

November 14th and 15th.

In splendid weather the twentieth show of the above was held in St. George's Hall. The exhibits showed a decrease in quantity, but in quality the high tone of the society was fully sustained. The entries in the large plant classes were but small, which gave an appearance of thinness around the sides of the lofty hall.

CHRYSANTHEMUMS IN POTS.—For four large flowering plants, Mr. W. Wilson, gardener to H. Cunningham, Esq., Gateacre, had the place of

honour with Mrs. G. Rundle, G. J. Warren, Phoebus, and Lady Isabel. Mr. J. C. Rose, gardener to J. G. Kitchen, Esq., was second; and Mr. Thos. Hitchman, gardener to A. Earle, Esq., third. For one large flowering specimen, Mr. Wilson again led the way with a well-flowered plant. For three pompons the same exhibitor excelled with Emily Rowbottom, Marie Stuart, and W. Kennedy, fine in every respect; Mr. J. Rose was second. The same order was observed for the single specimen. For the single standard Mr. J. Rose led with Mrs. Dixon. For one pyramid, Mr. W. Bustard, gardener to T. McLelland, Esq., had the best. The same exhibitor also secured first honours for six untrained with well flowered plants. Mr. J. A. Bartlett had the best specimen untrained.

For a 60-ft. semi-circular group, Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Wavertree, won with bright telling blooms, Mr. J. Keightley, gardener to Mrs. Duncan, following.

For twelve Japanese, grown in 5-in. pots, Mr. E. Wharton, gardener to J. Findlay, won with a useful lot.

CUT BLOOMS.—In the champion class for twenty-four incurved and twenty-four Japanese, Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., Aigburth, the last year's winner, was again accorded the premier position out of five entries. His Japs. were considerably in advance of last year, whilst the incurved showed improvement as regards depth. The incurved blooms were Duchess of Fife, V. Foster, Mrs. N. Molyneux, Perle Dauphinoise, C. Bruant, Mdme. Ferlat, C. H. Curtis, Lady Isabel, Topaze Orientale, Jas. Agate, Ernest Cannell, Mons. D. Foster, Queen of England, Mons. Desblanc, Mrs. C. E. Egan, Ma Perfection, Hanwell Glory, Lucy Rentall, Robert Petfield, Princess of Wales, George Haigh; Japanese blooms were Mr. C. H. Payne, Mdme. Gustave Henry, Master H. Tucker, Vivian Morel, Eva Knowles, Mrs. J. Lewis, Lady Ridgway, Graphic, Mrs. G. W. Palmer, Mons. Remy, Mons. Gruyere, Secretaire Firiens, Nellie Pockett, Mons. Chénon de Léché, Mr. H. J. Jones, Pride of Exmouth, Mons. Hoste, Mdme. G. Debrie, Charles Davis, Chatsworth, Edith Tabor, Mrs. H. Weeks, Lady Hanham, and Phoebus. Mr. R. C. Towns, gardener to Col. Lloyd, Oswestry, was second.

For eighteen incurved, Mr. P. Greene, gardener to Thos. Gee, Esq., Allerton, won with a good lot, including Lady Isabel, Dorothy Foster, Ma Perfection, C. H. Curtis, &c. Mr. C. Osborne, gardener to H. Tate, Esq., Allerton, was second. For twelve varieties, Mr. W. Neish, gardener to J. H. Ismay, Esq., West Kirby, was to the fore, and for six varieties, Mr. J. Watson, gardener to Thos. Edwards, Esq., Litherland, staged the best.

For eighteen Japanese, distinct, Mr. C. Osborne was successful, the best being Graphic, Phoebus, &c. Mr. W. Davis, gardener to Lord Trevor, Chirk, came second. For twelve varieties, Mr. G. Osborne, gardener to Dr. Duffus, West Derby, led the way; and for six, Mr. J. Watson was to the fore.

For six Anemones, Mr. C. Osborne won with beautiful Sir W. Raleigh, Descartes, W. W. Astor, &c. For six reflexed, the same exhibitor showed his mettle, Cullingfordii and Alice Bird being fine. For twelve Pompons, in bunches of three blooms, Mr. J. Counce, gardener to E. Winsor, Esq., won with lovely models, the best being Elise Dordan, Adellata Pricitta, Black Douglass, &c. For six incurved and six Japanese, Mr. A. Barber, gardener to W. Holland, Mossley Hill, took the lead. For a basket of Chrysanthemums and foliage, Mr. H. McFall, Huyton, was adjudged the first prize.

In the class for a group of Chrysanthemums and foliage plants, Mr. J. Bracegirdle won with a telling arrangement. Mrs. Duncan secured first honours for a basket of flowering and foliage plants, in which Orchids showed to advantage.

For three Orchids, Mr. E. R. Finch, gardener to J. Smith, Esq., won with Cattleya gigas, Ansellia Africana, &c.

For the single Orchid, Mr. J. Gowan scored with a well bloomed Odontoglossum grande. For two Orchids, Mr. Thos. Wilson, gardener to O. H. Williams, Esq., had the finest. For one Cypripedium, Mr. Bracegirdle won with a well flowered C. insigne. The same exhibitor staged the finest three Palms, large and fresh; Mr. Thos. Hitchman coming in for two Palms; Lord Trevor, for six Cyclamens; Rev. P. S. Robins, for two Mignonettes;

Mr. W. Barber, for six table plants; and Mr. E. Leventon, for four Poinsettias.

FRUIT.—For six dishes, Mr. J. Stitt, gardener to Mrs. Bright, won with Golden Queen and Gros Colman Grapes, Ribston Pippin Apples, and Louise Bonne of Jersey Pears.

For two bunches Black Alicante, Mr. J. McColl won with a pair of large, well finished bunches. For any other Black, Mr. T. Reid, gardener to D. Wilson, Esq., won with Barbarossa. For two bunches of Muscats, Mr. W. Neild, Horticultural School, Holmes, Cheshire, won with the best Grapes in the show—large and fine in colour. For any other white, Mr. J. Stitt scored with Golden Queen. For four bunches, two white and two black, Mr. J. Wright held the coveted position with Muscat of Alexandria and Black Alicante.

For six dishes dessert Pears, Mrs. Hanagan led with popular kinds; Mr. T. Coomber winning for four; and Mr. W. Johnstone for Doyenné du Comice.

Certificates of Merit were awarded to Mr. W. Barber for half-a-dozen finely grown Begonia Gloire de Lorraine; Messrs. J. Cowan, Gateacre, for a fine group of Orchids; Messrs. R. P. Ker & Sons for Cyclamen, Primulas, &c.; Mr. W. Rowlands for Cyclamen and Ferns; Messrs. Isaac House & Son, Bristol, for cut Violets; and to Mr. John Forbes, Hawick, N.B., for the new white winter-flowering Begonia Caledonia. The management was under the chairman, Mr. Thos. Foster. Mr. Harold Sadler satisfactorily carried out his duties as secretary.

BELFAST SHOW.—November 14th and 15th.

(Concluded from supplement in last week's issue.)

PLANTS.—The prize for a group of twenty pots of Chrysanthemums went to Robert Tennent, Esq., J.P. (gardener, Mr. Jos. McIlveen), Rush Park; William Robertson, Esq., of Netherleigh, coming second, and John Lepper, Esq., Fairacre, a good third. The order of the prize winners in the group for twelve pots was A. D. Lemon, Esq. (gardener, Mr. H. Kilpatrick), first; James Young, Esq. (gardener, Mr. Thomas Foster), Abbotscroft, second. Robert Tennent, Esq., stood first for the best specimen Chrysanthemum, and second, Wm. Robertson, Esq. James Young, Esq., won in the class for a group of stove and greenhouse plants. For six exotic Ferns in distinct kinds, Robert Tennent, Esq., was here the winner, followed by William Robertson, Esq., and Dr. Henry, of Comber. The Marquis of Downshire beat Wm. Robertson, Esq., for two Palms. The latter was first, however, in the competition for four Orchids. For six Dracaenas in three varieties, Mr. Robertson beat Mr. Tennent, Lord Carew coming in third. Mr. Tennent was likewise followed by Lord Carew in the entry for six distinct table plants. For six pots of Roman Hyacinths, the order was Mr. Robertson, Mr. H. Torrens, Lord Deramore. For six pots of Cyclamen, Mr. Robertson once more had the lead; as also for six double white Primulas. The Marquis of Downshire was first for six pots of Primula obconica. For six pots of Mignonette, Mr. T. H. Torrens was first, and also for six zonal Pelargoniums. Then in the larger classes again, for a large group of stove and greenhouse plants, 15 ft. by 25 ft., we find Mr. Hugh Dickson, of the Royal Nurseries, filling the first place, and Mr. Wm. Magee, of Knock Nursery, second. Mr. Hugh Dickson also won for a group of the same dimensions for Conifers and ornamental plants.

CUT FLOWERS.—For twenty vases of distinct varieties of Chrysanthemums the honour of having taken first prize went to Scotland, carried there by Capt. Stirling, of Keir (gardener, Mr. Thomas Lunt), Dunblane; second, Lord Ashbrook (gardener, Mr. J. McKellar, of Durrow Castle, Queen's County; and third, the Earl of Harrington (gardener, Mr. J. H. Goodacre), Elvaston Castle Gardens, Derby. For forty-eight Japanese blooms in twenty-six varieties, Lord Ashbrook beat the Marquis of Downshire, and he beat Thomas H. Torrens, Esq. The names of the principal winners in the lesser classes may be summed as follows:—Lord Ashbrook, Marquis of Downshire, and Messrs. Lancelot Shaw, G. H. Brown, John Rogers, John Lepper, John D. Barbour, and others. For twenty-four incurved varieties in eighteen varieties, the Marquis of Downshire succeeded in beating Thomas H. Torrens, Esq. For twelve incurved blooms in distinct varieties, John Torrens, Esq., of Rostulla, Whiteabbey, came first. Thomas H. Torrens, Esq., had the best incurved

bloom in the exhibition, while the best Japanese bloom was shown by Lord Ashbrook.

In the nurserymen's class for one bride's bouquet, Messrs. Frank Smith and Co., of the High Street, Belfast, were first; Messrs. Alex. Dickson and Sons, were second; and Mr. Hugh Dickson, third. For one bridesmaid's bouquet, the order was the same.

Messrs. W. Wells and Co., Ltd., Redhill, were awarded a Certificate for the pretty single Chrysanthemum, "Earlwood Beauty." Messrs. Isaac House and Son, Westbury-on-Trym, Bristol, were awarded a Cultural Certificate for their stand of Violets.

The exhibition throughout was a grand success, as such good organisation well deserved. Mr. Paul as Hon. Secretary, and Mr. J. McBride as his chief assistant, were ably assisted by many prominent members of the Council.

LEWES CHRYSANTHEMUM SOCIETY.

November 15th and 16th.

THE annual exhibition in connection with this society was held in the Town Hall and Corn Exchange, on November 15th and 16th. The numerous exhibits were arranged under the superintendence of Mr. Kenward, the chairman of committee, who has good taste, and sets them off to the best advantage. In some classes there was a falling off in the exhibits, while in others they were quite equal to former years. The rage for stiff, formally trained plants has now gone out of fashion, and that of grouping has become a little more natural. This being so, shows of this kind are more pleasing and attractive. The tables of fruit were interspersed with plants, while those containing the cut blooms had some of the formality removed by having tables of dinner table decorations placed between them.

One of the features of this show was the class for twelve untrained plants of the large flowering section. The first prize went to Mr. Steadworthy, gardener to G. Adams, Esq., Mr. S. Smith and Mr. Brooker taking second and third respectively. Groups were also good, though in one or two there was a lack of finish about them. Mr. Adams, gardener to Sir George Shiffner, Bart., took first both in that for Chrysanthemums arranged in a space not exceeding 60 square feet, and a like group of miscellaneous stove and greenhouse plants. This latter contained some nice pieces of Cattleya and other Orchids, backed up by nice pieces of Cocos, etc. For twenty-four Japs., Mr. J. Harwood, gardener to A. J. Jack, Esq., was first, Mr. Baker, gardener to F. Baxindale, second. For twenty-four incurves, Mr. Tourley, gardener to F. Barchard, Esq., Horsted Place, took first, Mr. Sayers, gardener to Miss Cook, of Nutley, being placed second. There was also some prettily arranged dinner table decorations, the first prize going to Mrs. Tourle.

Of fruit there was a goodly display, and the competition was very keen, especially in the class for three dishes of Apples. The fruit was bright, of good size, and in every way well up to the standard, Mr. Thomas, of Wannock, being first in several classes. His Cox's Orange Pippin, Ribston Pippin, and King of Pippins, were particularly fine. The season appears to have been favourable for the colouring of fruit on the chalk.

Collections of vegetables were well shown, there being a strong competition in most classes. The collection of Potatos shown by Mr. Watkins, gardener to L. Christie, Esq., of Glyndbourne, was excellent.

It is not often that the weather is so favourable in November as it has been during the past week, so that this society may hope to pull up some of its arrears, for unfortunately the weather has not been so fine on some former occasions, consequently there has been a falling off in the visitors. Every credit is due to the energetic secretary, Mr. Stroud, and to the committee for the way in which the Society has been conducted; for, were it not for the efforts of such, many of these exhibitions of this, the queen of the autumn flowers, would soon be numbered with the things of the past. The county of Sussex, however, can boast of numerous good Chrysanthemum growers, and so long as this happens there are sure to be some fine exhibits.

SOUTHPORT AND BIRKDALE.—November 16th.

The eighteenth exhibition was held in the Cambridge Hall, in charming weather, making a visit to this fashionable seaside resort the more enjoyable.

The entries show a considerable improvement on those of former years, whilst the quality was well up to the usual standard.

For the group of Chrysanthemums and Ferns, which is added to the first prize, the Silver Challenge Cup, presented by Councillor W. H. Holland, was won by Mrs. Williamson (gardener, Mr. J. Heath), with a well staged lot, with clean, bright foliage and a margin of Ferns. W. Shuttleworth, Esq. (gardener, Mr. Thos. Johnson), was second, with finer blooms, but showing the stakes too prominently, and with want of finish. Dr. Addy (gardener, Mr. W. Moon) took the remaining prize.

For one standard Chrysanthemum, Mr. Thos. Johnson was first, in addition to taking the Bronze Medal, staging Lady Hanham. Miss Carver (gardener, Mr. A. Francis) was second.

For six pots of Callas, Mrs. Martin (gardener, Mr. J. L. Monks) took the lead. For six table plants, Mr. W. Moore had the best. Mr. J. L. Monks scored for six Primulas, with good varieties. H. Hirsberg, Esq. (gardener, Mr. H. Rimmer) won for three pots Roman Hyacinths.

For four vases of Chrysanthemums, three blooms in each vase, Henry Thompson, Esq. (gardener, Mr. W. Blackhurst) won with good fresh blooms, which would have looked better with longer stems; Mr. R. Marshland, second. For twelve Chrysanthemums, in 6-in. pots, Mrs. J. W. Seed (gardener, Mr. G. Evanson) won W. H. M. Mawdsley's special prize. Three foliage plants, first, Mr. J. L. Monks, and the society's Silver Medal; Mr. A. Francis and Mr. H. Woodhall taking the remaining prizes.

For six pots Roman Hyacinths, Mr. Jas. Heath secured Messrs. Cllbran's first prize. For a group of miscellaneous plants, Mr. W. Moore staged the premier lot, Cattleyas and other Orchids adding much to the beauty. For three untrained Chrysanthemums, Mr. J. L. Monks won with well flowered specimens; and for one untrained, he led the way with Charles Davis.

For twenty-four cut blooms, twelve incurved and twelve Japanese, the Silver Cup presented by Sir G. A. Pilkington, Esq., M.P. for Southport, was won by Mr. Geo. Evanson. The best flowers were Lady Isabel, C. H. Curtis, Mdme. Ferlat, C. Davis, Phoebus, Lady Hanham, &c.; second, Mr. W. Blackhurst, the incurves being good. For twelve Japanese, distinct, the same exhibitor was to the fore with fair blooms; Mr. H. Blackhurst, second. The latter secured first honours for six Japs., winning the Silver Medal presented by W. Shuttleworth, Esq. For twelve incurved varieties, Mr. G. Evanson again proved invincible with fair sized, fresh blooms. For six varieties, Mr. H. Blackhurst scored. For six sprays of singles, Mr. J. L. Monks gained the first honour with nice blooms. One Cypripedium, Mr. H. Blackhurst won with a well-flowered C. insigne. Three fine foliage plants, distinct, Mr. H. Woodhall was well to the fore. One Salvia, Mr. W. Moon won with a grand plant. Single shower bouquet, Mr. J. Griffin, with a beautiful specimen.

The fruit section was not extensive, but some very good exhibits were staged. For three dishes, Mr. H. Woodhall had the premier lot, winning with Muscat of Alexandria, a Black Alicante Grape and good Pears. For two bunches of Muscat of Alexandria Grapes, Mr. Woodhall secured first honours with berries of a good colour. For the single bunch the same exhibitor won with the same variety. For two bunches of Black Alicante, Mr. Woodhall was again to the fore with good bunches of splendid colour and finish, which also gained the Silver Medal as the finest exhibit in the show. For the single black bunch, Mr. A. Francis won with fair Gros Colman.

The arrangements and staging were satisfactorily carried out, everything being in readiness for the judges at the stipulated time. Mr. Wallace Shuttleworth, chairman; Mr. J. L. Monks, vice-chairman; and Mr. W. Tomkins added materially to this success.

EDINBURGH.—November 16th, 17th, 18th.

(Concluded from p. II. of Supplement.)

For thirty-six Japanese Chrysanthemums, distinct, Mr. T. Lunt was first, Mr. D. Nicoll second, Mr. J. W. McHattie third, Mr. J. Beisant fourth.

For the Scottish Challenge Cup, open to Scottish gardeners and amateurs, the best twelve vases of different Japs. was shown by Mr. D. Nicoll; Mr. A. Kirk was next, followed by Messrs. J. Beisant and

W. Young. Twelve distinct Japs. brought fifteen entries, Mr. J. H. Cumming, The Gardens, Grantully, Balinglugg, being first, Mr. T. Lunt second, and Mr. A. Haggart third. Mr. T. Lunt again led for twelve Japanese in four varieties, Mr. J. H. Cumming was second, and Mr. A. Haggart third. Messrs. Lunt and Cumming were first and second respectively for six distinct Japs., Chrysanthemums; whilst Mr. J. Henderson, Windermere, was third amongst twenty-two competitors. Messrs. J. Shearer, J. Bird and G. Shotton were winners in the class for six Japs., any one variety. For a vase containing six blooms of Charles Davis, Mr. L. M'Lean, Mr. J. Henderson, and Mr. A. Kirk followed in that order. Mr. J. Bird was the only rival to Mr. J. Foster for a vase of six blooms of Mrs. J. Ritson, and beat him. Seven entrants for vase of six blooms Oceana showed Mr. L. M'Lean again at top, with Mr. J. Henderson second, and Mr. A. Kirk third. Mr. Wm. Black took highest honours for six blooms Edith Tabor; Messrs. L. M'Lean and D. Kidd were second and third.

Mr. M'Lean and Mr. A. Kirk were placed in this order for six blooms of Mrs. H. Weeks. Mr. W. Parlance was first for six blooms each of Mutual Friend and Vivian Morel. Mr. W. Armstrong was second for Mutual Friend, Mr. J. Shearer second for Vivian Morel. Mr. J. Bird came at top for six blooms Lady Hanham, Mr. J. Henderson second. Messrs. G. Shotton, W. Moir, and G. Chaplin were in this order for six blooms of M. Chénon de Léché; Messrs. G. Chaplin, J. Henderson and D. Kidd for six blooms Mdme. Gustave Henry; Messrs. W. Young, W. Moir and J. Foster for six blooms Pride of Madford; Messrs. R. W. E. Murray, D. Kidd, A. M'Innes, and J. Clark for four vases Japanese Chrysanthemum blooms, six blooms in each; Messrs. W. Norman, J. Boucher and R. Bruce for one vase of twelve Japanese blooms; Messrs. W. Moir, J. Hood and R. Whannell for a vase of six Japanese Chrysanthemum blooms; Messrs. A. Angus, J. Macgregor and J. Boucher for a vase of single Chrysanthemums; Messrs. J. Macgregor, A. C. Cameron, G. Chaplin and T. H. Cook for three vases decorative Chrysanthemums in three varieties, not disbudded.

The winners in other classes were in the order given; twenty-four incurved Chrysanthemums, distinct, Mr. J. H. Goodacre, Mr. A. Chandler, Mr. J. W. McHattie; twelve incurved, distinct, Mr. A. Chandler, Mr. J. W. McHattie, Mr. J. Clark; six incurved, distinct, Mr. J. Clark, Mr. J. Martin, Mr. G. Shotton; six blooms of C. H. Curtis, Mr. J. Martin was the only winner; six incurved, any one variety, Mr. J. H. Cumming, Mr. J. Henderson, Mr. J. Boucher; hand bouquet of Chrysanthemums, any foliage, Miss Todd, Miss Alice Todd, Miss E. Todd, Mr. R. Hutchison; Miss Todd and Miss A. Todd were respectively first and third for basket of coloured foliage and berries; Mr. A. E. Todd was first for basket of Orchid blooms with any foliage; Miss A. Todd, Miss Todd and Miss E. Todd were the three winners for Epergnes of Chrysanthemums. Mr. J. Higgins, Dovecote Park, Anstruther, was first for six blooms incurved, distinct; first for best bloom Japanese, second for twelve blooms Japanese, open to Amateurs only, third for six blooms Japanese, distinct, third for six blooms Japanese, whites, second for one vase of twelve Japanese blooms, and third for one vase of six Japanese blooms.

Mr. Nat. Molyneux secured the Association's Silver Medal for best new Chrysanthemum not in commerce. Mr. J. Martin had the best bloom, incurved, entered for competition; Mr. T. Lunt, the best Japanese bloom; and Mr. J. Higgins, the best Japanese bloom shown by amateurs.

Mr. D. Cavanagh had the best six pots, the best four pots of Japanese, and the best two pots, distinct. Mr. A. Duff had the only entry of four pots, distinct. Mr. R. Haswell had the best pot of large flowered white 'Mum, and the second best pot of large crimson. Mr. P. Hunt was best in this class, and third for yellow bloomed plant.

In the few classes open to nurserymen, Mr. John Downie was first for eight specimen Palms, for four specimen Palms, and six table Palms, distinct. Messrs. M. Todd & Co. were first for six specimen Palms, in 9-in. pots, and second in the classes for eight and four. Mr. G. Wood, gardener at Oswald House, Edinburgh, had the best three specimen Palms (not less than 4 ft.); Mr. M. Macintyre, the best six distinct Dracaenas; Mr. J. Thom, the best three Dracaena australis. Mr. G. Chaplin, the best

six *Primula sinensis* (single); Mr. A. Dickson, the best six *Primula obconica*; Mr. G. M'Kinna, the best six zonal *Pelargoniums*; Mr. A. M'Millan, the best six table plants (Ferns excluded); Mr. J. Pearson, the best six Ferns for table; Mr. J. Shearer, the best six pots of Roman Hyacinths; Mr. E. Curtis, the best six Cyclamen; Mr. D. Kidd, the best six Bouvardias; and Mr. T. McGregor, the best six specimen Ferns, distinct. Mr. C. Comfort was the only exhibitor of six Christmas Roses in pots. Messrs. J. Thom, Mr. M'Intyre and Mr. J. M'Cartney scored in this order with their groups of decorative foliage plants, stove or greenhouse, and Mr. M'Intyre, Mr. G. Wood, and Mr. J. Cumming were the winners out of eight contestants for four decorative foliage plants, stove or greenhouse. Since the time that Mr. H. J. Jones introduced plants of *Begonia Gloire de Lorraine* into one of his exhibits at Edinburgh, this plant has excited much interest there, so it was not surprising to find that eight entries were this time made for the class of six plants, but it was indeed delightful to see the splendid way in which Mr. G. Chaplin, of Ravenswood, So. Oswald Road, Edinburgh, had grown his exhibit, so that one at least of the plants was quite 3 ft. through, covered with bloom and healthy looking foliage.

Nearly all the fruit classes were well patronised, and there was an excellent display, especially of Grapes. Messrs. D. & W. Buchanan were first in two classes, second in two others, and third in another. Messrs. W. Murray & Son were first for two bunches of Alicante, and third for two bunches of any variety. Mr. D. Murray, of Maybole, had first prize for two Pineapples; Mr. D. Kidd, for a collection of fruit in eight varieties (Pines excluded); Mr. J. Day, for eighteen varieties of Apples grown in Scotland, also for eighteen varieties grown anywhere; again for six varieties of Pears grown in Scotland, and for six varieties of culinary Apples. Mr. J. Paterson was first for his six varieties of Pears grown anywhere. Mr. A. Chandler took first for six varieties of dessert Apples, and Mr. J. Day was a good second; there were twelve entries here.

The vegetable classes were numerously contested. That for twelve Tomatos brought twenty-one entries, and resulted in Mr. J. M'Gregor, of Clifton Park, Kelso, being first; twenty-seven entries for eight Leeks, with Mr. David Pitt, Eccles, Kelso, first; thirteen entries with two Cucumbers, Mr. A. Chandler, Cotton House, Rugby, first; forty-five entries for six Cauliflower or Broccoli, Mr. A. Short, of Old Melrose, being the lucky winner; thirty-eight entries for six Turnips, with Mr. W. Spence as first-prize taker.

Gold Medals were awarded to Messrs. Norman Davis and H. J. Jones for their grand displays of vased *Chrysanthemums* and decorations; Silver Medals to Messrs. R. B. Laird & Sons, Ltd. (also Highly Commended), John Downie, W. Wells & Co., Ford & Co., Ichthemie Guano Co. (and Cultural Certificate for Grapes and *Chrysanthemums*); Bronze Medals to Messrs. Dobbie & Co., Laing & Mather, Thos. Whitehead, of Selkirk (for table), Ford & Co.; Highly Commended—Mr. John Forbes, James Grieve & Sons (for a new early-flowering *Chrysanthemum*), and Messrs. John Ford & Co. for a display of Boeckh's patent adjustable tables, which can be easily arranged as a book-case, a window dressing-case, or a table.

First-class Certificates were awarded to Mr. H. J. Jones for blooms of *J. R. Clayton*, Lord Aldenham, Mr. G. Barnes, Mrs. Ewart Barter, Lionel Humphrey (Japanese), and Mrs. Jones (incurved); to Messrs. W. Wells & Co., Ltd., for *Etoile de Feu* (decorative); to Mr. Norman Davis for Mrs. Barclay, J. R. Upton, Mrs. Comhes, Mrs. Cursham, Mary Molyneux (Japanese), Ralph Hutton, and General Symons (incurved).

When it is borne in mind that the proceeds of this wonderful show are to be devoted to the Patriotic Fund for our Soldiers' Widows and Orphans it will be easily understood that all the officials worked their very hardest, and they were much gratified to see the thousands of people which daily poured into the Waverley Market.

Mr. John Downie, 114, Princes Street, Edinburgh, put up a large, oblong group of conifers, edged with bushy plants of *Veronica salicornoides*. The Conifers were rich in variety, and included *Abies concolor violacea*, *A. Pinsapo*, *A. P. glauca*, *A. magnifica*, *A. Veitchii*, *A. brachyphylla*, *P. alcoquiana*, *P. Morinda*, *P. ajanensis*, *P. Menziesii*,

Tsuga pattoniana, *T. hookeriana*, *Pseudotsuga Douglasii taxifolia*, *Pinus Peuce*, *P. excelsa*, *Lihocedrus doniana*, *Retinospora filifera aurea*, *R. squarrosa Veitchii*, *R. ericoides*, *R. plumosa aurea*, *R. leptoclada*, *Sciadopitys verticillata*, *Cupressus lawsoniana Fraseri*, *C. l. alba variegata*, *C. l. filifera glauca*, *C. l. Triumph of Boskoop*, *C. l. Westermanni*, *C. l. stricta variegata*, *C. sempervirens*, *C. macrocarpa lutea*, *Thuja minima glauca*, *T. ellwangeriana*, *Cedrus atlantica glauca*, *C. a. argentea*, and many other choice sorts.

MANCHESTER.—November 16th, 17th, and 18th.

AN important alteration was made this season by the executive in taking the show in its own grounds at Old Trafford. This step was a compulsory one, the Free Trade Hall being otherwise engaged. Fortunately the weather proved fine, and thousands flocked to see the finest show held at Manchester. The show house was utilised for the more tender exhibits, whilst the *Chrysanthemums* were staged in the annexe, where ample room could be obtained.

COMPETITIVE EXHIBITS.—For a group of *Chrysanthemums* and foliage plants, Mr. J. Horrocks, gardener to J. Walter, Esq., Newton Heath, was first; Mr. Hough, gardener to A. Buckley, Esq., second. For nine large flowering *Chrysanthemums*, Mr. Bradburn, gardener, to G. H. Gaddum, Esq., had the premier lot, carrying from twenty to thirty blooms on each plant, an altogether admirable lot. Six Pompons, Mr. Smith, gardener to James Brown, Esq., Heaton Mersey, won with pyramids. For six Japanese, Mr. Bradburn was again the leader with fine plants.

For the forty-eight cut blooms, distinct, twenty-four incurved and twenty-four Japanese, Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, again secured the foremost position, thus winning the "Derby" Challenge Vase, presented by the Rt. Hon. the Earl of Derby, K.G. The best flowers were *Chrysanthemum* *Mdme. G. Bruant*, Duchess of Fife, Talene, Mrs. Egan, *Ma Perfection*, *Mdme. Ferlat*, C. H. Curtis, W. Tunnington, Major Bonnaillon, Mrs. Mease, M. Chénon de Léché, Mrs. W. G. Palmer, Lady Hanham, Mr. Carrington, &c. Mr. West, gardener to E. Behrens, Esq., Whitechurch, was a good second.

For twenty-four incurved, not less than twelve varieties, Mr. West occupied the premier position, including some of the best flowers seen in the north this year. The best were Lady Isabel, Duchess of Fife, *Mdme. G. Bruant*, *Ma Perfection*, &c. Mr. J. Heaton, gardener to R. P. Houston, Esq., Liverpool, followed. For twelve varieties, Mr. J. Vaughan, gardener to Thos. Brocklebank, Esq., Liverpool, was first, with good blooms.

For thirty-six Japanese, Mr. J. Heaton, the winner of the Liverpool Cup, staged more of his monsters, winning with the best Japanese in the show. The heaviest were *Graphic*, C. Davis, Vivian Morel, Mrs. J. Lewis, &c. For eighteen varieties, Mr. Hill, gardener to T. C. Waterhouse, Esq., Prestbury, secured the first award; Mr. W. H. Lees, the second. For thirty-six miscellaneous cut flowers Mr. Mackellar, gardener to Jas. Watts, Esq., and Mr. Vaughan were first and second respectively. For a collection of greenhouse or hardy cut flowers, Mr. Jas. Brown won. For a collection of Orchid blooms Mr. Johnson, gardener to T. Statter, Esq., Whitefield, Manchester, was placed first. For six pots Roman Hyacinths, and eight white Primulas, Mr. Bradburn won in each case. For six Cyclamen, Mr. J. Brown had the best.

NON-COMPETITIVE EXHIBITS.—Seldom has the Society received such willing and such meritorious aid as on the present occasion. The Gold Medal of the Society was awarded to a very fine collection from Messrs. Sutton & Sons, Reading, comprising *Streptocarpus* (new hybrids); Giant White and Salmon King being conspicuous amongst their array of Cyclamen; heavy Onions, Potatos, &c.

Messrs. Dickson & Robinson received a Silver Medal for a fine bank of Lily of the Valley, Cyclamen and Begonias. Messrs. W. Clibran & Sons, Altrincham, were awarded a Silver Medal for Salvias, Begonias, and *Chrysanthemums*, including a number of unnamed single varieties. Messrs. J. Cowan, Ltd., Gateacre, got a Silver Medal for a fine lot of Orchids, *Vanda caerulea* being fine. Messrs. W. Wells & Co., Ltd., Earlswood, Redhill, Surrey, exhibited *Chrysanthemums*. Mr. Doe, gardener to

the Right Hon. the Earl of Derby, K.G., staged a collection of Apples and Pears. E. Ashworth, Esq., Wilmslow, received a Cultural Certificate for *Vanda caerulea*.

Messrs. Charlesworth & Co., Heaton, Bradford, had a fine group of Orchids.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, also exhibited a grand lot of Orchids. Messrs. W. and J. Birkenhead, Sale, Manchester, got a Silver Medal for an extensive collection of Ferns. Messrs. J. Cypher, Cheltenham, had a collection of Orchids, including many rare varieties.

The attendance, as already stated, was very large, which it is hoped will satisfy Mr. P. Weathers, the able and courteous curator.

SOCIETIES.

ROYAL HORTICULTURAL.—November 21st.

THE meeting on Tuesday last was strong in *Chrysanthemums*, as might have been expected. The grand table of winter-flowering Begonias, if not the most conspicuous, was at least the most important group in the Drill Hall, introducing a richness of colour not otherwise seen at this period of the year. Poinsettias, Ferns, Cyclamens, Orchids, zonal Pelargoniums, and fruit all took prominent positions.

Captain Holford, C.T.E. (gardener, Mr. A. Chapman), Westonbirt, Tetbury, Gloucester, exhibited a collection of hybrids and very choice varieties of *Cypripedium*. Amongst others we noted *C. Milo* Westonbirt var., *C. insigne* Harefield Hall var., *C. i. Sanderæ*, *C. i. Dorothy*, *C. i. Laura Kimball*, *C. arthurianum pulchellum*, *C. Charlesworthii magnificum*, and many others too numerous to mention here. (Silver Flora Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, also staged a large collection of Orchids, consisting chiefly of *Cypripediums* and *Laeliocattleyas*, *Lc. Decia* being shown in some numbers, and very fine. *Lc. dominiana langleyensis* was notable for the huge size of its maroon-crimson lip. Others were *Lc. Lady Rothschild*, *Lc. statteriana*, *Lc. Semiramis*, *Cattleya Portia*, *C. Pearl*, &c. Amongst *Cypripediums* the eight plants of *C. insigne Sanderæ*, carrying nine flowers on healthy plants were the most conspicuous. (Silver Gilt Flora Medal.)

W. A. Bilney, Esq. (gardener, Mr. W. Whitlock), Fir Grange, Weybridge, showed a fine lot of cut flowers of *Vanda caerulea*, *V. sanderiana*, and varieties of *Cattleya labiata*.

Mr. Ed. Kromer, Roraima Nursery, Bandon Hill, Croydon, set up a collection of fine varieties of *Cattleya labiata*, using Ferns as greenery. He had a remarkably distinct variety named *C. l. Kaiser Wilhelm II.*, the petals and lip of which were blotched.

Messrs. Paul & Son, Cheshunt, had five baskets of *Cypripediums* and two of *Masdevallia towarensis*, all well flowered.

Amongst new hybrids Messrs. J. Veitch & Sons, Ltd., also exhibited *Cattleya Vestalis*, *C. Ariel*, *Laeliocattleya Semiramis pallida*, and *Laelia juvenalis superba*.

Richard Ashworth, Esq. (gardener, Mr. E. C. H. Pidsley), Ashlands, Newchurch, Manchester, exhibited *Oncidium Forbesii* Ashlands variety, and *Cattleya labiata* White Empress. Sir James Miller, Bart (gardener, Mr. James Hamilton), Manderston, N.B., exhibited *Cattleya bowring-massaiana*. W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, exhibited *Odontoglossum crispum* Meteor, and the beautiful *O. lochristyense* Canary Bird. Frau Ida Brandt, Brunnenhof, Riesbach, exhibited flowers of *Pascatorea dayana* and *P. giariana*.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, staged a group of Orchids, including well-flowered specimens of *Oncidium varicosum*, *O. tigrinum*, *Cypripedium insigne* Laura Kimball, *Cattleya dowiana aurea*, *Cynoches chlorochilum* in grand form, and various others. J. Bradshaw, Esq. (gardener, Mr. H. Whiffen), the Grange, Southgate, exhibited a group of Orchids, including a grand piece of *Cymbidium traceyanum*, *Cattleya labiata*. Mrs. John Bradshaw, C. l. Gem, C. Mantinii, C. maxima, and *Laeliocattleya*. Hon. Mrs. Astor, a hybrid between *Cattleya gaskelliana* and *Laelia Xanthina*, between which it is intermediate. (Silver Banksian Medal.)

Messrs. Hugh Low & Co., of Bush Hill Park, Enfield, set up a large group of *Cyclamen persicum*

which were remarkable for healthy vigour and great size of bloom. The plants were very sturdy, showing a diversity of shades and beauty in the veined foliage. The group was relieved by means of Ferns and small table plants. (Silver Banksian Medal.)

F. H. Flight, Esq. (gardener, Mr. H. Neville), Cornstiles, Twyford, Hampshire, showed two dozen each of cut incurved and Japanese blooms. The whole collection was of remarkably fine form, build, and purity. The following were shown in superb style. Japanese—M^{me}. Carnot, The Wonderful, The Convention, Australie, Mons. Gruyer, Mons. H. Tucker. Incurves—Mr. H. J. Jones, Miss M. A. Haggas, Major Bonnaillon, Bonnie Dundee, and C. F. Hales. (Silver Gilt Banksian Medal.)

Mr. J. H. Witty, Nunhead Cemetery, showed a group of Chrysanthemum "What Ho!" which attracted some attention.

Messrs. Sander & Co., St. Albans, Herts., had a group of recently-introduced plants, comprising Kentia sanderiana, Dracaena sanderiana, &c.

Messrs. James Veitch & Sons, Ltd., Chelsea, showed well-flowered branches of Arbutus Unedo Croomii. They also showed a very brilliant group of Begonia Myra, whose grace and beautiful pink flowers were very much to the taste of all visitors. The semi-double B. Ensign, of a rosy-crimson tint. The Winter Cheer was also of great beauty, being bright and more distinct. B. John Heal was also of great interest. (Gold Medal.)

F. A. Bevan, Esq. (gardener, Mr. W. H. Lees), Trent Park, New Barnet, had a magnificent group of cut Chrysanthemums, which from being arranged in painstaking style, and from the fact of the blooms being of exquisite beauty in every respect, this stand formed one of the chiefest features of the show. His Mrs. Mease, Phoebus, Reine d'Angleterre and others were all of great beauty. Foliage of various tints and a grounding of green moss aided in the brilliant effect. (Gold Medal.)

Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, Elstree, Herts., set up a group of cut pompon Chrysanthemums, the most striking of which are President, Emily Rowbottom, Helene, Miss Nightingale, Wm. Westlake, Regulus and others, with Smilax interspersed.

Capt. Holford, C.I.E. (gardener, Mr. A. Chapman), Westonbirt, Tetbury, Gloucester, quite dazzled the visitors with his show of single and double zonal Pelargoniums. Southey, Miller's Favourite, Athlete, Paul Campbell, John Milton, Eleanor and others were the brightest of a long list of crimsons, roses and deep pinks; Lilian, Mrs. Simpson, Chaucer, Mrs. Gordon Linzee, &c., comprised some of the loveliest of the lighter shades. Ian MacLaren, a rosy-salmon with peachy edge is a remarkably free flowering variety and very attractive. (Silver Gilt Flora Medal.)

Messrs. Thomas Cripps & Son, Tunbridge Wells Nurseries, filled up a large corner with sturdy specimens of Poinsettia pulcherrima, bearing great, broad, healthy bract leaves as a crown. The foliage was also of much beauty in that it was dark and healthy, the edge was formed from small Marguerites.

(To be continued.)

QUESTIONS AND ANSWERS.

Vines Bleeding.—*Tomas*: The operator must have commenced work with too little theory of the subject in hand, or the book might have had too little, or both (which is very probable) must have been scant of the theory of Vine pruning. However, the bleeding may not continue long, as the natural flow will lessen as the Vines ripen. There is the chance, moreover, that the rods will recommence bleeding as the spring advances, and growth again becomes active. Vines really should not be pruned till the leaves have dropped and the side shoots have become quite brown, a process that could have been hastened with a little fire-heat and plenty of air by the top and bottom ventilators. The drastic nature of the pruning is almost certain also to make the side shoots weak next year, owing to their being developed from latent or undeveloped buds. We have seen the same meaningless pruning applied to Pears on an open wall with bad results. It will take the Vines two seasons, at least, to recover. In the meantime, a little fire-heat may be given with abundance of air. The cut end of the spurs should also be painted over with some styptic, sealing-wax, or painter's knotting. After the Vines are fairly at rest the painting may be repeated to prevent bleeding, as much as possible, when growth recommences in spring.

New Tree Begonias.—*Daphne*: The Begonias you speak of are strangers to us under the above name as well as to you. Can you find out what is their botanical name? Probably they are fairly common. We strongly suspect that they are either Begonia corallina or B. President Carnot, perhaps both, as they grow to a height of 6 ft. to 8 ft., or for the matter of that, 12 ft. when trained to supports. They produce large bunches of pink or rose flowers and fruit, which might be used for decorative purposes in private places, but we doubt very much whether they would carry well to market, if at a distance. They are shrubby and fibrous rooted, not tuberous. They take some time to grow to the above-mentioned height, and require plenty of heat, either in an intermediate house or a stove. We do not think they would be profitable to grow for market purposes for that reason, though they might sell well for a short time as a novelty. A similar compost to that given to tuberous Begonias in pots would meet their requirements. They grow and flower more or less in winter as in summer, so that they would have to be kept all winter in the same warm house.

Vine Leaves attacked with an Insect.—*Omega*: The leaves you sent us were badly attacked with Thrips (Thrips minutissima, as it is often named). The old ones will die as the leaves turn yellow and fall, but previous to that they will have laid a good stock of eggs upon the Vines in various cracks, crevices, and other sheltered places in the bark. If the leaves still hang on, you should fumigate the house on one or two evenings, syringing the Vines on the following morning so as to fetch down any of the insects that may yet be hanging about in a stupified state. This will prevent any more egg laying. After the leaves have fallen they should be gathered up and burnt; then the pruning should be treated in the same way. The rods must next be scrubbed with a well worn painter's brush dipped in strong soap suds and sulphur, or in Gishurst Compound or Fir tree oil, working the brush well into all the joints, forks and crannies of the rods. This will serve to destroy the eggs, and prevent attack next season, in proportion as the operation is thoroughly carried out.

Best Artificial Manure for Bulbs.—*Omega*: Superphosphates and kainit might be used for mixing with the soil at potting time, as they require some time to attain a soluble state, in which state only they can be taken up by the roots of plants. After the bulbs have been well rooted in the ordinary way under ashes or cocoanut fibre, and the crowns are well above the leaves you may then use either nitrate of soda or guano, or both at alternate waterings, using just a tea spoonful or a little more to a gallon of water. This may be used twice a week when the plants are making good growth. Err on the weak rather than the strong side, with these highly concentrated manures. Why not use liquid manure from the stables to supply the requisite nitrogen? You can always regulate its strength by mixing with water. If you desire an all round manure already mixed up, then consult our advertising pages. Directions for use should accompany the manures you get from the manure merchants. In any case you can ask for them. Use caution here also by keeping strictly within the regulations or prescriptions advised. It is easy to overdo manuring in winter when growth is proceeding slowly.

Names of Plants.—*R. Wood*: 1, Chimonanthus fragrans; 2, Viburnum Tinus; 3, Euonymus latifolius albus.—*J. H.*: 1, Ligustrum vulgare; 2, Symphoricarpos racemosus; 3, Ansellia africana; 4, Oncidium tigrinum; 5, Cypripedium insigne var.—*R. M.*: 1, Begonia metallica; 2, Begonia semperflorens var.; 3, Asplenium ebeneum; 4, Hippeastrum reticulatum.—*A. L.*: 1, Cattleya labiata var.; 2, Cattleya dowiana aurea.

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THE GARDENS, STRATHFIELDSAYE, MORTIMER, R.S.O., BERKS.

I am Sir, yours very truly, (Signed), J. W. McHATTIE."

It is acknowledged by the leading experts that Mr. J. W. McHattie is in the proud position of having exhibited the finest sixty Blooms ever staged in one competition, securing the First Prize in the Great Vase Class at the Show of the N. C. S. on November 6th, and in addition, on the same day, taking the following prizes: First, for 24 Japanese; First, for 6 White Japanese; First, for 6 Japanese any colour; First, for 6 Japanese Incurved; Second, for 48 Japanese.

"MR. H. J. JONES, LEWISHAM.

"DEAR SIR,—I have watched with interest the results of the cuttings I had from you last year of old varieties against our own of the same varieties, and I am pleased to say all yours have done first-class, and given us some of our best blooms. No doubt your rested stock has a great advantage upon our own cuttings, which have to be taken from plants that have been fed heavy, and shaded while in bloom; this makes our cuttings weakly. I must draw upon you again to supply me with a number of the older varieties. I have no rust in my collection and wish to keep clear of it. I will send order in a few days for what I require."

KEIR GARDENS, DUNBLANE, N.B.

I am, yours truly (Signed), T. LUNT."

Mr. T. Lunt is now recognised as the Champion Chrysanthemum Grower in Scotland. At the great Show held in Edinburgh (1898 and 1899) he was successful in winning the Blue Ribbon of Scotland, viz.: the "City of Edinburgh" prize, a piece of plate value £20 and £14 in cash. He was also successful in winning the Scottish Challenge Cup and many other first prizes at both exhibitions. I have much pleasure in announcing that I hold the entire stock of the following Grand Novelties, which I shall send out in the Spring:—

MADAME VON ANDRE.—Sulphur Sport from Mutual Friend. First-class Certificate, N. C. S.

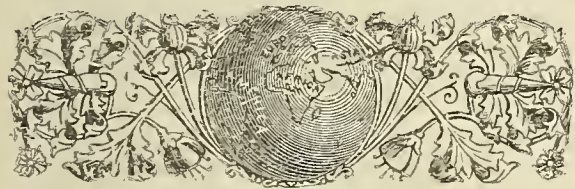
MRS. ALFRED TATE.—A red chestnut-bronze Sport from Etoile de Lyon. Award of Merit, R. H. S.

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In addition I have some magnificent Seedlings, which will be announced later.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 2nd, 1899.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, December 4th.—Messrs. Protheroe & Morris' Auction Sales of Dutch and other Bulbs during each day except Saturday, at their Rooms, 67 & 68, Cheapside, London, E.C.

TUESDAY, December 5th.—N.C.S. Winter Exhibition (3 days); R.H.S. Meeting in Drill Hall.

THE UTILITY OF SULPHATE OF AMMONIA.*

—This little book, of some sixty-eight pages, is a prize essay on sulphate of ammonia, written by Mr. James Muir, who discusses the subject from many points of view, and has, evidently, a good grasp of his subject. In discussing the subject whether nitrogenous manures impoverish the land he shows how it might and how it might not. Nitrogenous manures do indeed stimulate a greatly increased vegetative growth which enables plants to utilise most of the phosphates and potash within reach,

*THE UTILITY OF SULPHATE OF AMMONIA IN AGRICULTURE.—By James Muir, M.R.A.C. Published by the Sulphate of Ammonia Committee, at No. 4, Fenchurch Avenue, London, E.C., 1899.—PRICE 1s.

after which the soil would soon become poor enough, unless the store of those manures in the soils are restored by artificial means. Heavy crops of anything must of a necessity draw largely upon the stores of plant food in the soil; and if heavy crops are remunerative, then it would pay to add phosphates and potash when they become necessary. The fertility of the soil would thereby be maintained notwithstanding the stimulus given to vegetation by means of nitrogenous manures. The author then goes on to deal with the effects of nitrogenous manures upon the plant, and how it is taken up by the latter. The effect upon vegetation is to cause increased growth, and the foliage to be of a richer dark green. Organic nitrogen is fixed up in an insoluble state for a time, so that it is useless for immediate needs. The great source of available nitrogen is that in the form of nitrates. Ammoniacal nitrogen can be taken up directly by plants, but in the present state of knowledge, we have little evidence that plants avail themselves of it in this form to any great extent. Sulphate of ammonia has to pass through a series of changes whereby it is stored up in the soil ready for the use of plants. When this is applied to a soil, chemical action is set up between sulphate of ammonia and carbonate of lime, whereby the ammonia and carbonic acid combine to form sulphate of lime. The former, that is, carbonate of ammonia, is absorbed by the humus and clay in the soil, thereby rendering it safe from loss by drainage till nitrification takes place. This latter process is brought about by bacteria in the soil, so that the carbonate is transformed into nitrates ready for plant use.

Various other aspects of the case are discussed in successive chapters or articles, the authorities quoted and the reasoning being good. The book is written chiefly

from an agricultural point of view, but Potatoes, Beans, Turnips, Swedes and even grass are dealt with, so that the details would apply to the garden as well as field cultures. In a concise summary at the end of the book the author deals with the whole subject under review so that a glance over the 27 notes shows all the important particulars in a nutshell. The nitrification of ammonia compounds, but particularly sulphate of ammonia, may be, and is very rapid when the conditions are suitable. The author considers this form of nitrogenous manure most effective in wet seasons and climates. Small dressings may be applied to growing crops in autumn, but to avoid loss by drainage most of it should be applied in spring. For all other crops it should be applied when sowing the seed or a little before. In any case it should be given during the early stages of growth so as to avoid late maturity and over-rank growth. Commercial sulphate of ammonia of 95 to 97 per cent. purity should contain 24 to 25 per cent. of ammonia. The summary and contents are made to do duty for an index. Numerous tables relating to different subjects are given in all parts of the book.

VINES IN THE OPEN AIR.—Mr. H. M.

Tod, F.R.H.S., has been studying and making observations on Vine culture in the open air since the hot summer of 1868, and still continues enthusiastic on the subject. He commenced planting Vines in his garden, on the western outskirts of London, in 1872, and details much of his subsequent practice and observations in Vol. XXIII, Part 2, of the *Journal of the Royal Horticultural Society*, published in November last. About forty-eight hours after cutting his Grapes in the open in 1888 he went over to

France and inspected those on sale in the market at Reims and found that "they were no better, scarcely so good" as his own. Readers may remember that 1888 was a very cold and wet year in Britain, and Mr. Tod puts forward the above facts for the benefit of those who never tire in depreciating our climate. He thinks that if one could foresee the kind of weather we are likely to have it would be greatly to the advantage of the Vines to make wet seasons "Sabbatical years" thereby giving the Vines a rest that they would fully repay during the following year by the greatly increased crop and better quality. If the quality of the fruit and the wine made from Grapes off old Vines is superior to that of young ones, this is a special reason why the health of the Vines should be respected by not over-cropping them. He believes also that they should not be over fed with rich and stimulating manures, as the best wine is made from plants growing in poor, chalky, gravelly, or slaty schist soils.

Mr. Tod has also a serious objection to the use of chemical applications for the purpose of curing diseases. He mentions a certain vineyard where repeated washings with Bouillie Bordelaise so stimulated the Vine that they made unhealthy and precocious growths which did not shed their leaves in due time, and were, consequently, greatly destroyed by frost in November. He believes in pruning in October, because there is no bleeding then, and the wounds dry up before the advent of frost. The past season was a good one for Vines in this country, and the first Vine to ripen its fruit in Mr. Tod's garden was the variety Brandt, which matured about the middle of September. Trebbiano and Syrian are not good varieties for open air culture here, but he is to graft them with Moore's Early, Chasselas Rosé and others more suitable for our climate. He grows them upon espaliers in the open ground, taking two main shoots right and left and in close proximity to the ground. About four upright rods from these are allowed to grow and bear fruit. The Vine of the variety Brandt is nine years old and 9 ft. high. Syrian is 13 years old and carried amongst others a bunch weighing 30 to 40 ounces. Trebbiano is 16 years old and carried six bunches of Grapes. Some illustrations show the method of training. The best open air Grapes he has seen this season were grown on a cottage wall at Hampton, Middlesex, the variety being Chasselas Rosé.

The Paper-white Narcissus is already being largely sold by "hawkers" in the streets. The trusses are sent from France.

Mr. Wm. McIntyre, son of Mr. John McIntyre, Woodside, Darlington, has been appointed head gardener to Shandon Pole Gell, Esq., of Hopton Hall, Wirksworth, Derbyshire.

Dressing Chrysanthemum Blooms.—A contemporary speaks of a Chrysanthemum whose flower heads sometimes measure 14 in. in diameter. From a rough state this is transformed by means of pincers and brush till it is transformed into a first-class incurved variety. Rare varieties take three hours to dress them, though the more common ones are less fastidious. Three or four years practice at this work makes a man eligible for a big salary. I am always learning but I "hae ma doots."—*Chay*.

Botanic Gardens, Dublin.—Visitors to the above gardens noted with pride the blooms of the *Arachnanthe Lowi*. This Orchid has never flowered before, although it has been in the possession of Mr. Moore for sixteen years. Though a native of Borneo, it is not often one hears of it in flower. The plant in question carries six racemes, five of which are over 6 ft. and one not quite so long. The flowers are dimorphic, and each raceme carries on the average close on thirty-four blooms. In colour they have a yellow ground mottled with chocolate.

Violets are manufactured into a variety of confectionery which moneyed folks at times care to indulge in. The lovely flower heads are subjected to great pressure and by a varied manufacturing process they form a crystalline mass.

Careful Packing of Apples.—It was recently expressed by one most competent to say so that if the local fruit growers or orchardists in South Wales would only take the trouble to gather, grade and pack their Apples they could raise prices from the present figures of 2s., 3s. and 4s. per cwt. to so much as 14s. and 15s. for the same weight. As it is, they shake the trees, with the result that every fruit is bruised, and in value greatly lessened.

Imports of Plants and Shrubs.—One would have thought it enough with the thousand or two of nurseries in the United Kingdom, many of them crammed with all that is best in the hardy plant, flower roots, shrub and tree lines, but yet even with these (hardy) subjects foreigners have established a trade and one which they are causing to increase. In 1879 the value of these imports was returned at £137,000; in 1884, it reached £212,000; in 1890, £308,000; while in 1898 it was £436,600. In the aggregate, of course, these sums are not great, especially when compared with the amounts paid away in importing a large variety of other horticultural products or subjects. Still, why need we go to thousands of pounds to introduce supplies of those things which, if anything can be grown in the United Kingdom, these can. Our own exports of shrubs and plants do not amount to £50,000; this, of course, as distinct from seeds.

A New Wash for Hops and Fruit Trees.—Messrs. Dixon, Son & Taylor have invented a wash for Hops and fruit trees. They found it exceedingly successful, and some months ago sold some to a neighbouring Hop grower, who states that the results were quite successful. They now propose to sell the wash to those who may require it. The special advantages they claim for it are:—(1) That it is cheaper than any other wash on the market; (2) That it is more deadly to insects generally; and (3) That it in no way damages the tender leaves and shoots of Hops, fruit trees, Roses, &c. The inventors have named it the "Dixlor" Wash. Mr. J. Mayne, of Bicton, who has tried it says, "I have tried the insecticide sent me, as per instructions given on the cask, and found that one application on Roses under glass, that were badly infested with greenfly, quite dislodged the enemy, leaving all *hors de combat*; and not the least injury was done to the tenderest young growths. I have also tried it on some Peach wood, where that worst of all aphides, black fly, was lurking, with the same satisfactory results. I hope to prove its efficiency more in the spring when aphides are more numerous. In the meantime I consider it a first-class insecticide, and very safe in its use.

Chiswick Gardeners' Mutual Improvement Association.—At the bi-monthly meeting of this association on the 23rd ult., a lecture on the "Value of Chemical Manures" was delivered by Mr. F. W. E. Shrivell, F.L.S., of the Experimental Grounds, Tonbridge. He stated that the scientific aspect of the experiments was conducted by Dr. Bernard Dyer, while he himself superintended the practical work. The experiments were so unique that the French Government have copied them, and gardens have been laid out on the same lines in the United States of America. The experiments were started on two acres of ground, which now extend to eight acres. Two acres are devoted to Apple and other fruit trees; two acres to Hops, and other areas to small fruits and vegetables. They have been trying to use chemical manures in preference to the heavy and less portable London manure. All the Brassica tribe he said could be grown cheaper, earlier and better by means of chemical manures. In recording experiments on Damsons, he stated that by the use of 1 cwt. of nitrate of soda per acre, 450 sleeves of fruit had been obtained; 2 cwt. gave 501 sieves; and in the third year of the experiment 4 cwt. of nitrate of soda gave 527 sieves. Speaking of Strawberries he found that an application of potash in the form of kainit had proved harmful to a crop of Royal Sovereign, reducing the crop from 1 ton 17½ cwt. on unmanured ground to 1 ton 13 cwt. where the kainit had been applied.

The Poet Laureate and the Birds.—The Society for the Protection of Birds is issuing a Christmas card, bearing some verses by the Poet Laureate, which are entitled "Peace and Good-will to the Birds."

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, December 5th, in the Drill Hall, James Street, Westminster, 1-4 p.m. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Prof. G. Henslow, M.A., at 3 o'clock.

The National Flower of Germany is the Cornflower (*Centaurea Cyanus*); of Canada, the Sugar Maple (*Acer saccharinum*); of Italy, the White Lily (*Lilium candidum*); Spain, the Pomegranate (*Punica Granatum*); Greece, the Violet (*Viola odorata*); Egypt, the Lotus (*Nymphaea Lotus*); France, the Fleur-de-lis (*Iris*); Prussia, the Lime (*Tilia*); and of Saxony, the Mignonette (*Reseda odorata*).

Killarney's Lakes.—The historic and far-famed spot admired alike by poet and horticulturist, was offered for auction, on Tuesday, November 21st, before a crowded audience. The majority were composed of fashionable folk on curiosity bent. There was a keen buzz of excitement as to who the buyer might be, local or foreigner. J. North, Esq., was entrusted the task of auctioneer, who held it in the Antient Concert Rooms. The sale was practically a fiasco, as only £50,000 was offered by Dr. Moore for somebody unknown. The offer was declined, as they required at least as much more before the home of Arbutus Unedo (the Strawberry Tree) will change her steward. Ultimately it was bought in for the vendor at £51,000. Since then the lakes have become the property of Lord Ardilaun, Ashford House, Cong, Galway, and sometimes spoken of as the Dublin millionaire. His lordship seems to appreciate waterscape, for there is much water in the neighbourhood of Ashford House. He has no intention to restrict the facilities at present accorded to visitors to the lakes; and the present tariff is to be placed on a more equitable basis.

Government Botanical Gardens and Parks, Nilgiris.—From the report, prepared by R. L. Proudlock, Esq., Curator, of the Botanical Gardens and Parks, Ootacamund, Nilgiris, we quote a few particulars which may be interesting as showing what is being done in that part of India. The rainfall for the year 1898-99 was 49 in. 63 cents., which was up to the average for Ootacamund. There were two droughty periods, however, which proved very trying for such plants as Primroses, Calceolarias, and Ivy, which thrive best in a northern exposure there. All young trees recently planted also had a trying time of it, and fully half of the labour staff was kept watering for a period of three months. Over a thousand trees and shrubs were planted in different parts of the gardens, and others transplanted, including the only Beech tree on the establishment, and which was brought into a more prominent position. The Australian Daisy (*Vittadinia australis*) proves a veritable pest in this part of the country. About half an acre of ground was prepared and planted with Chrysanthemums for the production of cut flowers during July, August, and September. A collection of ninety-one Roses was planted, including a number of the best of Lord Penzance's hybrid Sweet Briars. Some Daffodils, presented by the Director of the Royal Gardens, Kew, gave very satisfactory results. Seeds of *Sequoia gigantea*, obtained from Philadelphia, have germinated, and the seedlings doing well. It is expected they will do well planted on northern exposures at an elevation of 7,000 ft. Various economic products are also mentioned, which have been planted, harvested, or experimented with. In experimenting with *Eucalyptus citriodora* and *E. Globulus* it was found that 50 lbs. of fresh leaves of the former gave 7 fluid ozs. of oil, whereas a similar weight of leaves of *E. Globulus* gave only 4 fluid ozs. of the oil. Improved methods of distilling it were also discovered. The curator was allowed to see over the West End Laboratory, Ootacamund, in March last, and noticed that distillation was being carried on by the wasteful old process. He showed the proprietor how to prevent the waste.

The Mushroom possesses nourishing properties similar to that of meat, the chemical ingredients being much the same in both.

Weather in London.—The most that can be said on this subject is that the conditions of the temperature for this season of the year are very mild, and not at all seasonable. Our bodies and our general healthfulness would be much the better for having to resist cold weather. It is very foggy as we go to press on Wednesday.

Bouquet Competition at Belfast.—In our report of the Belfast show, which was held on November 14th and 15th, we have placed Messrs. Alexander Dickson & Son, of the Royal Nurseries, Newtownards, in the second place for a bridesmaid's bouquet (nurserymen's section). This is incorrect. They were first, and we are pleased to put the matter in its proper form.

A Season's Charlock Spraying.—Charlock (*Sinapis arvensis*), is a cruciferous weed of the Mustard family which springs up in the wheat fields to the detriment of this latter crop. One of the most effectual ways of combating it for its suppression or extermination is by the practice of spraying. To find out how far the benefit from spraying goes, Messrs. Strawson, of Queen Victoria Street, London, recently issued a pamphlet asking farmers to send them any records which they had from experiments in using the spray. The percentages of the sprayings during April, May, and June were given in this order:—5, 47, and 48 per cent. respectively. The most successful spraying was found to be with young plants 2 in. to 6 in. in height. Much of the Charlock sprayed in June was too old. Windy weather leads to uneven spraying, while wet weather following upon the operation decreases the effect of the spraying. Copper sulphate gives better results than the use of iron sulphate does, and the former was used at the rate of a 2 per cent. solution sprayed at the rate of 50 gallons per acre. Impure sulphate must not be used. The statistical value of the experiments are given as:—successful, 68%; partially successful, 26% and 6% as unsuccessful. Cultivators who propose to spray against the pest next season are advised to have everything in readiness, and to spray before the weed reaches a stage at which the effect would be lost.

Devon and Exeter Gardeners' Association.—“Cut Flowers and their Arrangement” was the subject under discussion by the members of the above at their meeting in the Guildhall, Exeter, on the 16th inst. The exponent was Mr. W. Mackay, of the Royal Nurseries. The lecturer very aptly suggested (from the lack of skill and taste which even experienced florists at times showed) that floral artists, like poets, were born, not made. A summary of Mr. Mackay's hints might be rendered thus:—Short stalks were not a merit, nor was the persistent habit of cramming the flowers a quality. Vases and receptacles had to be considered quite as much as the flowers with which they were to be filled. Harmony of colour and form, or else direct contrast was a strong point for consideration. Wherever possible the bloom and the foliage which relieved it should be from the same plant. Ladies' dress sprays were subjects demanding careful manipulation, light, graceful sprays being mostly in request, and for the making of such it required elegant and suitable blooms. Bouquets ought to appear as though studied care had no part in their make up, that is, the negligence of form ought to leave this impression, and yet the grace and sweetness of a bouquet should gratify every artistic taste. In room decorations the simplest of flowers alone should be chosen, and these, as in all arrangements, must be considered with regard to the furniture. Two colours of the same flower, such as a Pink and a darker variety of Rose, went well together. Heavy flowers, too, such as Roses, as a whole, are to be well classed, else their charm may be quite destroyed. A collection or arrangement of Sweet Peas, for instance, indicated the ideal of beauty in nearly all respects. For church decorations flowers should be bold and showy. Mr. J. Merritt, of Madford House, occupied the chair. Hearty discussion followed the reading of the paper, and hearty thanks were accorded to Mr. Mackay both for the paper and for the skillful examples of decorations with which he illustrated what he verbally advocated.

The Tea Rose, Mdme. Falcon, of which the new Tea Sunrise is a slightly improved edition, may be seen selling in the hands of dozens of the London flower-girls.

Imperishable Palms, &c.—The process of manufacturing Palms, like the process of artificial flower making, has reached a high standard of perfection. Messrs. Osman & Co., of 132, 134, Commercial Street, London, E., have for some years devoted themselves largely to the preservation of specimens which have been naturally grown, and also to the making of artificial semblances. Cycas, Cocos, all species of Palms, and many of the more ornamental window plants have come under their skill for modelling, and with a success which rivals the pattern they copy, which is Nature. Nurserymen and market gardeners may not be in favour of such “impositions” as they would say, but those buyers who had formerly to toll out a high price for a Palm nearly every quarter, know which sort they prefer—the living or the lifeless. Messrs. Osman's catalogue is one series of pretty blocks, illustrative of their samples of vases, baskets, stands, aquariums, bowls, and a thousand and one other articles included under horticultural sundries and which are used in floral decorations, &c., for dwellings.

The “Hurst & Son” Musical Society.—The first entertainment for the present season, given by this progressive society, only in its second year of existence, took the form of a Ladies' Concert, and was held in Pillar Hall, Corn Exchange Restaurant, Mark Lane, E.C., on Tuesday evening, November 28th. The venture was an unqualified success, viewed either from the point of number and quality of the audience (about 150), or the rendering of the items of the programme. N. N. Sherwood, Esq., the head of the firm of “Hurst & Son,” occupied the chair. The conductor of the orchestra was Mr. Edward Sherwood, eldest son of the father, and his management of the latter was worthy of one longer experienced. The overture was a selection entitled “Naval and Military,” arranged by the young honorary conductor of the society. The piece is one capable of producing patriotic and stirring sentiments, so that on another occasion we again hope to hear it. Then followed a song by Mr. Dixon, “The Windmill,” one not greatly popular, but as here sung with a weight of rich volume, it was most pleasing. Mons. Cognet gave on the flute, the stirring piece, “William Tell,” in a way which put the audience in the best of spirits. “Be Mine the Blame,” by Mrs. Dandridge, herself playing the accompaniment, was very soft and sweet. The clearness with which she topped even the very highest chords was most pleasant to listen to. The humorous element was introduced by Mr. R. C. Tucker, whose recitation of Mark Twain's “European Guides” was a very fine picture of what the actual scenes and encounters would be. Then Weber's fantasia, “Der Freischütz” by the orchestra, terminated the first part successfully. Mr. Arthur Wood, an old friend of Mr. N. Sherwood's, during the interval recited Rudyard Kipling's poem, “The Absent-Minded Beggar,” after which the tambourine was passed around, and the handsome sum of £6 4s. 6d. was realised for the benefit of our Soldiers' Widows and Orphan Fund. Part II opened with an orchestral selection, being pieces from Henry VIII. The audience were so well pleased with this that Mr. E. Sherwood had to repeat it. Mr. Harmer now came before the meeting, and his own jovial appearance and his hearty, manly voice were too good only to see and hear in one song; he was encored. Miss M. Elphick, a little lady of eleven or twelve years, surprised the company by her clever rendering of a rather intricate piano solo, “Grand Valse de Concert.” She played very beautifully, and the burst of applause when she finished proved that all were of one mind. “Bid me to Love,” by Mr. Cummings, rung the rafters by its richness and clear expression. Then to crown all, and put a happy finish to the evening, Mr. E. Sherwood conducted the softly rolling strains of the March “Cornelius” in so able a manner, and with so much apparent ease, that every one would have liked to hear the piece repeated. There was a full orchestra, most of the artistes being in the employment of Hurst & Son. The meeting which was a credit in every respect, and thoroughly enjoyable, concluded just after 10 o'clock by the company joining in “God Save the Queen.”

Locust found in a Banana bunch.—A fine sample of a locust was recently found in a bunch of Bananas which came to Hampstead, London. The insect since being taken to the Zoo, has laid eggs, and there is now on view in the Insect House a hatching of tiny locusts. In South Africa locusts are fearful pests.

COELOGYNE CRISTATA.

It very often happens that this useful Orchid is allowed to get into a bad condition, but anyone having anything like suitable convenience need have no difficulty in growing them successfully, at least the variety cristata. On more than one occasion I have had to take to plants in an unhealthy state and in each case in less than two years' time they have regained their full vigour and flowered grandly.

It is not good practice to repot every year, as some check must result from the operation; but it is also a mistake to let them go on year after year without some addition in the way of topdressing being made. Here we have a number of plants of various sizes which have not been repotted for many years but have been going back for some time owing no doubt to the want of sustenance. The bulbs had become smaller and smaller each year until few flower spikes were made. Taking charge of them last autumn they were rested until growth began, when weak liquid manure, made from sheep droppings chiefly, was given them regularly, the strength increasing as the plants became stronger, until now the plants are healthy and strong, many of the pseudobulbs measuring from 3 in. to 3½ in. in length, and the most of the bulbs showing a strong, healthy flower spike.

We hope to repot them as soon as flowering is completed, and just before growth for next season begins. A temperature of from 65° to 70° while growth is being made suits them well, giving plenty of atmospheric moisture as well as from the syringe, in bright weather keeping them well shaded from the sun. I think it is much to be preferred to repot when the plants are healthy and strong than to wait until a state of starvation exists when there is no strength left to successfully recover the repotting. Pans are preferable to pots, and a compost of one part fibrous loam, one part peat, and one of charcoal, with an addition of chopped Sphagnum and a medium quantity of crushed bones to sustain the growth will grow them well for three or four years, using plenty of drainage, which is very important. An annual topdressing is beneficial just before growth begins, and chopped Sphagnum with a little bone meal and leaf mould will be all that is necessary. Plenty of water during the growing season is necessary, after which give sufficient only to keep the bulbs from shrivelling, when the temperature should also be decreased to 55° or thereby.

To enable the expanded flowers to last as long as possible a position with the ordinary greenhouse flowering plants will prolong their freshness, the atmosphere being drier. Avoid the use of the syringe and overhead waterings at this period. Possibly this will afford some hints to G.C.C., on p. 166, and help him out of the difficulty there mentioned.—James Dinning.

CHELSEA PHYSIC GARDEN.

This interesting, ancient and historic institution has lately been discussed in the public press with a view to the necessary steps being taken to keep it from falling into the hands of the builder, as well as to draft some permanent and satisfactory scheme whereby its long history of usefulness might still be secured and continued.

Sir Hans Sloane gifted the land for this Physic Garden to the Company of Apothecaries in the year 1722. His aim is expressed in his (Sir Hans') own writing, “That the said garden may be upheld for the encouraging and enabling the said society to support the charge thereof for the manifestation of the power, wisdom and glory of God in the works of the creation, and their apprentices and others may better distinguish good and useful plants from those that bear resemblance to them and yet are hurtful and other like good purposes.”

The expenses entailed in the proper upkeep of this garden have, however, long been like a millstone on the neck of the Apothecaries' Society. Times and again they have tried to get some help or even entire dissolution from the trusteeship. In

1897 a treasury committee was formed as a result of their applications, and this committee consisting of Sir Henry Longley, Sir W. T. Thiselton-Dyer and Mr. Spring Rice made an exhaustive investigation of the whole subject directing their attention specially to the practical utility of the garden for the purposes of its original foundation—i.e., the scientific and educational study of botany. These gentlemen concluded upon the advisability of having a new administrative body which would be able to maintain the objects of the garden and to furnish the necessary funds. The trustees of the London Parochial Charities were thus enlisted in the relief and a committee of seventeen of that body are managing the interests of this old garden. Various universities, institutions and societies are represented upon the membership of the management board of this useful metropolitan council.

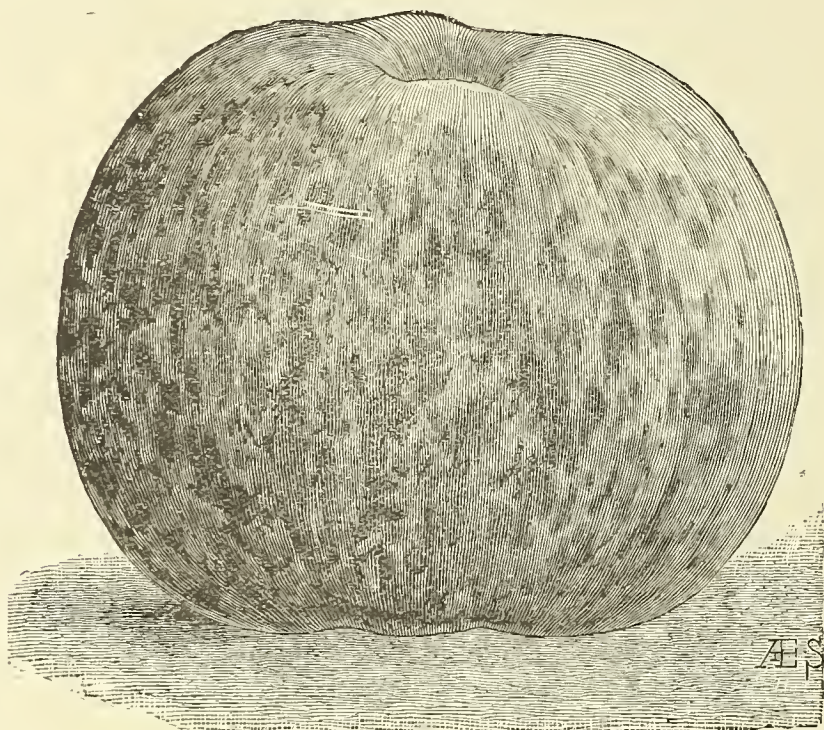
Therefore we may yet hope to see this place with its historic past, where great and learned men strolled between its neatly kept beds of various herbs and rare plants, once again become a centre of interest and itself a power. When we gaze upon the statue of Sir Hans Sloane standing in the middle of the garden, when we remember that Linnaeus himself visited this picturesque field of flowers, that old Thomas Wheeler lectured to many generations of the "Society's" students, and that the famous

cultural Society on September 9th, 1884; and another from the Royal Caledonian Horticultural Society. They sent it out in 1885. The accompanying illustration of it was lent us by them.

YUCCA GLORIOSA.

HERewith I enclose a photo of this hardy subtropical looking plant, which is now—November 18th—in full bloom in a London garden; a circumstance which is not to be despised at this time of year when fogs abound and other impurities of the atmosphere are only too apparent to those whose lot is cast in grimy cities.

Notwithstanding, however, such serious drawbacks to the cultivation of ornamental evergreen plants, my friend, Mr. Geo. Kingcombe, of Tufnell Park, N., never tires in his endeavours to render the garden as gay as possible. This is comparatively easy when the days are long and the summer sun is in his might and glory; but this, unfortunately, is changed all too soon in autumn and winter when he "pales his ineffectual fires," and light and heat become a reminiscence merely. The flowering, however, of this particular Adam's Needle this year is doubtless due to the great heat of the past season; for, I am informed, that only once before during its lifetime of a quarter of a century,



APPLE LADY SUDELEY.

Lindley there arranged the plants into their "Natural Orders" in contrast to the old "Linnean system," we cannot but feel naturally that the efforts to keep alive the floral beauties and the penetrating enchantments of the beautiful yet mystic place are worthy of our most earnest sanction, our aid and our good wishes.—*Journal of the Society of Arts.*

APPLE LADY SUDELEY.

THIS variety is essentially a dessert fruit to which class it constitutes an acquisition on account of its size and handsome appearance. It is, indeed, the finest of recent additions to the early Apples for table. The flesh is soft and melting, but to enjoy its spicy flavour and aroma it must be eaten from the tree, and under such conditions it will remain good for a month. As a standard tree for orchards it is well suited, because bearing as it does at the tips of the shoots, it can be allowed to grow naturally, merely thinning out the weak and badly placed shoots. It is equally well adapted for orchard-house culture; and to say that it does well in Cornwall and Scotland means that it will succeed almost anywhere in Britain. In any case it should always be included in private collections to pick from the tree during August and September to furnish an early dish for dessert. Messrs. Geo. Bunyard & Co., received a First-class Certificate for it from the Royal Horti-

has it condescended to grace his garden with a panicle of flowers. These, when they do come, are much appreciated, for they are produced on a stout stem about 3 ft. long, are Liliaceous in character, and look not unlike white Fritillarias. The foliage measures over 9 ft. in circumference, and radiates umbrella-like at a point about 18 in. from the ground.

This circumstance causes it to be much frequented by certain domestic animals which the Rev. Gilbert White once stigmatised as "bloody grimalkins." And so with a view to frustrate the too frequent meetings of these fierce and undesirable creatures (from a gardening standpoint) under its sheltering shade, Mr. Kingcombe has caused it to be surrounded by a *chevaux de frise* in the shape of a circle of galvanised iron wire, over which, however, these creatures will even sometimes find a way.

Although the Yucca will generally succeed in any good garden soil, it prefers one of a warm and porous character, which the garden in question does not possess. Add to this the fact of its sulphurous surroundings, and the reason for its rarely blooming is not far to seek.—C. B. G.

[The photograph showed the species to be Yucca gloriosa; but it was too indistinctly defined for reproduction. When the plants attain to good size and strength they flower fairly frequently in proper soil and in sunny or open positions.—ED.]

EUPATORIUMS.

THESE make good companion plants to the Salvias, notes of which appeared in a former issue, and respond to similar treatment. They are all of the easiest culture. Cuttings should be put in in March and kept close under a hand or bell glass without bottom heat. I get the best results by potting them off singly into 2½-in. pots as soon as fit, taking the point out at the second pair of leaves, ten days before or after potting, keeping them in a slightly heated structure up to the middle of April, when they should be transferred to a cold frame.

Repotting must not be neglected, neither must the stopping of the leading shoots. Six and 8-in. pots are large enough for the first year, giving them a mixture of loam, a little rotten manure, leaf-soil, and a little sand and potting fairly firm, and standing them outside towards the end of May. As soon as the pots they are to flower in get full of roots, weak manure water or a pinch of Clay's or Thompson's twice a week should be given them. At the final stopping, not later than the middle of September, every shoot should have its point removed so as to have the plant one mass of flower at one time. The shoots do not require much support unless it is *E. riparium*, which is rather slender in growth. There are a number of varieties, hardy and otherwise, but I shall confine my remarks to two only, these being more often met with than any of the rest.

The autumn flowering one is *E. weinmannianum*, rather a long name, but a very useful kind, and as a rule at its best from the middle of November up to the end of the year. By pinching during the first week in October plants can be had in bloom at Christmas, but do not carry near such a wealth of blossom as those flowering a month or so earlier. This kind has one drawback, namely, as soon as it begins to go out of flower the heads get a rusty appearance, so should be cut off as they go over. This kind is nearly hardy in Devon, and is flowering nicely outside now, the third week in November.

The plants of this can be kept for several years, pruning them closely back in April, well syringing the plants daily. Shake them free of soil when growth has commenced, replacing them in the same size pot. The after treatment should be the same as for young plants, only these could be repotted to a larger size in June if large plants are required. Where there is a big house to fill this should be done, as I have seen them with heads 2½ ft. across.

E. riparium is quite different in growth, more spreading than the preceding and flowers in March and early April. The less heat this gets the better. I generally keep a few old plants of this and give them 10-inch pots. These carry immense heads of 3 ft. or more. This one roots much better than the first named, and does not require so much stopping of the shoots, being of a much more branching nature. No greenhouse or show house ought to be without these two species. Green fly sometimes attacks these when under glass in the spring; when outdoors no pest seems to trouble them, and what a blessing this is to us blue apron men.—J. Mayne, Bilton.

THE FRUIT CROP OF 1899.*

SOME little time ago our esteemed Secretary asked me to give a few notes this evening on "The Fruit Crops of 1899," a somewhat barren subject at the best, and I asked myself the question, What can one say upon a matter like this that has not been said and repeated time and again? I found no answer to my question, and I have no excuse for coming before you this evening except the poor one that I am acting in accordance with our Secretary's orders. It is easy for those who are gifted with the pen of a ready writer to hang an article or write a paper upon any text, but, unfortunately, I do not find myself in that happy state; nevertheless, having set out I must carry through somehow, and I crave your indulgence if I wander slightly at times from the texts.

Firstly, then, we must, I think, admit that, speaking generally, the season of 1899 will have to be numbered amongst the poor fruit years, and the best we can say of it is that good crops have been extremely partial. Certain favoured spots have pro-

*A paper read at the Horticultural Club by Mr. A. H. Pearson, Chilwell.

duced fine crops of fruit, and the fortunate possessors have had a real good time, sending fruit to markets and because of scant supplies receiving good returns in the way of money in exchange. To commence with the Strawberries, certain localities had good crops but the fruit was never plentiful, nor did one see much of it on the coster's barrow. In our local markets the price ranged from 8d. to 6d. a lb. and back again to 8d., which would show that they were not in any way plentiful. Our local growers had an excellent crop and first-rate weather for picking, and consequently scored a great success, but in the county of Kent, where our largest supplies usually come from, one heard of hundreds of acres of Strawberries being ploughed in, as there was no crop worth picking.

The cause of this disaster is not far to seek, and I think we may safely say that it was the long drought of 1898, for although we had a very trying spring this year, with late frosts and cold winds of long duration, I do not think that the spring weather would account for this total failure. Of course one knows that spring frosts will blacken and destroy Strawberry flowers when they are expanded, but the blooms do not all come out at once, and it takes a considerable frost to kill the unopened buds; moreover, many growers tell me that they had no blooms to begin with.

Speaking of my own personal experience, our trial beds of one-year plants, set thickly, were rarely, if ever, better, and we had so much fruit that much of it was wasted. It would not be of much interest for me to give a list of those varieties which did best, for I find that no fruit varies more in cropping and quality in different districts than does the Strawberry, and even from season to season one is compelled to form fresh opinions respecting many varieties; for instance, during the past three or four years Latest of All has been grand, and (although it is not one of the latest, by the way), it has been greatly in demand and a general favourite; this year, in spite of our having had a genial rain prior to their ripening, the fruits were many of them hollow and insipid. Royal Sovereign was Ar, immense crop and good flavour; and amongst the earliest nothing came up to Scarlet Queen. I often wonder why this variety has not come more to the front. During the Strawberry season I generally have a walk round the beds before breakfast, when the fruit is at its best, and one can best appreciate its flavour, and I found my steps generally led me this season first to the Scarlet Queen beds, later to Royal Sovereign, and afterwards to Auguste Boisselot and President, my special favourite, Dr. Hogg, having failed to crop this year.

Speaking of the joy of eating these delicious fruits in perfection, is it not lamentable to see the stuff set before the general public for consumption? I live now in the city of Nottingham, a place with 260,000 inhabitants, many of whom are quite willing to pay a good price for a fair article, and yet I never once saw a nice punnet of clean fresh fruit which one would take a pleasure in eating, but only heaps of fruit which, however nice when first turned out of the baskets, by repeated handling and weighing being taken out of them, soon look as if the proprietor had made his bed upon them overnight.

But to turn from this somewhat unsavoury subject, I may say that in the Midlands, despite the harsh springs, the crops of Gooseberries and Currants have been excellent, although in some localities the Black Currants suffered from lack of moisture. Speaking of these fruits reminds one of the boom which was made some years ago over Berry's Early Kent Gooseberry, which turned out to be an extremely old friend—Keepsake—under another name, and this year we have fruited the new Comet Currant, which we are unable to distinguish in any way from La Versailles. There is a difference between the two, but it consists in the fact that the first named cost us 2s. 6d. a plant and the others did not.

Whilst we are thinking about small fruits I should like to ask if anyone has fruited the Japanese Mayberry? I have asked many, but cannot hear of anyone succeeding with it. With us it has been cut each year by the spring frosts, and although in America it withstands a very low temperature with a dry atmosphere I fear it is useless in this country. The Strawberry Raspberry we have most of us fruited, and I presume that you will agree with me that although it may be considered as an interesting

and somewhat striking addition to our mixed border, it has scant claim to a position in the fruit garden. The Loganberry has, I think, come to stay; it has a flavour quite of its own, a mixture of Blackberry, Raspberry, and a decided dash of Mulberry; it is by no means to be despised as a dessert fruit when fully ripe, and it is really excellent when preserved. Speaking of preserves, some of those present will possibly remember having tasted that most delicious Medlar jelly which our friend the late Mr. Rivers brought up some years ago to the Fruit Committee. I was privileged in my school days to be the recipient of divers boxes of Guava jelly, which a relative sent from Brazil, and I used to think that nothing could ever equal it in my estimation, but Mr. Rivers' Medlar jelly would, I think, run it very close. Alas! I have tasted neither of late, so cannot well compare their merits, but I feel sure that Medlar jelly would find a ready sale if it were cunningly prepared, and as the Medlars can be worked on any hedgerow there need be no difficulty about providing ground for them. I throw this hint out to any who wish to make a fortune, and trust that when the money comes rolling in they will remember me substantially. I am not supposed to be writing about new fruits, but I may mention incidentally that two new Black Currants carried crops of fruit this season with me; the first, called Early Black, had a large crop of very small fruit, which dropped off as soon as ripe; the second, Golden Black, was a very sweet Currant, of a dirty, muddy brown colour and most unattractive appearance.

PLANTS RECENTLY CERTIFICATED.

THE awards hereunder mentioned were made by the Royal Horticultural Society on the 21st inst.:

Orchid Committee.

CATTLEYA MRS. J. W. WHITELEY.—The parents of this beautiful hybrid were *C. bowringiana* and *C. hardyana massaiana*, the latter presumably being the pollen bearer. The sepals are rose coloured, and the petals several shades darker. The lamina of the lip is dark purple with a transverse crimson band at its base, below which a large orange blotch occupies the throat, extending into the tube. (Award of Merit.) Sir James P. Miller, Bart. (gardener, Mr. James Hamilton), Manderston, Duns, Berwickshire.

CATTLEYA VESTALIS.—Here we have another hybrid *Cattleya* of chaste and soft beauty, the parents being *C. maxima* (female), and *C. dowiana aurea* (male). The sepals and broad oval petals are white, suffused with the faintest blush. The lamina of the lip is densely netted with purple like *C. maxima*, and white at the beautifully crisped margin. The tube is deep orange-crimson internally, and shaded with rose on the outer face. (Award of Merit.) Messrs. J. Veitch and Sons, Ltd., Chelsea.

ODONTOGLOSSUM LOOCHRISTIANUM CANARY BIRD.—The sepals of this pretty *Odontoglossum* are lanceolate and bright yellow with numerous brown spots. The elliptic petals are of the same bright and cheerful yellow with a white band along the centre. The lip is similar to that of *O. crispum* (the parents evidently being *O. crispum* and *O. triumphans*), and is spotted with cinnamon on a creamy-white ground. The whole contour of the flower is very pretty. (Award of Merit.) W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs.

CYPRIPEDIUM MILO WESTONBIRT VAR.—The dorsal sepal is roundly elliptic, strongly reflexed at the sides below the middle and handsomely blotched with crimson-brown, and white towards the margin. The petals are brown, with a yellow edge, and glossy, like wax. The lip is brown and similarly shining. It is an improved variety of the hybrid *C. Milo*, intermediate between the parents *C. insigne* Chantini and *C. oenanthum superbum*. (Award of Merit.) Captain Holford (gardener, Mr. A. Chapman), Westonbirt, Tetbury, Gloucester.

Floral Committee.

BEGONIA SYLVIA.—The winter-flowering race of *Begonias*, derived by hybridising *B. socotrana* and the tuberous rooted section, continues to be improved by additions to the already existing varieties. The flowers are rosy-pink and semi-double, with broad outer petals and numerous small inner ones filling up the centre. The roundly cordate and oblique leaves are of a rich dark green, forming a fine contrast to

the numerous trusses of flowers. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

DRACAENA THE QUEEN.—The long, narrow, arching leaves of this variety and the well marked or defined colours make this a decorative subject of the first water. The leaves are dark bronzy-purple with a red edge, the younger ones at the top being of a paler red on each side of the centre, with a creamy margin. The existence of all these colours on the plant at one time gives it a distinctive feature. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

CHRYSANTHEMUM MRS. ALFRED TATE.—This being a sport from *Etoile de Lyon*, the change of colour is remarkable. The broad, spreading florets are of a bright orange. (Award of Merit.) F. A. Bevan, Esq. (gardener, Mr. W. H. Lees), Trent Park, New Barnet.

PELARGONIUM LILIAN.—The flowers of this charming zonal variety are of good average size, produced freely in large trusses and of a beautiful silvery-pink colour. (Award of Merit.) Captain Holford.

Fruit Committee.

APPLE BASSALEG PIPPIN.—The fruit of this dessert variety is ovate and yellow, striped with red. (Award of Merit.) Mr. John Basham, Fair Oak Gardens, Bassaleg, Newport, Mon.

PEAR DOUBLE DE GUERRE.—This is a large pyriform brown or russety Pear, a heavy cropper, and suitable for stewing purposes. (Award of Merit.) Frank Lloyd, Esq. (gardener, Mr. M. E. Mills), Coombe House, Croydon.

The Orchid Grower's Calendar.

FLOWERS FOR CHRISTMAS.—We all like to have a good supply of choice flowers at this festive season, and to do so have to look ahead a bit. *Dendrobiums* lend themselves to the forcing or retarding systems about as well as any Orchid known, and are in consequence grown largely for supplying cut flowers. *D. nobile* and *D. wardianum* are about the two best for this work, although *D. crassinode* is not to be despised. A few plants put into strong heat will soon come along and prove invaluable for button-holes, &c.

CALANTHE VEITCHI, too, is another grand Orchid, coming in well for church decoration. The long spikes cut and put into small bottles, which have been bedded in pots of sand to keep them from toppling over, can be massed or dotted about at will.

CATTLEYA LABIATA, which is now finely in flower, is another that comes in well for this work, only they do not like being kept back much, so that when the spikes begin to push it is as well to let them come or the flowers will be poor. Keep the atmosphere about the dry side, and they will last pretty well with this end in view. We put those in flower at one end so that when the syringing is done the flowers do not get sprayed.

LAELIA ANCEPS and its varieties are this season pretty forward. The first with us opened to-day, so that by the end of the year the bulk will be in flower. A little care in arranging the spikes before the flowers open will be appreciated later on; it is so much better for the blooms to all face one way.

COOL HOUSE.—This division should supply its full complement of flowers. What with *Oncidium tigrinum*, *Odontoglossum Rossii majus*, and a few stray spikes of *O. crispum*, flowers will be fairly plentiful.

WORK IN THE HOUSES.—The principal work from now onwards is to keep the temperature within proper limits; this, of course, is not difficult with such wonderfully mild weather which now prevails.

SPONGING of the plants, too, will now form part of the general routine of autumn and winter work. A little soft soap in the water is all we use. Such insecticides as Fir-tree oil and the like we give a wide berth.

POTTING.—I know it is going against all old methods to even think about potting Orchids during the winter months, leave alone doing it; but we have to do it of necessity, and whilst we do not advise the re-potting of *Cattleyas* and the like, we re-pot cool stuff with impunity during mild weather, but when it is frosty we hold off.—S. C.

HINTS FOR AMATEURS.

Making a Lawn.—We are famed for beautiful green lawns, we in "bonnie" Britain. Everybody who has a little patch of garden likes to have also a dot of lawn—a green place. And these green places, grass plots or lawns as you please to call them, ought by all means to be augmented, increased if possible and certainly introduced into many gardens where redundancy of red soil or gravelled stretch is so greatly paramount that the softness and refreshing coolness or quietude which ought to be a feature of every garden, is in the cases we wot of, absent, conspicuously and sadly absent. Why? Even in the little back-yard of a suburban residence I would, if I could, have two-thirds of the garden laid out in lawn or grass, the other third being devoted to borders and beds. But beds are to be tabcod in limited areas. The children require all the space to roll and romp about upon, without any encroachment or curtailed limit from the introduction of beds. Even where there are no children, the elders like to be able to walk in peace as they wish without having to give attention in front to guard themselves against plunging into the beds. Without diverging too far from the subject in hand it might here be suggested to plant groups of shrubs, not tall growing or ungainly plants but samples such as the Cornus, Cryptomerias, small purple Berberis and others which were named last week. Plant them in free and easy knots with their tails flowing away in winding and lessening trail—this manner of planting being quite becoming and in taste, even though the area be small.

But to the making of that lawn. The first consideration before you will be as to the drainage. No lawn can or ought to be expected to maintain a green sward if the foundation is a bog or something approaching to that. No; make sure that your soil is well drained. Of course, on the other hand, if the land happens to be of a dry, loose and sandy nature and texture, the opposite course of practice is naturally the proper one, namely, to add some humic material or that which will preserve a sufficiency of moisture to sustain growth throughout any of our long and trying, droughty summers. The need for drainage can generally be settled upon by anyone with good common-sense, even although they have not practical experience to guide them. The condition of the ground after rain has fallen in quantity will be a pretty safe medium for guidance. On light soils even after quite a quantity of rain has fallen the land is workable after the interval of a few hours, or a day and a night at the most. In medium soils the surface becomes dry after a moderate period of fair weather, say, about a day or two, yet the deeper strata will be found just a trifle too stiff, adhesive or moist to be properly and beneficially worked. Then as a last type, the heavy soils (for there are a number of grades) take two or three days or even longer than a week, according to the weather.

The above deductions are based upon the experience of such soils during balmy spring weather. We have no need to say more under this heading in connection with the quick drying lands. Then for medium soils give moderate drainage. If the area is only a limited one such as one finds in small suburban gardens—half a rood or so—the work may be of an elementary character. By this we mean that tile drains are not necessary, although for security and perfection when completed these may well be adopted.

Cut drains four feet deep and about twelve feet apart to run in the direction of the land slope. A thoroughly firm and level foundation must be prepared for the stones or tiles. This is of the utmost importance. Then when the drain has been cut, which will cost from sixpence to a shilling per two and a quarter yards of run, according to the soil, the drainage material may be fitted or built in. Flat stones do very well, one laid evenly and solidly as a sole plate and two laid slopingly to form the sides, these meeting at their top edges, thus forming a triangular drain. Wooden drains are not to be recommended. Spruce branches in some very immaterial instances are used in place of drain tiles, stones, or any other firmer material. These Spruce branches should be tightly packed in at the bottom of the run. Then over them turves should be placed in saddle fashion, or straw if turf is scarce to

secure. Good stiff clay ought then to be moulded over the straw and the drain soil filled in, retaining the best quality for the surface. Very good and lasting drains could be instanced with only such means as this. The branches by-and-bye disappear from natural decay but not before the clay has become moulded and the form of the drain's course "set" firmly. The branches too, are not so great a block to the flow of the water as might be supposed.

Yet, notwithstanding all this, tiles are to be recommended, and in our last type of soil, the heavy loam or clay, these or perfectly built stone drains are alone the material which I can advocate. The operations of course in the heavy soils are precisely the same. The distances apart and depths of the drain may be lessened to 3 ft. in the latter respect and say nine to fifteen feet between them. The fitting of the joints so as to prevent dislocation, rupture or clogging, must be perfect. Turves ought to be placed over the tiles, and the soil over them made as firm as the surrounding and touching land. Do not scatter the surplus soil over the land after having filled up, but mound it over the top. The soil in the drain line is sure to sink as it becomes more consolidated.

Preparing the surface.—When the drainage of the land has been seen to, the succeeding work is obviously the preparation of the surface tilth. This should at least be dug one foot deep. As I have already hinted, the quality and mechanical condition of the soil will be the ruling factors in determining whether any extraneous elements or composts need to be added. Certainly light soils would be none the worse for an addition or increase to their moisture-holding properties, and this can be given by incorporating leaf mould, vegetable mould, old decayed grass mowings or short strawy manure. Cinders, road-scrappings and the miscellaneous conglomeration of "suitabilities" which the amateur gardener can think of may be added to the heavy soil, and these materials will increase its porosity.

After having dug the land over and probably having left it exposed for a month or longer so that sun, wind, air, rain, snow or frost, shall have baffled against and broken down the superficial layer of soil then comes the final hoeing, levelling, raking and rolling. The rolling is to obtain a level surface but before either sowing or turving it, the whole should be gone over with a small toothed rake. And this brings to mind the hint that to obtain a proper level or an even gradation the cross-bars and horning-rods may be required. The hints, however, are but as a guidance to the amateur who may desire to undertake the small contract of his own land, not for the large operations whose completion could only be fulfilled by professional or master-hands. Fuller hints on obtaining accurate levels in different cases and on an elaborate scale may be given later, if necessary. Meantime, I would propose that after obtaining a fair level by eye judging, get hold of a garden line or long cord. Attach this to tall, strong stakes, both to be of an equal length and the line or cord then to be fastened at precisely the same height on each of the two stakes. When these are stretched apart and inserted to the line level, any prominences or depressions may be corrected by using the back of a rake or the spade. Slide the line over all the surface.

Turfing.—Where turves of an even texture and purity are to be secured, the work of laying a lawn is very frequently accomplished by their use. Good clovery sods or stretches of short grass turf upon country roadsides are very frequently drawn upon. Meadows where the soil is firm, produce nice lawn turf. Pieces should vary in length but ought so far as possible to have straight edges. By saying "vary in length" it is meant that half of the turves are to be oblong, the other half square, so that the edges may not form one continuous straight line when the turves are laid.

A surface sprinkling of very fine cinders is sometimes spread before turving. Then, when so much has been carefully and closely laid, the finished portion of "lawn" must be very firmly beaten by means of turf-beaters got for the purpose. A soaking should be given to the turves when they have been well fixed in, beaten, and settled, then frequent rolling will be afterwards needed.

Lawns from Seeds.—This is probably the easier method but of course it takes a couple of seasons before a passable veldt is developed. It goes on improving of course and one of the great benefits

one gets from sown lawns is, that if the seeds have been bought from the proper sources the owner may rest assured of having a pure grass lawn, a lawn of beauty and a joy (not "for ever") but for a long time. The selection of grasses, and Clovers should be regarded as of the highest importance. The least amount that can be sown is seventy-five pounds per acre or one pound to every two rods or perches of land. A heavier sowing is recommendable. Calm weather should be chosen for this work, and in the operation do it twice over, sowing at right angles during the second turn. All that is necessary after having finished the sowing, is to rake the surface lightly over so as to just cover the seeds. The roller may again be put over the ground once or twice to bring up an even, firm "back." Birds must be kept off for a time else the bulk of the seeds may never more be seen. To summarise the whole let it be understood that (1) a lawn must be carefully prepared; (2) the drainage and land preparations should be completed one, two or three months before sowing or laying turves takes place; sowing to be done anytime in March, April, May or June. (3) Only the best quality of turf or seeds ought to be used.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Making a Greenhouse.—*J. S., N. B.*: Certainly, certainly, is what we would say if we were by your side. Handy men who have a rudimentary knowledge of carpentry and plenty of enthusiasm may, we think, safely accomplish that which you propose. Indeed, it is done day and daily. Your own experience will guide you in laying out the plan—the brick foundation, the sole beams upon which to erect your standards, rafts, and astricles; then for a roof why not endeavour to secure some frame sashes? By this you would be very greatly helped. It lies with yourself, of course, as to how refined the finished structure may be. It would be entirely beyond us to try to detail everything, but this advice we can impart: Have a clear notion of the work to be done, and how to begin, what next to do, and how to end. The making of a small house of the conventional span-roofed shape simply resolves itself into being able to measure exactly, plane, mortice, dove-tail a little, and by the use of the semi-circular chisel or gouge to groove the wood if need be. Use the best 21 oz British sheet glass. Choose a position facing north and south.

Soil Analysis.—*Precision*: If you are a Fellow of the R.H.S.; otherwise you should correspond with Messrs. A. Voelcher & Sons, 22, Tudor Street, Embankment, London, E.C., who are specialists in the analysis of soils.

Adiantum farleyense.—*Jerome*: A temperature of from 65° to 80° will be sufficient. During warm, sunny weather, when the sun's rays have become stronger, shade from 10 o'clock till 3.30 in the afternoon. *A. farleyense* is often too much shaded. Pot the plants into turfy peat, broken charcoal, some lumpy, rather solid loam, with a fair proportion of leaf mould and silver sand. Give the plants a light position near the glass during winter. A still air, not dry nor too moist, is what this variety enjoys. The water supply must be adequate, but not too liberal.

Foxgloves in the Garden.—*Robt. Jones*: Yes, they do amazing well anywhere. Once you sow the seeds no further repetition in this respect is needed. They sow a yearly shower of seeds themselves. Any soil will do, but of course "as you do to me, I'll do to you"—if you treat the Foxgloves well they will be all the finer. Sow in March, on the edge of the shrubbery. Notice within the funnel or flower corolla the hairs which bar the entrance against small insects but are not strong enough to prevent humble bees, these doing the fertilising in this case. The smooth surface beyond is also dangerous and intimidates the creeping fry. These are small things, but interesting.

Cockroaches.—*W. J. Islan*: The common Cockroach (*Stylophyga* or *Blatta orientalis*) is difficult to

oust when a colony once becomes lodged. Employ Birkenhead's Cockroach traps. Another method is to use a mixture made of arsenic and treacle, placing this (securely, so far as domestic animals are concerned) in saucers near by their holes. They eat anything, paper, wood, fruit, bread, boots!

A Plea for Damages.—*Mrs. J.*: Upon your slender evidence, or proof rather, it would be manifestly unwise to bring in a case for damages. It is no doubt almost certain that the rats carried the poisoned bread from your neighbour's garden and so, from quitting it in your poultry run, been the indirect cause of their deaths. The neighbour no doubt thought the food was out of other animals' or fowls' reach.

APPLE STIRLING CASILE.

EVERY list of Apples, with any pretension to completeness would contain Stirling Castle by reason of its good average size, beautiful shape, and regular, free fruiting character. This latter feature is retained whether the tree is grown as a pyramid or standard, for both of which forms it is admirably adapted. The fruit is oblate, or between that and globular, smooth, greenish-yellow, finely mottled, and of excellent quality as a kitchen Apple. A marked characteristic of the variety is the deep and regular, or smooth cavity in which the eye is situated. The above points combined with the large size of the fruit and its generally uniform dimensions, make it a favourite for exhibition purposes. It is an early variety ripening in August and September with Lord Suffield, to which it is superior in firmness, and in being far less liable to canker or skin disease of the fruit; while the tree bears as heavily and regularly. The accompanying illustration, for which we are indebted to Messrs. J. Cheal & Sons, Crawley, Sussex, shows how freely the tree bears when grown as a small pyramid.

PORTLAND ROAD NURSERY, READING.

THERE is always something interesting to be seen either in the open or in the glass houses or both at the Portland Road Nursery of Messrs. Sutton & Sons, Reading. About the end of August last we had a run through the nursery while the late summer flowers were still gay.

Approaching through the small garden facing the London Road we noted it was gay with a great variety of subjects. A fine lot of the new *Nicotiana sylvestris* was flowering freely on stems about 3 ft. high, and terminating in long racemes of gracefully nodding, long tubed, white flowers. *Antirrhinums* in more than one strain were also gay. *Petunias* had been a mass of flowers all the summer, showing that the drought agreed with them, for they were still in the height of their glory. Amongst the more recent introductions of herbaceous plants *Rudbeckia Golden Glow* is likely to hold its own for many years. A striking and interesting annual is *Datura Cornucopia*, a sort of hose-in-hose flower, the outer surface of which and the buds are violet, while the interior is white. Their large size also makes this a very telling subject for sub-tropical beds in the open. Many lovers of herbaceous plants are now interested in *Helenium striatum grandicephalum*, striped with with bronzy-red or orange.

Tuberous *Begonias* were still flowering abundantly in the houses, of which there were six occupied with *Begonias* of various modern and popular races, the tuberous ones predominating. The single tuberous varieties were still flowering profusely in a great variety of colour, including yellow, orange, scarlet, salmon, salmon-orange, rose, white, and other shades. The broad, dark green leaves indicated very high cultivation. On the shelves overhead *Campanula isophylla alba* was asserting itself in a profusion of white blossom.

Elsewhere the double tuberous *Begonias*, equally well grown, were flowering profusely in all the range of bright colours for which the race is famed. An inspection of the blooms showed types imitating the Carnation, Hollyhock, Gardenia, Camellia, &c. A scarlet variety with a profusion of flowers on short, upright stems appeared very suitable for bedding purposes, and it had, in fact, been utilised in that way.

A later batch of plants grown in small pots was affording a successional display of bloom to prolong the season. The plants were, indeed, young and in their pristine freshness. A third batch consisted of this year's seedlings, throwing up stout stems, although in quite small pots.

Fibrous rooted *Begonias*, consisting of highly improved forms of *B. semperflorens* are largely and well grown here, both in pots and bedded out in the open ground. Fairy Queen and Crimson Gem are two of the best. *Begonia Gloire de Lorraine*, in pots and stood on the shelves, carried great masses of bloom, hanging down freely. Another splendid batch had the flower stems carefully and neatly tied up, showing what can be effected with this fine hybrid, now so popular everywhere.

The earliest batch of *Gloxinias*, in very dwarf form, carried a fine crop of seed, some of the plants bearing as many as eighteen pods. Some belated flowers were still showing on the plants. Princess May was pleasing in its white flowers, shaded with rose. In another house we came across great

influence of *S. Wendlandi*, although only 6 in. high. Others had violet-purple, very dark purple and salmon flowers.

An extensive and glorious batch of *Achimenes* is always to be seen in summer in this nursery. Although late in the season, very telling were the large blue and long tubed flowers of *Achimenes longiflora major*. *A. splendens* had brilliant scarlet flowers much larger than those of the old *A. coccinea*. The flowers of *A. heterophylla* were scarlet and yellow in the interior of the tube. A seedling white variety had larger flowers than *A. longiflora alba*, and was a cross between that and *Marguerita*.

Very promising was a houseful of *Cyclamen* at the end of August, and only a year old in November. The great mass of beautifully marbled foliage completely covered the pots. A late batch of *Gesnera fulgens* in the frames was notable for the beauty of the rich, velvety brown and maroon foliage. More advanced plants in one of the houses were resplendent in several bright and pleasing colours such as



APPLE STIRLING CASTLE.

masses of bloom upon the *Gloxinias*, because they had not been fertilised. Some of the blooms of *Her Majesty* were 3 in. to 4 in. across the corolla. The sky-blue flowers of *Azure Blue* are always pleasing and distinct. Another variety was characterised by a band of blue only. Sutton's Purple might be described as dark violet-purple. Many other bright colours were noted. The size of the flowers, and the fleshy character of the leaves plainly indicated the treatment they had received. A *Gloxinia* was shown us that had been raised by crossing a *Gloxinia* with a spotted *Tydaea*. The white ground was very distinctly spotted, the throat more yellow than usual, and some of the upper leaves of the plant were strap-shaped.

Saintpaulia ionantha is nearly always in flower here, some rich blue varieties being notable. The white *S. i. alba* has also found its way here. All were flowering profusely. The same may be said of the sweetly fragrant *Exacum affine*. *Streptocarpus Wendlandi* was carrying large paniced cymes of its light blue and white flowers. Hybrid *Streptocarpus* were grown in abundance; and one showed the

white, bright yellow, orange, scarlet, and crimson colours, often richly spotted. Near by were many beautiful *Tydaeas*. *Cinerarias* were being kept cool beneath sashes laid on open framework and shaded, but open at the sides and airy.

In the open ground we passed a large mass of *Kniphofia* bearing a dozen spikes. *Carnation Vanguard* belongs to the *Marguerite* section, being early and fragrant. *Verbenas* seemed to enjoy the burning sun, for they had spread over the ground and were profusely covered with their trusses of white, scarlet, purple, pink, crimson, and dazzling scarlet flowers. They had been raised from seeds with a minimum amount of trouble thus showing how they might be utilised for bedding purposes. Amongst unimproved but pretty species we noted *V. Aubletia* with cut leaves, and the well-known *V. venosa*. *Phlox Drummondii* was in a great variety of beautiful colours. *Humeas* were also doing well in the open. Very showy also was the golden *Poppywort*, *Hunnemannia fumariaefolia*, a very little known, but handsome species.

Interesting was a plantation of hybrids of *Althaea*

ficifolia, that had been crossed with the pollen of colour varieties of the Hollyhock (*A. rosea*). The plants used as parents were all two years old. The seedlings all bore yellow flowers, but were unusually dwarf. Another batch gave quite different results. Six month old plants of *A. rosea* were crossed with the pollen of two-year-old plants of *A. ficifolia*; and the seedlings gave various new colours when they came into bloom. The plants were tall and vigorous, and clothed with foliage of the *A. ficifolia* type. The pollen of the two year old plants was thus very potential when applied to seedlings flowering after six months of growth. Something important may result if the experiments are continued.

THE WINTER TREATMENT OF THE VINE.

THOUGH there is not the exactitude required in the culture of Vines during the period of "slumber," that they demand during growth, still it is during this time that the basis for successful culture in the coming season has to be established. Probably there may have been some slight signs of red spider toward the close of the finishing-off period of the Grapes. Or during the year the appearance of the Vines may not have been satisfactory. Just as we seem to build up strength and re-assert ourselves in health during a long, quiet sleep, so it is the aim of the gardener to rectify wrongs and make the chances for success and health as sure and perfect as he knows how.

The cleaning or scraping of Vine rods is a disputed practice, but the majority favour it. If, after having reasoned the pros and cons of the whole thing, and also after having experimented and observed the results, the gardener finds the practice wrong, by all means let him accept such results as teaching, and as guidance. On the other hand, if he finds that no real loss is incurred or no injury done—careful work considered—and also if he finds that less syringing is necessary, which ordinarily is heavy enough, then let him scrape and clean his Vines in the so-called "drastic" and "unnatural" manner which is so often pursued by good growers. A prepared label or "tally," or a piece of slate is more frequently preferred than knives. Be as careful as one may, it is a matter for surprise if when using knives one does not penetrate just a shade too deeply here and there. The rods should first of all be rubbed by the hands. This loosens the outermost layers of bark. When as much as possible has been taken off in this way, some of the knotty parts, or the ribbed lines along the stems, may be more thoroughly cleaned by trimming them with the knife. The "eyes" of the Vines are the parts more particularly in need of special attention. The rods should be cleaned from the base to the extremity.

Mats should be laid over the pipes and the border, so as to catch all the debris and insects infesting them. These mats should be carefully gathered up and their contents effectually disposed of. After this the rods may be thoroughly washed with warm Gishurst Compound, or whatever else the grower has found an efficacious remedy.

Beyond this, again, a large number of highly successful growers paint the Vines with a thick, lathery mixture, consisting of soot, sappy cow dung, sulphur, a little lime, and water. By stopping up all the open and more or less unfathomable spaces and crevices, into which the bugs and spiders hie by the dozen, these are generally effectually disposed of. While on the subject of eradication of vermin, the hint might be dropped, and one which could be accepted with advantage by not a few, is to watch with a lynx's eye and the assiduity of a domestic for the appearance of mealy bug in spring, or whenever the buds are breaking. After the most penetrating and painstaking operations during the resting period it is quite marvelous where mealy bug or ought else could come from. But come it does, both on Vines, Peaches, and Figs, and to suppress the first dozen or two may mean almost the entire extinction of the breed. Methylated spirit and a soft camel-hair brush is all that one need use, one drop of the spirit dabbed upon the bug being quite enough for its destruction.

Then, coming to the borders after the scraping, these themselves should be properly scraped over the surface. The walls and wood-work should then be scrubbed and syringed with scalding hot, soapy

water, finishing off with a deluge of cold water. When everything is somewhat dried the borders may be lightly pointed over and then top-dressed with fresh loam and lime. This should be firmed, and the whole work of having prepared for a fresh start may be said to be completed. It may be that the borders require to be renewed or altered, but this must form a subject for consideration hereafter. —*Vitis*.

"THE ROYAL AQUARIUM."

HORTICULTURISTS may be expected to know the above name quite as well as any other section of the public; but, though thousands have been within the building, other thousands who read the reports of the various flower shows held by the National Chrysanthemum and Dahlia Societies might like to know something of its history.

The building is one which the London citizens read of as affording "twelve hours' continuous amusement" within its precincts. The river Thames flows past, almost within a stone's throw, on the south side. The ancient and historic Westminster Abbey casts its shadows over it and the great arteries from the widely known Charing Cross toward the southwestern districts of the great city, pass around the sides of the Royal Aquarium. The building belongs to a society whose real and full title is Royal Aquarium and Summer and Winter Garden Society, Limited. This society is under the patronage of Their Royal Highnesses the Duke and Duchess of Edinburgh (now Duke and Duchess of Saxe-Coburg), and was opened by the Duke of Edinburgh on the 22nd of January, 1876, or twenty-four years ago, come next January.

The title was given because it was built as the largest Aquarium in the world—the whole property covers nearly three acres—and though at flower shows the central floor area is seen like any other ordinary floor; yet the entire limits beneath the floor is divided off into huge tanks for the storage of water, a fact which explains the delightful coolness of the building in summer.

The Royal Aquarium has been the rendezvous for horticulturists in many a floral exhibition, flower shows having indeed been held here ever since its completion. The first of these was held in the month of May or June, 1876, and was opened by the Duke of Edinburgh. The National Chrysanthemum Society has held its shows here continuously for over twenty years.

Other events of interest in which the Aquarium has had connection are those of 1882, when the Guards were entertained here after the Egyptian War, the Dukes of Connaught and Cambridge being present, and speaking before a company of 2,500. At the inaugural banquet of the National Liberal Club held in 1883 a company of from 2,000 to 3,000 dined, among the speakers present being two great statesmen now numbered with the great majority—William Ewart Gladstone and Lord Granville.

To make a mere mention of other "wonders," "sights," &c., which the Aquarium authorities, with Mr. Josiah Ritchie the managing director and Mr. J. W. Wilkinson as their able secretary, from time to time introduce, those of two large, live whales were, perhaps, the most unique and interesting. A special tank had to be built for the first one which was exhibited. Of course there is a great variety of performances and entertaining items of extraordinary character always to be seen. Quite a host of flags, banners and bunting, float in quietude from the roof, probably many of them having a tale to tell, a history attached. Two large fountains are reared one at either end of the central area, and a great organ, whose volume of music swells through the whole place, has been erected at the west end. A large stage, with a reserved area in front, opens from the middle of the north wall. Broad galleries run all the way round the Aquarium, St. Stephen's and other halls, opening off from them.* So now I have in a meagre way attempted to give readers at a distance from the great city, a glimpse within a building in which thousands take interest.—*J. D.*

Fungi now include Lichens, which by the older botanists used to be put up as a distinct group.

* The central area of the floor at either end, the galleries, and St. Stephen's Hall, are available for the accommodation of the large shows.

NOTICE OF BOOK.

CALENDAR OF FLOWERING TREES AND SHRUBS. By Henry Hoare. With illustrations by Miss Gertrude Hamilton, London. Printed and Published by Richard Flint & Co., 48 and 49, Fleet Street, E.C. Price 7s. 6d.

IN this we have a book of some 116 pages, exclusive of the index, and the calendar proper, which runs to twenty-nine pages. The calendar consists of lists of trees and shrubs which flower during each of the twelve months of the year. Six shrubs are mentioned as flowering in January, and more are added to each succeeding month till May, in which the largest number are in bloom of any time of the year. A little under a hundred are tabulated, but that number might easily be doubled. The names of the trees and shrubs are followed by the English name, when there is one, then by the colour, the nature of the plant, and the duration of flowering. Of course, many of them continue to flower during more than one month, and are therefore recorded in succeeding months.

The after part of the book is devoted to a general description of the trees and shrubs enumerated, the arrangement in this case being alphabetical. These descriptions are varied in character, though never lengthy; and occasionally include a bit of ancient history, with quotations from the poets in some instances. References are made to the method by which they are usually propagated, such as by seeds, cuttings, layers, &c., and the soil in which they thrive best. An amusing slip of the pen is surely responsible for the statement that the white flowers of the Rowan, appear "in May and June, but not in such profusion as the autumnal berries."

At the end of the book are lists of shrubs that thrive in towns, at the sea-side, under the drip of trees, shrubs suitable for making hedges, those that will grow in any soil, in sand, clay, peat, chalk, and against walls. Some coloured illustrations are scattered through the book which is printed on thick paper, with broad margins. The season of flowering which has been adopted for the different shrubs, it may be mentioned, is the latitude of London. On the whole, if the book is to be taken as an indication that increased attention is being given to the cultivation of shrubs, that will be a gain to gardens and gardening in general.

ROYAL NURSERIES, BELMONT. BELFAST.

THE city of Belfast is known to the world as the place where the "Queen of Ships" was built, and to add another honour to "Ould" Ireland it also claims the nursery where the "Queen of Flowers" is seen at her best, namely, the nursery of Mr. Hugh Dickson. It is an easy matter to reach Belmont, as tramcars pass the nursery gate every few minutes, to and from the centre of the city; or if you prefer the light and airy "jaunting car" just hold up your hand. A dozen or so of the "Knights of the Whip" will appear as if by magic, and in their own inimitable way offer their services to "yer honour," assuring you at the same time that their regular fare is "wan and threepence" but as you look a "dacent gentleman" we'll take you for "fifteen pence" wid a dhrop av somethin' wet."

Being a Scot and wishing to keep up the national reputation, I spent "tippence" on a "caur" and arrived at the nursery, where I found the Messrs. Dickson, juniors, engaged in the packing shed seeing to the despatch of numerous orders. On taking a look round the different packages I noticed that "Sandy bangs a guid many saxpences to his brither Pat," and judging by appearance he gets good value for his money. Mr. Dickson conducted me up the avenue to his bouse, both sides of which are planted with specimen Coniferae of the finest varieties known; and although planted with an eye to effect there was none of that "crowding" so often seen in large nurseries. At the end of this avenue we come to the Rose grounds; and seldom have I seen Roses in such robust health. The stock which has been budded this past season gives great promise of better things to come.

Passing from the Rose grounds we come to the fruit tree department, and one has only to look at the trees to see that a master hand has the cultivation of them. Adjoining the fruit trees was a very fine batch of *Prunus pissardii*, the fine dark purple leaves

of which make a pretty contrast to the surrounding greenery. In the Coniferae department there are a great many fine specimens, particularly noteworthy being the beautiful *Retinospora gracilis aurea*. Another part of the grounds was taken up with herbaceous plants, many of which were in full flower, and attracted the attention of the passengers on the tramcars, especially the fair sex.

The glass department now took our attention, the first house entered being filled with *Chrysanthemums* for cut flower work, a trade in which Mr. Dickson does a large business. Another house is devoted to the culture of Orchids, many fine specimens of the family being in flower; and arranged through them in a very tasteful manner, were some very beautiful plants of *Alocasia Lowi*, &c. One house was filled with seedlings of the Fern family. One very pretty seedling of the *Gymnogramme* type took my attention, the fronds of which turned over in a peculiar manner, just showing the golden tips. More of this seedling will be heard of later on if a "nod" as good as a wink." The next house in this range is filled with *Azalea indica* all ready for the market; and if one can judge by their appearance they will give great satisfaction to the purchaser. One house was filled with *Begonias*, certainly not in the state that the sightseer would care for, but in that condition that gives great pleasure to the seedsman. To judge from the appearance of the ripening growths and the well-filled seed pods they had been a grand lot.

Another house contained Ferns, and on looking round I noticed some very fine plants of the beautiful *Lygodium scandens* or climbing Fern. Now that the shower bouquet is so much in vogue I often wonder why this plant is not grown more than it is, as its long graceful habit lends itself admirably for the purpose. Passing on to another range, the first house is occupied with *Crotons*, *Dracaenas*, &c., all in a perfect state of health and cleanliness. There were a great many houses that time could not permit me to visit, but before leaving this department I had a look into the Palm house, and among this class of plants Mr. Dickson does a large business, his stock being of the finest and all grown for house decoration. Among this class of plant were some very pretty specimens of *Cocos plumosa*. Last, but not least, we came to the fruit room, and a finer lot of Apples would be hard to find. Among this class of fruit I noticed some very fine specimens of *Peasgood's Nonsuch*, *James Grieve*, and *Lord Suffield*. As time and railway trains wait for no man I had to bid Mr. Dickson adieu, but not without a strict injunction to "call if ever I was in the neighbourhood again," an invitation I will avail myself of on the first opportunity.—*Diosma*.

CHRYSANTHEMUM SPORTS.

In several of the American horticultural journals a paragraph appeared which gave the intelligence that a white *Chrysanthemum* named Mrs. Jerome Jones was cultivated for half a dozen years before it sported, but when it did so its sports were recorded simultaneously at many widely separated points. *Gardening* (American), published in its issue of November 4, some notes which Prof. H. J. Webber, of Washington, U.S.A. (who lectured on "Plant Hybridisation in America," in June last, at the R.H.S. Conference, London), has made upon the subject of "sporting," and which have been recalled by the said paragraph. He says: "Such changes or sports are very probably reversion to the original colour."

"Several cases of similar reversion have been recorded, as for instance, by Darwin in his "Animals and Plants under Domestication," Vol. I, p. 455. Darwin's observation's lead him to say that the *Chrysanthemum* sports both by its lateral branches and occasionally by suckers. A seedling raised by Mr. Salter produced by bud variation six distinct sorts, five different in colour and one in foliage, all of which were ultimately fixed. The varieties which were first introduced from China were so excessively variable that it was extremely difficult to tell which was the original colour of the variety and which was the sport. The same variety would produce one year only buff coloured and the next year only rose coloured flowers, and then would change again or produce at the same time flowers of both colours. Mr. Salter informed him (Mr. Darwin), that with all the varieties the commonest kind of bud variation is the production of yellow flowers, and as this is the primordial colour

these cases may be attributed to reversion. With any change in the colour of the flower the foliage generally changes in lightness or darkness. (This is well seen in the foliage of blood-red and yellow flowered Wallflowers).

"The synchronism (simultaneousness) of the above noted reversion is somewhat remarkable but it may probably be analogised or, in other words compared to the reversion which occur late in the life of an individual plant, and in the case of a *Chrysanthemum* propagated by cuttings all the plants grown from the cuttings are portions of the same individual."

BEECHHILL NURSERY.

THE Beechhill Nursery of Mr. John Downie, 144, Princes Street, Edinburgh, is situated within easy reach of the Scotch metropolis by omnibuses, which pass the gate of the nursery frequently, and a new railway is now in an advanced state.

In September last we had a rapid run through the houses and grounds, noting a few of the more noticeable objects. One of the stoves was practically a *Croton* house, accommodating a large collection suitable for table decoration. Beautiful varieties were *The Sirdar*, with narrow, red, yellow, and green leaves; *Cronstadt*, spiral and yellow; *Reedi*, broad yellow and red; *Barron F. Selliere*, green and yellow, often wholly of the latter colour; and *Hawkeri*, irregularly blotched like the caricature plant. The scalloped or jointed leaves of *Evodia elegans* are curious and pretty. *Acalypha Sanderi*, *Gymnogramme wettenhalliana*, and *Carex japonica gracilis variegata* are other useful decorative subjects.

Amongst new plants in this house we noted *Ficus radicans variegata*, with silvery variegated foliage; *Leea amabilis superba*, having the midrib and principal veins silvery; and *Phyllodendron imperiale laucheanum*, silvery, with green blotches.

In another house we noted a bright batch of *Clerodendron fallax*, and good strains of *Gloxinias* and *Celosia pyramidalis*. *Caladiums* were still holding out. *Dracaena Doucetti* stands a deal of bad usage for decorative purposes. Very choice Ferns were *Actinopteris radiata*, *Adiantum Edgworthii*, *Cheilanthes sinuata*, *Gymnogramme grandiceps superba*, a golden variety; *G. schizophylla gloriosa*, suspended in pots; and *Nephrolepis davallioides furcans* in fine condition. The young foliage of *Adiantum macrophyllum* was beautifully coloured. A general collection of Ferns is grown. The true *Selaginella Wildenovii* is grown here, and is characterised by tall stems and bluish foliage. *Dactylis glomerata argentea* is whiter than *D. g. elegantissima*, and is utilised for pot work. A fine lot of *Cocos weddelliana* is grown in 60-size pots. Other popular subjects are *Dracaena Bartettii*, bronzy-green with red edge; *Aralia Veitchi*, *A. elegantissima*, and *C. Chabrieri*, all well known. Bright also was *Begonia Gloire de Lorraine*.

A general collection of Palms of various sizes is grown, including all the more useful decorative species, so that enumeration is unnecessary. Some of the more hardy were housed in a cool structure in company with Bamboos. Large plants of *Dracaena australis variegata* had broad leaves, margined yellow.

A cool greenhouse was gay with a great variety of flowering subjects, such as *Cannas*, *Lilium speciosum*, *L. s. album*, *L. s. Melpomene*, *L. auratum*, *L. a. rubro-vittatum*, *Hydrangea paniculata grandiflora*, and *Montbretia imperiale*, the largest flowering of all, with rich orange-scarlet flowers. A collection of herbaceous and alpine plants was grown in frames.

Tuberous *Begonias* were gay in one of the span-roofed houses, and in all the leading colours. Amongst the doubles we noted a very pretty orange-salmon variety, named *Marquis de Trevis*. Mrs. Downie, raised here, is a very choice double white variety. *Miss French* is primrose and double. Beautiful was a rose-shaped, pure white variety. Many frames were also occupied with tuberous *Begonias*, planted out.

THE OPEN NURSERY.

CONIFERS.—Every bit of ground in this compact and tidy nursery is closely occupied with trees or shrubs of some sort or other, Conifers being as well represented as any, particularly the ornamental types included under *Cupressus*, *Retinospora*, *Thuja*, *Cedars*, *Spruces*, *Silver Fir*, &c. Of *Cupressus lawsoniana* the varieties are exceedingly numerous,

including the usual run of white and yellow variegated sorts. For lawns, small gardens, and prominent places or private estates, where choice subjects of moderate dimensions are a desideratum, none are more choice than *Cupressus lawsoniana Allami*, *C. l. argentea*, and *C. l. Fraseri*, all agreeing in their glaucous hues, imparting a bluish haze to the landscape, but differing from one another and from the type in form. To these might be added the beautiful *Silver Queen*, *versicolor*, *lutea*, *elegantissima*, and the well known *erecta viridis*, all choice forms of *Lawson's Cypress*, that need only to be seen to be appreciated. Highly useful also are *C. macrocarpa*, *C. nutkaensis*, *C. sempervirens*, *C. thuyoides*, and various others, which, though not running into numerous varieties like *C. lawsoniana*, yet can hardly be omitted from any well kept establishment.

Retinosporas are also replete in variety, and all carefully labelled in well tended nursery lines *R. filicoides*, *R. filifera*, *R. pisifera aurea*, *R. plumosa aurea*, *R. obtusa aurea* and *R. squarrosa Veitchi* are some of the neatest and prettiest that could be added to a collection of Conifers. The *Umbrella Pine* (*Sciadopitys*), the *Tasmanian Cypress* (*Arthrotaxis*) in several species; the *Hemlock Spruces* (*Tsuga*); and the *Japanese Cedars* (*Cryptomeria japonica*, *C. elegans*), are forms that always add to the beauty and interest of a place. The *Silver Firs* are represented by a large number of species, including *Abies amabilis*, *A. concolor*, *A. c. violacea*, *A. Pinsapo*, *A. P. glauca*, *A. Veitchi*, *A. Fraseri*, *A. webbianna*, and many others too numerous to mention. Amongst *Spruces* important species are *Picea ajanensis*, *P. Menziesii*, *P. Omorika*, *P. pungens*, *P. polita*, *P. smithiana*, *P. Englemanni*, and many others which constitute conspicuous objects in the landscape, after they attain some size; while they are also beautiful objects although very small.

OTHER TREES AND SHRUBS.—These are so numerous that it would be impossible in the space at command to mention a tithe of them. Flowering shrubs include *Barberries*, *Azaleas*, *Sweet Briers*, *White Portugal Broom*, *Yellow Spanish Broom*, *Leycesteria formosa*, *Mahonias*, *Rhododendrons* in quantity, *Azara microphylla*, *Buddleia globosa*, *Escallonia macrantha*, *E. montevidensis*, *E. rubra*, *Fabiana imbricata*, *Garrya elliptica*, and others of that description. The choice character of *Choisya ternata*, the *Rock Roses* (*Cistus*), *Desfontainea spinosa*, and *Embothrium coccineum*, is indisputable.

Hollies are represented by all the leading and best varieties, such as *Silver Queen*, *Golden Queen*, *Hodginsii*, *ferox* or *Hedgehog*, the yellow-berried *fructu luteo*, and many others. *Ivies* are also numerous, the variations of form and colour being great. The best form of the *Golden Privet* may be seen here, and somewhat novel in their way are those which are grown in the form of dwarf or miniature standards, which can be utilised for various decorative purposes. Highly ornamental when in berry are *Skimmia Formani*, *S. japonica* and *S. oblata*. Weeping trees are well cared for, being distributed in lines through the grounds or around the squares. Choice forms are the *American Weeping Willow* (*Salix purpurea pendula*), the *Kilmarnock Willow* (*S. Caprea pendula*), the *Weeping Willow* (*S. babylonica*), the *Golden Osier* (*S. alba vitellina*), and *S. incana*, often named *S. rosmarinifolia*. Several *Willows* have had the latter name applied to them. The long, linear leaves of *S. incana* are dark green above, and white beneath, and the tree grown as a small standard is exceedingly pretty. The above are but a mere fraction of the subjects to be seen, evergreen and deciduous. Tall-stemmed street trees are numerous.

An addition has recently been made to the nursery, considerably increasing its area, and the new ground having been laid out was mostly planted with fruit trees, all clean, well-grown stuff of different ages. All the best and most popular varieties are kept in stock. The nursery is always worthy of inspection.

Plants living within plants.—It is not generally known that in the intercellular cavities of certain plants such as *Lysimachia Nummularia*, *Lemna trisulca*, and *Ajuga reptans* a certain group of the *Protococcideae*, unicellular Algae find a suitable home. They are not parasites, that is, they do not live upon the strength of their hosts but only in them.

FRUIT GROWING IN SOUTH WALES.

MR. JOHN BASHAM, of Fair Oak Gardens, Bassaleg, Newport, Mon., is a well-known and conspicuous figure at many of the meetings of the Royal Horticultural Society in London, such as at the Crystal Palace and at the Drill Hall. On November 21st he read a paper before the Fellows of this society under the title of "Fruit Growing in South Wales."

Mr. Basham first defined the "lay of the land" by giving the boundaries of South Wales proper, on its north, east, south, and west sides. The acreage of the various counties was detailed, and also the quantity of land laid out in orchards. On the whole there is computed to be 228,603 acres of orchard land in the Welsh counties. Of this 6,015 acres are in South Wales, Monmouthshire having 4,000 odd, while in the other five southern counties there are something over 2,000 acres. Fruit growing in South Wales was rather vaguely stated as having originated 100 or 200 years ago. Many of the trees in various of the orchards over the parts in which Mr. Basham travelled were reckoned upon as being a century in age, many even running a long way past this venerable span, and still said to be bearing remunerative crops. The trees in the moor orchards or alluvial flats do not live so long as those in more sheltered and drier spots. These low-lying orchards have also to be frequently renovated. Ditches take the place of hedges, because these, when thrown up, are protective, and are a means of draining the land.

In springtime, sometimes hundred of acres in the lower areas are flooded, so that here the South Wales cultivators have a very serious problem to face and work against. The land is thoroughly prepared by dressings of suitable soil, and by spade culture. When the trees have been planted and staked, they are mulched with stable manure. As shelter plants the English Elm and the Willow are employed. These soon establish themselves, but under conditions in which the Elm and the Willow thrive, one would hardly expect fruit trees to flourish. Yet the fellows of the R.H.S., both on the 21st of November last and at frequent previous meetings, have had ample proof that good fruits, in every respect exemplary, are to be found in the counties of South Wales (Mr. Basham and his friends exhibited at the meeting we name, 100 dishes of lovely Apples).

After his opening remarks had been delivered, the lecturer settled down to a detailed description of the scenes, the orchards, trees, crops, people, &c., of picturesque "gallant little Wales." The Welsh pronunciation, words and names, as they were gargled out, together with a sprinkling of jokes which Mr. Basham sandwiched between the descriptions of places, helped to brighten his story. Instances of fallacious pruning and other details of treatment which had come under Mr. Basham's notice were referred to. He mentioned how greatly benefited had some old trees been, by the deposition of dead animals about their roots. The lecturer also enumerated the best varieties in the various parts. These prove to be popular throughout the land.

The chairman, Mr. Pearson, of the Chilwell Nurseries, Notts., strongly condemned the practice of hurrying dead animals at the roots of trees, remarking that the idea ought to be abandoned. Carrion could be of little or no good to the roots for half a century after being buried. Mr. Bunyard, of Maidstone, seconded the vote of thanks which Mr. Pearson had proposed, at the same time complimenting Mr. Basham on his paper and his exhibits, and expressing the hope that some day his collections might rival, or beat those of "that little fruit grower down in Kent," himself smiling, the audience likewise joining with him.

MULCHING FOR WINTER.

AT this season when young fruit trees, shrubs, &c., are planted by the thousand, one of the most important matters of cultural routine is that of mulching. Autumn and winter mulching is different from that which we apply in spring—the purpose rather is different. The autumn mulching prevents the freezing of the soil around the newly embedded roots, and tender roots are surely the better for being protected from frost. Shrubs and trees of doubtful hardiness when mulched may be left with good hopes of pulling through a fairly hard season. (It may here be parenthetically expressed that heavy summer mulchings are not at all recommendable, as from experi-

ence with some fine specimen *Ahies* so treated, they grew most vigorously well into the autumn, and then upon a sudden frost the 30 ft. tops were nipped back.)

In the case of recently transplanted trees, the roots of which are now laying hold of the soil in contact with them, their vigour and strength will be much benefited from a top mulch, whose weight and protection act together in more ways than one, for the good of the roots. The transplanting certainly causes a check so that anything which will mitigate or alleviate hurt or harm, is to be recommended and practised. Good farmyard and stable manure is, perhaps, the best possible material for a mulch, but where this cannot be spared, or if used, at least, only in proportions, mixed with other matters, half decayed leaves may be added or even used alone. What the roots lose in food or enriching compounds, they gain in the greater warmth and protective power which the leaves impart.

In spring time all mulchings should be removed. "Muck," or farmyard manure mulchings greatly shrink as a natural consequence from what they deliver to the roots, but even these mulchings may require to be lessened, and the surface soil just slightly loosened. There can be no two opinions but that in nine-tenths of our gardens, more liberal treatment in respect to mulching fruit trees and shrubs, would be the means whereby debilitated trees would be converted to trees of vigour and great beauty. In conclusion one very weighty item in the successful establishment and health of newly planted trees is that the roots should be kept in an undisturbed position. Swaying trees can never settle half so quickly or easily, nor be so good as properly staked trees.—*Harrison D.*

GARDENING MISCELLANY.

ELEAGNUS REFLEXA VARIEGATA.

THIS, one of our very best variegated shrubs, and well adapted for training against a wall, is not so frequently met with as its merits would lead one to expect, because just now it rivals in brightness and beauty any of the forms of *Euonymus* which we see plentifully used for this purpose in almost any locality. Another recommendation is the dissimilarity in form of the foliage and the looser style of growth. Like the *Euonymus* it forms when kept moderately pruned an excellent bushy shrub, and rivals the Golden Queen Holly when seen under similar circumstances. To those unacquainted with it I may add that the leaves are longer and narrower than the most generally known varieties of *Euonymus* with a deep green margin and a blotch of deep golden-yellow covering the centre of the leaf. Upon near inspection the entire surface of the leaf will be found overlaid with russet, powdery scales, which when the plant is grown under glass give it a rather dirty aspect. This fact may account in some measure for the sparseness with which it has been planted. Its appearance under these two separate conditions is somewhat remarkable.—*W. B. G.*

TWO GOOD HARDY CHRYSANTHEMUMS.

AMONG the varieties which we find in cottage or small gardens, and which have for some time been favourites, might be mentioned the Cottage Pink, otherwise receiving the distinguished title of Emperor of China. It is a good old sort, lending a pretty shade of pink, and has a neat form. It is quite hardy and flowers during November. It is remarked that the foliage becomes of a crimson shade after frost, so with crimson beneath, and heads of pink above, few things are more worthy of cultivation. It does well indoors. Then to give us yellow we have *Soleil d'Or* blooming almost at the same period. These two are both hardy varieties of great usefulness.

FUCHSIAS AS CLIMBERS.

MOST of us have seen if not grown *Fuchsias* as an ornamental drapery to pillars or divisional beams of a house, and from having seen these many have imitated the idea. It is worthy of extended adoption. The bells, if one might so term the form of the *Fuchsia* blooms, lend themselves very well to such a form of training, for then their full beauty in the pendent state is seen in the best manner.

EARWIGS.

THE best trap for these is made from old rubber water tubing cut into 4 in. lengths, one end of which is plugged up by a cork. These being placed among plants infested with the pests form a good hiding place for them, from which they are most readily dislodged by taping the traps against a pail of water. No hay or other stuffing is required. Anyone after using them one season will not readily go back to the pot and hay system.—*W.B.G.*

APPLE "TEN COMMANDMENTS."

HERE we have a curious name for quite as curious an Apple. Samples came from its local region in one of the South Welsh counties, and were shown in a fine collection amounting to 100 dishes exhibited at the Drill Hall by Mr. John Basham. The variety is purely local and not greatly known, even by southern Welshmen, but its merits are most, because it is a curiosity. It is nearly black, somewhat of a conical form with a knotty apex and depressed eye; otherwise the surface is even, and everywhere the skin is smooth.

Deep blood-red, or reddish purple, chestnut-red &c., as you see it and care to describe it for in points of colour it is emphatically certain, that no two see alike. What its eating or cooking qualities are I cannot say.—*H.*

VIOLETS.

THERE is a tendency among hybridists and cultivators to strain all points to develop the size of the blooms of the various plants which they have selected for special attention. One might have almost considered that the little modest Violet would have escaped "the spoilers hands" (?) but this is not so. We have repeatedly seen exhibits in London which have gone to prove that by-and-by the Violets may be seen quite as large in form as those other members of its order and genus the Pansies. Many of the Violets are already just large enough. We should really be sorry to see them at all increased because, though they would then be more adaptable for vase arrangements, it is yet almost certain that we should lose their present charm in fragrance, the depth of Violet colour, the modest, drooping habit which for so long now has captivated our regard, and it would raise them to a higher but most surely a less refined standard. Some of the larger and more recently heard of varieties are Princess of Wales, Amiral Avellan, California, rather older, and Victoria. Of doubles, Lady Hume Campbell is an improvement; Comte de Brazza and Neapolitan, are fine old varieties.

CHRYSANTHEMUM SHOWS.

TUNBRIDGE WELLS.—November 15th.

THIS long established Chrysanthemum Society held its annual show in the Great Hall at Tunbridge Wells, on Wednesday, November 15th. The change of venue seemed to bring with it increased fortune, for a better show has not been seen at Tunbridge Wells during the existence of the society. The judges at this show were Mr. James Douglas, Great Bookham; Mr. Woodward, gardener to Lieutenant-Col. Warde, M.P., Barham Court; and Mr. T. Moorehouse, Groombridge. Mr. E. Charlton is secretary to the society, and his valuable services are ably seconded by Mr. C. Osborne. Mr. H. Millborough is chairman.

In the competition classes, open to exhibitors within a 15-mile radius from the S.E.R. clock tower, for a group of Chrysanthemums, J. A. Le Lacheur (gardener, Mr. N. Turner), The Wildernesse, came first; Major Lutwidge (gardener, Mr. G. Elms) following as a good second. For a group of miscellaneous plants arranged for effect, Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells, was the first prize-winner, beating Mr. Drew (gardener, Mr. J. R. Booth), Tunbridge Wells. For four dwarf-trained specimen Chrysanthemums, Mr. H. Kimher was the winner.

In the cut blooms class, the Marquis of Abergavenny (gardener, Mr. A. Wilson) was here the leader. T. Webb, Esq. (gardener, Mr. W. Austin) came in second.

In the larger class, however, for the twenty-four blooms of Japanese, in eighteen varieties, Mr. Howes again stood as a first prize taker. Miss Can-

ning, of Frant (gardener, Mr. C. J. Dicker), came second. For twelve blooms, in as many varieties, Mr. Howes was again heading the winners' list, Mr. C. J. Dicker following. Coming again to plants we find Mr. C. Earl taking the lead in the entry for six plants suitable for table decoration; Mr. G. H. Sage, gardener to the Marquis of Camden, Bayham Abbey, came next; and Messrs. J. Legg and L. Dupond as third and fourth. In the competition for gardeners residing within 8 miles of Tunbridge Wells, Mr. Thos. Palmer was first for the group of Chrysanthemums. Mr. J. Richardson followed as a good second. For twelve cut blooms, not less than eight varieties, Mr. E. Fullerd beat Mr. S. Standen.

FRUITS.—Rev. H. Boardman (gardener, Mr. J. Legg) stood first in the class for three bunches of black Grapes. T. Palmer, Esq., was second; and T. L. Boyd, Esq. (gardener, Mr. E. Coleman), third. For three bunches of white Grapes, Mr. J. Legg still was first, Mr. J. Howes following as second; and G. H. Field, Esq. (gardener, Mr. J. Allen), came in third.

For six dishes of dessert Pears, Mr. F. Bridger, gardener at Penshurst Place, was first; Marquis Camden (gardener, Mr. G. H. Sage) was second; and third, Mr. J. Allen. For six dishes of dessert Apples, Mr. G. H. Sage won.

Mr. F. Bridger won for six dishes of kitchen Apples. For a collection of twelve kinds of vegetables, Capt. Alcock, Ashurst (gardener, Mr. H. Kimber) was the leader; Mr. Sage being second.

BOLTON CHRYSANTHEMUM SOCIETY.

November 17th and 18th.

THE thirteenth exhibition of this society was held in the Town Hall under most favourable auspices. The entries were good, and in many classes the competition keen, but unfortunately this cannot be said of the two premier classes for cut bloom, only two competitors staging for the handsome twenty-guinea Challenge Vase, with the addition of £9 for the first, and £6 and £4 for the second and third for thirty-six blooms, eighteen incurved and eighteen Japs. This is followed by a second vase, value ten guineas, with £5 in cash, for two twelves. It is to be hoped that these generous offers will in the future receive their due recognition.

CUT FLOWERS.—The first prize for thirty-six distinct blooms, eighteen incurved and eighteen Japanese, was well won by Mr. C. Crooks, gardener to the Dowager Lady Hindlip, Droitwich, with good flowers of Mons. Pankoucke, Mdme. Carnot, Mrs. G. Palmer, Mrs. Mease, Australie, G. J. Warren, Vivand Morel, Pride of Madford, M. L. Remy, Eltham Beauty, Phoeus, Mdme. Gustave Henry, Edith Tahor, Nellie Pockett, Le Dragon, Mrs. Weeks, Celeste Falconett, and Mons. Chénon de Léché. His best incurved varieties were Mdme. G. Bruant, Mdme. Ferlat, C. H. Curtis, Mrs. W. E. Egan, Topaze Orientale, Duchess of Fife, Empress of India, Egyptian, Brookleigh Gem, Bonnie Dundee, Lord Rosebery, and Mrs. S. Colman. Mr. W. Whittle, gardener to R. G. Allan, Esq., Liverpool, was second. In the next class for twelve incurves and twelve Japanese the same two competitors occupied the same positions, the winner staging fresh flowers of good depth. For twelve vases, distinct, three blooms of each, Mr. Whittle reached the highest place with good flowers. For a basket of cut Chrysanthemums, Mr. John Mosley secured the leading honour with a pretty exhibit.

For classes open to residents within eight miles, the entries showed considerable improvement. Twelve Japanese and twelve incurved distinct, with which was associated the Silver Cup presented by the President, was won by Mr. Wainwright, gardener to Miss Mahel Cross, which included good blooms of Mdme. Ferlat, Duchess of Fife, W. Tunnington, &c. Mr. H. Shone, gardener to J. W. Mahant, Esq., was second. For twelve Japanese distinct, and twelve incurved distinct, the same order was observed as in the larger class. For six vases, three blooms each, Mr. W. Echersley had the leading lot. For three incurved and three Japs., Mr. H. Shone led. For six incurved and six Japs., Mr. T. Eastwood, gardener to Mrs. Clarke Taylor, staged the finest. For six incurved and six Japs., Mr. G. Corbett was first in each class.

PLANTS.—In this section the most important are the groups; that for the miscellaneous plants, twelve feet in diameter, was well won by Mr. Charles Jones, gardener to Mrs. Shaw, with well grown material

artistically arranged, his point plants, Crotons and Palms proving very telling. Mr. H. Shone occupied a good second position with a greater weight of bloom but of less value. The half circle, 7 ft. and 5 ft., with mirrors behind, was a pleasing feature. Mr. J. Abbot, gardener to J. Musgrave, Esq., was first with an effective and pleasing arrangement. Smilax, Palms and Celosias being the most prominent. Mr. G. Rawson, gardener to J. Heywood, Esq., was next in order with a creditable design. For a group of Chrysanthemums, 7 ft. x 5 ft., Mr. Shone staged one of the best groups seen this season, having good blooms, not too close, so that the bright clean foliage could be seen.

For six pots of Hyacinths, Mr. E. J. Castrell, was to the fore. For a ball room bouquet, Mr. J. Mosley had the best, the bridal bouquet being won by the same exhibitor. Primulas were a fine lot, Mr. G. Cross, gardener to E. Thwaites, Esq., winning both for reds and whites. Mr. Abbot was to the fore with table plants, Mr. Wainwright securing leading honours for one Palm, with a very large specimen. For six large flowering Chrysanthemums, Mr. H. Shone was well ahead with dwarf specimens. For four singles, Mr. J. Hicks, gardener to Mrs. Haslon, had the cream. For one incurved, Mr. H. Shone: one single, Mr. J. Abbot; and one decorative, Mr. J. Hicks was first in these classes.

FRUIT AND VEGETABLES.—For two bunches black Grapes, Mr. J. Wright, gardener to E. Lord, Esq., with good bunches and berries of Black Alicante. For two whites, Mr. Wright was again to the fore with Muscat of Alexandria. In the local classes, Mr. G. Corbett won the blacks with Black Alicante, and Mr. Shone the white with Golden Queen.

The premier place for five varieties of vegetables was won by Mr. Thos. Hindle, with a creditable lot. Mr. Barnes led for Onions (white), and Mr. Hindle for red. Mr. R. Fairhurst had the premier four varieties. Mr. J. Echersley gained four first prizes for Chrysanthemums in pots, with good amateurs' plants.

The arrangements were in the capable hands of the chairman, and the secretarial duties were carried out by Mr. James Hicks.

DUNDEE.—November, 23rd, 24th and 25th.

As each successive year goes by Dundee and its annual Chrysanthemum exhibition become more broadly popular, more conversantly known. Caution and enterprise are, as in other of the greater societies in Scotland, England or Ireland, peculiarly and seemingly well blended. Southern growers who are among the leaders in Chrysanthemum cultivation in the kingdom have of late years taken to go so far north as Dundee and Aberdeen. Their influence is good and they are fittingly encouraged. This year's show proved to be equal to previous efforts which intelligence alone, to those who know the Dundee show, conveys that this was one of the best to be seen anywhere. The Drill Hall, of course, was the "arena of competition."

The blue ribbon of the show—the challenge cup presented by Mr. J. M. White, of Balruddery—fell to that veteran, the gardener at Castle Huntly, Mr. J. Beisant. This was for thirty-six Japanese blooms, not less than eighteen varieties. The renowned Mr. Thos. Lunt, gardener to A. Stirling, Esq., Keir, Dunblane, was here beaten, so that this fact of itself is enough to speak for the merit of Mr. Beisant's collection. Mr. A. Duncan, Carse Gray, a new exhibitor, is to be congratulated upon his success. The Challenge Cup which Mrs. George Armitstead, of Castle Huntly, presented for thirty-six Japanese blooms distinct, was won by another good exhibitor, Mr. D. Nicoll, gardener to J. W. Bell, Esq., Rossie, Perth, who had a splendid collection.

Mr. Beisant also won another Challenge Cup, that presented by J. J. Watson, Esq., for twenty-four Japanese blooms in a dozen varieties. Mr. Lunt was second; while Mr. John Bell, Burnside House, Forfar, the Cup-winner of last year, was in the third place this year, but with a very fine exhibit all the same. Mr. Lunt, however, managed to be first in the class for eighteen Japs., securing the Challenge Cup offered by J. W. Bell, Esq. Mr. John Bell was first for twelve Japanese incurved blooms; Mr. J. H. Cumming, gardener to Lady Stewart, Grandtully Castle, Ballinluig, was second. Mr. Cumming was winner in the class for twelve Japs., distinct. For the third year in succession, Mr. D. Nicoll has won

Mr. J. M. Smieton's Cup for six vases of blooms. This Cup now becomes his property, and he may be proud of it.

The opening ceremony was performed by Mr. McCrae, of Dundee, at which function dozens of ladies and gentlemen of standing lent their presence. Sir John Leng, M.P., was one of the speakers.

CUT FLOWERS, OPEN.—The winners in the larger classes have been noted above. For twelve blooms of Japanese, not less than six varieties, Mr. J. Cumming (as noted) was first; Mr. J. Baird, Kincaig, was second; Mr. A. Johnstone, Inchmartine House, third.

For six Japanese blooms, distinct, Mr. T. Lunt, first; Mr. P. J. Walker, Edradynate, second; and Mr. John Higgins, Dovecot Park, Anstruther, third. For six Japanese blooms, white, and not less than three varieties, Mr. J. Cumming was first; Mr. John Bell, second; and Mr. T. C. Brown, of Balcairn, third.

Mr. A. C. Cameron, gardener to W. L. Boase, Esq., Binrock, Dundee, was the winner for one vase of incurved Chrysanthemums. For three dress sprays and three buttonhole bouquets of Chrysanthemum blooms, Mr. A. C. Cameron was here again first; Mr. J. Mathers was second; and Mr. G. Scott third. For one shower bouquet of Chrysanthemum blooms, Mr. Cameron was first; Mr. James Kinnear, Fernhrae, second.

The group of Chrysanthemums competition only succeeded in bringing one entry, that from Mr. Cairns, gardener to J. M. White, Esq., Balruddery House. This was certainly of high merit, and it is to be regretted that the class was overlooked by the cultivators. The Ryecroft Medal, presented by Mr. H. J. Jones, for the best Japanese bloom in the gardeners' classes, fell to Mr. John Bell, of Burnside House, forfar.

The principal winners in the amateurs' section were Messrs. J. Higgins, W. S. Melville, Wm. Murray, Alex. Guild, J. Martin, D. McDonald, and D. Milroy.

PLANTS, OPEN.—For six Chrysanthemum plants, in 6-in. pots, any variety, dishudded, the prize here fell to Mr. J. Beats, Mr. T. C. Brown coming next, and Mr. John Mathers, third. For a like number of plants, not dishudded, Mr. J. Beats was first. Mr. Mathers was first for four plants, dishudded.

Begonia Gloire de Lorraine received special attention, six pots being asked for in one of the classes. Mr. John Collie, of Douglas Terrace, West Ferry, was the honoured prizeman. Mr. W. Kennedy, gardener to Ex-Provost Balingal, Ardarroch, Dundee, was second, and Mr. D. Meston, The Lodge, Broughty Ferry, third. Mr. R. Simpson, The Pines, Broughty Ferry, was the best exhibitor in the class for six Ferns, pots not to exceed 6 in. Mr. G. Scott was placed first for his *Primula sinensis*. For six Cyclamen, Mr. J. Mathers carried off the honours: while for six plants, suitable for table decoration, Mr. D. Saunders was in the first position; Mr. D. Meston, second; and Mr. G. Ruckbie, third. The class and prizes for four Palms fell out so:—Mr. A. MacRae, first; Mr. D. Saunders, second; and Mr. Collie, third.

FRUIT AND VEGETABLES.—The Grapes classes had some handsome samples to show. For two bunches of black Grapes, Mr. W. Holman, of Viewbank, was first; Mr. R. Collie, of Drumkilbo, Miele, second; and Mr. J. Kinnear in the third place. For one dish of Kitchen Apples, 6 fruits, Mr. A. S. Cole, of Moncrieff, was the able winner; Dr. Robertson, of Errol, second; and Mr. A. Johnstone, third. For one dish of dessert Apples, Mr. A. S. Cole was here again first; and Mr. J. Kinnear, second. Mr. A. S. Cole stood first for a dish of Pears. Mr. J. Kinnear was the first for a collection of nine kinds of Vegetables.

WOOLTON.—November 24th.

THE first show of the above must be pronounced an unqualified success, the material being good and the style of the staging giving a general appearance of lightness and artistic finish. The competition was fairly good, the entries being about 150 in 47 classes.

The section for cut blooms proved strong, although somewhat late in the season. For twenty-four distinct Japanese, Mr. C. Osborne, gardener to H. Tate, Esq., Allerton, won the premier prize and cup for a good stand, the best being Mdme. G. Dehrie, Scaramanga, Gen. Roberts, Nellie Pockett, Mrs.

G. W. Palmer, Mdme. Carnot, Chénon de Léché, Mrs. H. Tucker, Graphic, &c. For eighteen varieties, Mr. J. McColl, gardener to J. W. Hughes, Esq., Allerton, won with a good stand; Mr. Osborne had the best dozen. For eighteen incurved varieties, Mr. Osborne again secured first honours, the weightiest being Dorothy Foster, W. Tunnington, W. Egan, Mrs. J. Eadie, Topaze Orientale, Lucie Faure, Ma Perfection, Duchess of Fife, Chas. H. Curtis, Golden Empress, Violet Tomlin, &c. Thomas Brocklebank, Esq. (gardener, Mr. J. Vaughan), Woolton, staged the best dozen; and Mr. C. Osborne the half-dozen. For six incurved, six Japanese, and six incurved Japanese, Mr. Vaughan won with highly creditable blooms. For a dinner table decoration, Mr. J. Stoney, gardener to F. H. Gossage, Esq., Woolton, secured chief honours for small blooms in two colours and greenery.

For Chrysanthemums in pots, Mr. W. Wilson, gardener to H. Cunningham, Esq., Gateacre, won the four leading prizes; for three large flowering with Lady Isabel, G. Warren, and Phoebe for one incurved with Mrs. G. Rundle; one Japanese or reflexed with C. Curtis; one Pompon with Mrs. Westlake. For a single Palm, Mr. Stoney won with Kentia belmoreana; Mr. Carling, gardener to Mrs. Cope, Woolton, was second with Thrinax elegans. For three foliage plants the positions were changed, Mr. Carling staging a good Thrinax and two Crotons. For six table plants, Mr. J. Jones, gardener to S. Sanday, Esq., Woolton, came to the front in a strong fight. Six pots Roman Hyacinths, Mr. Stoney was first.

For two bunches of black Grapes, Mr. J. McColl won with finely coloured Black Alicante. Mr. W. Wilson secured the first award for whites with large bunches and well finished Muscat of Alexandria. Mr. G. Hammond, gardener to Col. R. Ireland Blackburne, Hale, took first honours for three dishes of dessert Apples, three dishes culinary, one culinary variety, and one dish of stewing Pears, with good fruit in each class. Mr. Carling won for the single dessert Apple with Ribston Pippin; Mr. J. McColl, for three varieties and one variety dessert Pears.

Vegetables proved an interesting section, Mr. Carling staging the best six kinds of Potatos. Mr. Thos. Summer, Woolton, had the best three kidneys and the single dish. Mr. G. Haigh scored for good Brussels Sprouts; Mr. W. Duncan for the best six kinds.

Certificates of Merit were granted to Mr. Burden, Lingdale Lodge, Claughton, for Chrysanthemum sport from Mdme. Lawrence Zede; Messrs. J. Cowan & Co., Gateacre, for group of Orchids, including Cattleya labiata, Cypripediums in variety, Vanda caerulea, &c. Mr. W. Tunnington, gardener to Mrs. MacIver, Allerton, for eight bunches of Grapes, Gros Colman being fine in berry. Mr. W. Barber, gardener to W. Holland, Esq., Mossley Hill, for eight well-grown plants of Begonia Gloire de Lorraine; Mr. T. Carling, for Poinsettias; Mr. T. Driver, for a large gourd. Mr. Learoyd, secretary, and his committee were the recipients of many congratulations attending their successful efforts.

SOCIETIES.

ROYAL HORTICULTURAL.—November 21st.

(Concluded from p. 206.)

Mr. John Basham, Fair Oak Nurseries, Bassaleg, near Newport, staged a collection of 100 dishes of fruit (Apples). American Mother, Ribston Pippin, Foster's Seedling, Stirling Castle, Emperor Alexander, Sisseys (local), Allington Pippin, Newton Wonder, The Queen, Bismarck, Peasgood's Nonsuch, Royal Jubilee, Howells and others were of the greatest beauty and merit. (Silver Gilt Knightian Medal.)

Mr. W. J. Godfrey, Exmouth, Devon, staged a fine easy group of cut Japanese and other Chrysanthemum blooms, of which Dr. Noel Martin, Mrs. Mease, Marie Calvat, Wattleblossom and others may be noted. The singles and the smaller decorative varieties forming the centre row were of exceeding beauty.

Messrs. J. Hill & Son, Barrowfield Nurseries, Lower Edmonton, staged a magnificent group of exotic Ferns. It was a great and pleasant relief to turn from the brilliant flowers to the cool some Ferns,

even although the meteorological conditions were not at fever heat. The Gymnogrammes were all in grand condition, as also the Adiantum Williamsii, A. dolabriforme, A. elegantissimum, &c. Brainea insignis and Polypodium sporodocarpum were much admired. (Silver Flora Medal.)

Messrs. John Laing & Sons, Forest Hill and Catford, were exceedingly strong in Apples, showing as many as 100 dishes of fruit above a cloth laid table. The following among the others stood out with perhaps a little greater prominence:—Peasgood's Nonsuch, Beauty of Kent, Bramley's Seedling, Warner's King, Flanders Pippin, Annie Elizabeth, The Queen, Gascoyne's Scarlet, Graham's Jubilee, Tom Putt, Lord Derby, Mere de Menage, &c. The Apples spoke for themselves, but for the sake of those who could not see them it may be stated that no finer fruits could possibly be staged. (Silver Knightian Medal.)

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, London, S.E., staged a very fine bank of Chrysanthemums in which it could be noted noble specimen blooms of Charles Davis, Mdme. E. Rogers, Australie, Mary Molyneux, Mons. Guyer and others were included. (Silver Banksian Medal.)

Messrs. Harrison & Sons, Royal Midland Seed Warehouse, Leicester, staged a collection of vegetables, among which there were some A 1 samples of the Motor Potato, Banbury Cross and Rousham Park Onions, Leicester Hero Leek, and Early Market Carrots, etc. (Silver Banksian Medal.)

QUESTIONS AND ANSWERS.

* * * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargonium, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

French Ranunculus and Anemones.—Omega: Garden varieties of Ranunculus asiaticus should have been planted in October for early flowering. It is rather late now till the end of February or the beginning of March, when you may do the final planting. The roots are liable to rot in the ground if you plant them at this time. You could, however, cover the beds with boards to throw off rain till towards the end of February. Much the same statement applies to Anemones, but they are hardier. If you had planted them in October or the beginning of November they would have flowered in April and May. By making some beds of them about the end of February or beginning of March they will flower in May and June. That would now seem your best course. Do the planting when the soil is dry and in workable condition.

Origin of Buds from Roots.—S. J.: The production of buds from roots that have been cut into pieces for propagation or otherwise is abnormal, as a rule, and are caused by the vitality and energy of the injured part in its attempt to repair the damage. The buds produced in this way are termed adventitious, and may occur on any part of a plant which has been cut and possesses no bud or eye. On the roots such adventitious buds are preceded as a rule by rootlets, followed by the development of a cellular nodule, which later on forms a bud or axis bearing leaves. Adventitious buds must not be confused with those developed from a latent eye originally belonging to the axil of a leaf. When a tree has been pollarded, what happens, as a rule, is that buds that may long have remained dormant are urged into growth by the vital energy in the trunk. Adventitious buds often arise naturally on the roots of Peaches, Cherries, Plums, Ailantus, Elms, Roses, &c. Under the artificial treatment of the propagator many plants may be induced to develop adventitious buds (?) on the roots of Senecio pulcher, Bouvardias, Horse Radish, Seakale, Aralia Sieboldi, and many other things. In like manner adventitious buds are developed on the leaves of Begonias, Bryophyllum, Gloxinia, Gesnera, Streptocarpus, &c. Such buds may also arise naturally on the leaves of Woodwardia, various Aspleniums, &c.

Turfing over the Roots of Trees.—Omega: In parks and pleasure grounds it is quite usual, when planting specimen trees to turf over the ground quite close up to the trunk. In the case of ornamental subjects like Cupressus lawsoniana, C. nuthaensis, and Thuya, they are often planted as the principal feature of circular beds, but ultimately grow to cover most or all of the ground. Where evergreen trees are thickly feathered to the ground it is difficult to get grass to grow under them; but that is a

small matter, provided the foliage of the trees is thick enough to hide the bare ground beneath. You will, therefore, be perfectly justified in turfing the ground right up to the trunks of specimen trees anywhere upon grass lawns, pleasure grounds or park. Such grass should be maintained in good condition as long as it will grow under the trees. There will not be much difficulty in doing this under deciduous trees, as a rule, provided they are not too dense below.

Apple Trees Making Gross Shoots.—Poma: They evidently require root-pruning to correct their rampant growth every summer. This should be done at once whenever the soil is sufficiently dry to be workable without puddling.

Liverwort on Pots of Seeds.—W. A. M.: If the seeds are of fairly large size you might pick off a deal of the liverwort by means of a thin pointed label. A good sprinkling of fresh and clean sandy soil over the top would kill or keep down the liverwort till the seedlings get a good start. In the case of small seeds or spores of Ferns the chances are much against the germination of the same. Before sowing any more you could take precautions by baking or even burning the soil to be used, in order to kill the seeds and spores of weeds. This will keep the surface of the pots and pans of seed clean for a long time.

Names of Plants.—J. W.: 1, Ornithogalum bracteatum; 2, Crataegus Pyracantha; 3, Choisya ternata (result of the mild season); 4, Clematis Vitalba.—A. J. B.: 1, Oncidium Forbesii; 2, Oncidium praetextum; 3, Laelia pumila.—R. M.: 1, Cornus sibirica; 2, Chlorophytum elatum medio-pictum; 3, Selaginella krassiana variegata; 4, Selaginella uncinata; 5, Selaginella Martensii variegata; 6, Sibthorpia europaea variegata.—T. C.: 1, Tillandsia Lindenii; 2, Elaeodendron orientale, usually, but erroneously, known as Aralia Chabrieri.

Communications Received.—J. G.—E. W. M.—William Carmichael.—J. Gates Hardham.—A. E. S.—W. M.—A. R.—E. F.—A. McD.—W. W.—Aro.

TRADE CATALOGUES RECEIVED.

H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham.—Chrysanthemum Catalogue for 1899-1900.

DAMMANN & Co., San Giovanni a Teduccio, near Naples, Italy.—General Price List of Vegetable, Farm, Tree, Conifer, Palm, Flower and other Seeds, Canna Roots, Novelties of Seeds, &c.

HERB & WULLE, Seed and Bulb Growers, Naples, Via Trivio 24-36, Italy.—General Catalogue of Seeds

GARDENING BOOKS.

VINES & VINE CULTURE.—The best book on Grapes. By Archibald F. Barron, late Superintendent of the Royal Horticultural Society's Garden Chiswick, and Secretary of the Fruit Committee.—A New and Cheaper Edition, Revised and Enlarged. Demy 8vo, Handsomely Bound in Cloth. Price, 5s.; post free, 5s. 3d.

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Wanted, Plant Doctors.—In the Contemporary Review for October an interesting article appeared from Mr. J. B. Carruthers, dealing very much with the statistical aspect of plant pathology. It is quite within the knowledge of everyone that most serious losses are sustained year by year through such plant diseases as Chrysanthemum rust, Tomato disease, Potato blight, Hop disease, and the like; but it may not be so generally known that these diseases are yearly becoming more widespread, and their extinction demands most serious consideration. Now these diseases are all preventable, and even in cases where plants are affected with them the attacks can be so mitigated that risk of bad crops is reduced to a minimum. Not only so, but the very treatment which secures this immunity from disease improves the quality and increases the yield of the crop. The new discovery "Veltha" has abundantly proved that Fungoid diseases can be prevented, or, if contracted, Fungoid diseases can be cured. It is impossible to over-estimate the supreme importance of stamping out Fungoid diseases "root and branch." "Veltha" is solely manufactured by Messrs. Wm. Wood & Son (Limited), of Wood Green, London, who will post to any address the prospectus of "Veltha" and the new manual, "The Rational Method of Treating Fungoid Diseases."—[ADVT.]

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"Mr. H. J. Jones, Lewisham.

Keir Gardens, Dunblane, N.B.
"DEAR SIR,—I have watched with interest the results of the cuttings I had from you last year of old varieties against our own of the same varieties, and I am pleased to say all yours have done first-class, and given us some of our best blooms. No doubt your rested stock has a great advantage upon our own cuttings, which have to be taken from plants that have been fed heavy, and shaded while in bloom; this makes our cuttings weakly. I must draw upon you again to supply me with a number of the older varieties. I have *no rust* in my collection and wish to keep clear of it. I will send order in a few days for what I require."

I am, yours truly (Signed), **T. Lunt.**

Mr. T. Lunt is now recognised as the Champion Chrysanthemum Grower in Scotland. At the great Show held in Edinburgh (1898 and 1899) he was successful in winning the Blue Ribbon of Scotland, viz.: the "**City of Edinburgh**" prize, a piece of plate value £20 and £14 in cash. He was also successful in winning (not the Scottish Challenge Cup as stated last week) but the thirty-six, distinct; and in addition he has won the Blue Ribbon of Ireland, viz.: £25 for twenty vases at Belfast.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 9th, 1899.

CONSTITUTION OF ROSE SOILS.—Our readers may remember that, on the occasion of the National Rose Society's show at the Crystal Palace in July last, we made some suggestions about that society undertaking the analysis of soils from the famous Rose-growing districts in this country, in order to ascertain whether anything in those soils contributed to the remarkable success of certain Rose growers, particularly those in Essex. We discovered soon after that our suggestions had been anticipated, that, in fact, a sub-committee had been formed for the purpose of ascertaining what, if any, particular chemical ingredients in the soil enabled Roses "to produce an exceptionally large proportion of choice exhibition blooms." That sub-committee con-

sisted of Dr. M. T. Masters, F.R.S. (Chairman), the Rev. H. H. D'Ombrian, Mr. George Paul, Mr. J. J. Willis, and Mr. E. Mawley (Secretary); and carried out its obligations by appointing Dr. Bernard Dyer, F.C.S., F.L.S., to analyse some half-a-dozen samples of soil procured from the Rose nurseries of Messrs. Paul & Son, Cheshunt; of Mr. B. R. Cant, Messrs. Frank Cant & Co., and Messrs. D. Prior & Sons, all of Colchester; of Messrs. Harkness & Sons, Hitchin; and of Mr. George Prince, of Longworth, near Oxford. A sample of soil was also procured from the Rose grounds of Mr. E. B. Lindsell, Hitchin, to represent the amateur element of the society. The report giving the result of the investigation is now before us. Mr. Alexander Hill Gray, of Beaulieu, Bath, has the honour and credit of first suggesting the scheme to the Committee of the National Rose Society, and his suggestions were accompanied by £5 to help defray the expenses of the investigation.

The secretary, Mr. Mawley, superintended the collection of the samples of soil, this being accomplished during the latter half of July last. None of the soil was procured from those portions of the Rose grounds subjected to artificial manuring for many years past, but was taken from beneath grass paths, roads, margins, &c., in open situations, the natural soils of the locality being the desideratum. Slices of soil 2 in. thick and 10 in. deep were cut out with a spade, after the removal of the superincumbent turf. The samples were sent off immediately to Dr. B. Dyer, for analysis. The experts of the National Rose Society do not admit that superior cultural skill, on the part of the winners of the most important prizes, is responsible for their remarkable success, because they have no monopoly of the art of Rose culture.

Of the three soils sent from Colchester, two of them were described as disintegrated clay, about 10 in. deep, overlying a subsoil of yellow clay. The third was said to consist of marl and grit, on a clay subsoil. The three were mixed before analysis. The average altitude of this district is 150 ft. above sea-level, and the average rainfall 23.65 in. The mixture on analysis was found to consist of 7 per cent. of stones or gravel, 63 per cent. of clean sand, and 27 per cent. of clay and all other fine matter removed by washing. This was the mechanical composition, showing that the Rose grounds about Colchester consist of a sandy loam. The chemical analysis showed 85.620 of silicious matter, 3.125 oxide of iron, 3.280 alumina, 0.537 lime, 0.360 magnesia, 0.226 potash, 0.085 soda, 0.003 chlorine, 0.115 phosphoric acid, 0.002 nitric acid, 0.041 sulphuric acid, and 6.606 organic matter, water of hydration, &c. This confirms the mechanical analysis, and shows a soil rather poor in nitrogenous matter, and remarkably deficient in lime. Such being the case, it would be a mistake to apply phosphatic manures in the form of superphosphates, because the latter would render the soil acid in the relative absence of lime. Dr. Dyer considered that liberal manuring was necessary to make the soil sufficiently fertile for horticultural purposes.

Cheshunt is 90 ft. above sea-level and has a mean annual rainfall of 25.85 in. The sample of soil, taken from Messrs. Paul & Son's nurseries, consisted of 5 per cent. of stones and gravel, 38 of clean sand, and 62 of clay and other fine matter removed by washing. When dry this soil is relatively light and porous; but when wet it appears like clay, but its adhesiveness is chiefly due to the fineness of the sand. Chemically analysed it showed more silicious matter but less of oxide of iron, alumina, lime,

magnesia, chlorine, nitric acid, sulphuric acid, and organic matter. It was slightly richer than the Colchester soil in potash, soda, and phosphoric acid.

The Oxford locality is 275 ft. above sea-level and has an average rainfall of 26.94 in. The soil is a sandy loam, giving a mechanical analysis of 71 per cent. of clean sand, and 29 of clay and other fine matter. Chemical analysis showed that the percentage of silicious matter was identical with that of Colchester; but that of lime was over six times as great; that of magnesia, potash, soda, phosphoric acid, and nitric acid a little higher; while organic matter was nearly the same. The Oxford soil then is notably rich in lime and phosphoric acid.

The soil from the nursery of Messrs. Harkness & Sons, Hitchin, is a sandy loam at an altitude above sea-level of 320 ft., and Mr. E. B. Lindsell's garden, at the same place, is 220 ft. above sea-level, and is a slightly heavier loam resting on yellow clay loam. The mean annual rainfall for Hitchin is 25.05 in. The soil from Mr. Lindsell's Rose garden, on analysis, showed less silicious matter than those from Colchester, but with more oxide of iron, alumina, lime, magnesia, potash, soda, phosphoric acid, sulphuric acid, and organic matter. Compared with that of Colchester, the soil from Messrs. Harkness & Sons' nurseries showed a little more silicious matter, oxide of iron, potash, soda, and phosphoric acid; but less of the other ingredients, the organic matter being remarkably low. It is the poorer, therefore, of the two samples from Hitchin.

After a careful study of the results of the chemical analyses of all these samples of soil, Dr. Dyer comes to the conclusion that the only ingredient of fertility, common to all of these famous Rose grounds, is phosphoric acid, and that was not particularly marked except in three cases. Beyond this there is no common bond between them, as far as their chemical constitution is concerned; but there may be something in the fact that the mechanical and physical condition of all the soils is good, as is that of drainage, whether natural or artificially accomplished. He further considers that if the success of the growers at the above-mentioned places is to be attributed to natural conditions rather than cultural skill, it must be sought for in climatic conditions, aspect, and possibly the natural drainage.

Beyond the mere surmise, then, of the learned Doctor, the result of these investigations is a veritable triumph for the Rose growers themselves. At all events, they deserve the benefit of the doubt, seeing that chemical analyses of their soils show that Nature has afforded them no special advantage in that respect. But, say the experts, many other Rose growers are equally skilful, though less successful on the exhibition table. We cannot imagine that the climatic conditions of other parts of the same county, or of the surrounding counties, differ materially from those of the places recorded. And surely everyone of the home counties, at least, could furnish examples of soils in equally good mechanical condition, and as well drained. The old adage is still true that genius consists of the faculty of taking pains, and we have no doubt the successful Rose growers do take great pains with their special cultures. We hope, however, that the experiments and observations may be continued.

The report in the form of a pamphlet of some twenty-two pages is obtainable by non-members, from either of the secretaries, Rev. H. Honeywood D'Ombrian, Westwell Vicarage, Ashford, Kent; and Edward Mawley, Esq., Rosebank, Berkhamsted, Herts.

Axle Grease and Rabbits.—Though the operation would be a most thankless one and extraordinarily trying to the patience, it is recommended to grease the lower parts of the stems of young trees which are suffering, or are likely to suffer from the mischievous gnawing of rabbits, &c.

North Kildare Horticultural Society.—Celbridge, North Kildare, has resolved upon having a Cottagers' Horticultural Society. For the purpose of inaugurating such a society, a meeting was held on Tuesday, November 14th, when officers were elected and the preliminary arrangements made.

Leaflets on Cottage Gardening.—The Co. Meath proprietors are making much headway through the agency of the Meath Industrial Organisation Association in the direction of cottage industries, house-keeping, and garden industries. They demonstrate, it would seem, on the culture and keeping of a small garden—half an Irish acre—so that by their teaching the poor folks may be taught to make the most of their little plots.

Decorated Apples.—It is said that the latest craze in Paris is for photographically decorated Apples. Customers' crests are painted upon the fruits. A nearly ripe Apple is protected from the light for some time until the skin becomes somewhat bleached. A paper negative is substituted for this bag, and the fruits are exposed to the sun's influence; the device is then found printed beneath. It little matters in "photography" of this kind whether the experiment works well or not; the fruits are not altered.

The Poisonous Properties of the Yew.—The poisonous properties of Yew trees or twigs, when eaten by cattle and horses have frequently been proven. Still, though the occurrences are reported with diligent care by the papers which look after husbandry interests, there still appear to be persons who are sceptic about the truth of the statements. True it is that a strong heifer, a grown bullock, or a horse can eat a goodly quantity, but not with impunity if its stomach was empty and the amount devoured at all large. Some instances of the importance of the subject in hand, were recorded by Mr. Moir, M.R.C.V.S., of Armagh, in one of our Irish contemporaries during last month.

National Forestry.—Mr. D. E. Hutchins, Conservator of Forests, Cape Town, read a very exhaustive paper on the above subject before members of the Society of Arts, on Wednesday, November 22nd, in the Society's rooms, John Street, Adelphi, London, W.C. The points of the lecture were, (1), "State Forestry in England and Abroad; its cost and superiority to private Forestry." (2), "Imported wood and the area required to produce it in England." (3), "Decline of British Agriculture met by the rise of British Forestry." (4), "The rural population benefited by the rise of British Forestry." (5), "Physical degeneration of the race." (6), "Forests as Recreation grounds." (7), "Military Aspect; a means of defence." (8), "National Forests as a means of National Insurance." (9), "Cost and Yield of National Forests." (10), "Reasons against delay." Some bold propositions were made. Various eminent gentlemen discussed the subject. For those interested, the paper is full of value.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting was held on Thursday, November 30th, at St. John's Parish Room, Redland, Bristol, Mr. Lock presiding over a large attendance. "Hardy Fruit" was the subject for discussion, introduced by Mr. Hockey, of Yatton. He stated that the cultivation of fruit was becoming more popular each year, though to enable British cultivators to successfully meet foreign competition, our land laws required alteration. Dealing with the subject in detail, he gave clear instructions as to the soil, and situation best suited to fruit culture, method of planting, pruning, and pests to which fruit trees were most liable, the directions given referring to the culture of Apples, Pears, Plums, Cherries, Currants, Gooseberries, Strawberries, and Raspberries. Mr. Hockey was heartily thanked for his lecture. A good discussion followed, taken part in by several members. Prizes for Potatoes (two dishes) were awarded Messrs. Taylor and Ross; Certificates of Merit to Mr. Taylor for six well-grown Poinsettias, and to Mr. Clark for a plant of *Adiantum cuneatum*.

Mr. Leo Gordon Godseff, the sub-foreman in the propagating pits at Kew Gardens, has been laid up for some time with typhoid fever; but we are glad to state that he is now progressing favourably, with two nurses in attendance, besides his own and other doctors. He is the son of Mr. Godseff, manager to Messrs. Sander & Co., St. Albans.

A Large Apple.—Seeing in THE GARDENING WORLD of last week, an account of a large Apple, I should like to say I am now showing in my shop window an Apple grown in my own nursery that is much larger. When gathered it weighed 1 lb. 11½ oz. and was 17½ in. in circumference. The variety is Bramley's Seedling. Have you ever heard of a larger? I have this year gathered a Peach weighing 17½ oz.—J. R.

American Haste.—"Lock before you leap," or "Consider twice before acting once," might very adaptably be employed as maxims for those fruit growers in Mason county, Michigan, who are said to have cut down so many as 100,000 Peach trees which had been considered as killed by the excessive cold experienced there last winter. The remaining trees which were not cut down have borne good crops this year.

Presentation.—An interesting ceremony took place at 152, Houndsditch, Friday evening, the 1st inst., when Mr. Wm. Sherwood, on behalf of the well-known Hurst & Son Cricket Club, presented Mr. W. Riden, the hon. secretary, with a silver mounted snakewood walking stick, and Mrs. Riden with a silver-mounted umbrella. In a brief speech Mr. Wm. Sherwood paid a high tribute to the energy and ability of Mr. Riden, who has held the secretarial reins of the club since its existence. Mr. Riden, who was quite overcome by the unexpected gift, made a suitable and touching reply. Prizes were also presented to Messrs. Portch, Squire & Main, the successful members of the club last season. A hearty vote of thanks to Mr. Wm. Sherwood, which was loudly applauded, terminated the proceedings.

Notes from Hamilton.—We are having extraordinary mild, though a shade windy weather just now. Too much rain has not yet fallen to compensate for the droughty autumn. Pelargoniums, Calceolarias and other bedding plants are still fresh in the open where they have not been lifted. Chrysanthemums are freely flowering, and so are hybrid perpetual and Tea Roses, also in the open. And what is more marvellous, we have Cauliflower ready for use which were planted merely to fill a vacant bit of ground. Mr. Archibald, Bothwell Castle Gardens, gave a very interesting lecture on the "Successful Culture of Carrots" at the December monthly meeting of the Hamilton and District H. & F. Association. Like most old-established gardens the soil at Bothwell Castle is not suitable for growing Carrots without a good deal of preparation. The lecturer in describing his mode of warfare against the insidious ravages of the dread *Psila rosea*, said that he has grown his Carrots for very many years on the same piece of ground, and that he leaves all the "shaws" on the ground to be dug in along with a sprinkling of gas lime and dung. The ground is trenched three spits deep every season, and left roughly exposed to the weather all winter. Previous to sowing, the soil is forked and broken down smooth and rolled hard. The seed is sown thinly in lines 18 in. asunder in which are also sown Onion seed. The lines are then covered in and beat firmly with the back of the spade. The next operation is the thinning, which is done lightly and carefully at first. After this the plants are dusted over once or twice weekly with soot and lime. Nitrate of soda is also given to encourage growth. The samples which Mr. Archibald placed on the table were magnificent and were in themselves ample testimony of the complete triumph of art over the troublesome Carrot pest. In concluding, Mr. Archibald mentioned some cases in other parts of the kingdom where his adopted prescription was tried with success. In one or two cases the dusting operation was neglected, resulting in failure, but when added the following year, the crop was a complete success. Messrs. Grahame, Coltness; Moir, Earnock; Angus, Dalziel (chairman); and others spoke commending the lecturer's good practice. A hearty vote of thanks was accorded to Mr. Archibald. Next meeting the business meeting.—D. Chisholm.

Of Plum, Peach and Cherry most nurserymen recommend trees one year old, for planting.

Weather in London.—Last Thursday, November 30th, was frightfully thick, black and foggy. The weather since then has been alternately mild, dry or drizzly.

Wealthy Apple: Death of its Raiser.—Peter M. Gideon, says *American Gardening*, probably best known as the raiser of Wealthy Apple, died a month ago (October 27th) at Excelsior, Minn., in the 79th year of his age. He was married in 1849 to a Miss Wealthy Hall, and it was her Christian name which he selected in naming the fruit. Mr. Gideon was the first superintendent of the State Experimental Station or Fruit Farm in Champaign County. In the year 1820, he removed to Clinton, Illinois, 21 years later, and again in 1850 to Excelsior, Minn. In 1851 he commenced his experiments with fruits, and when the State Experimental Farm originated in 1878 he was appointed to its charge. American orchardists have the matter under consideration for the erecting of a memorial to the raiser of Wealthy Apple.

Death of Mr. W. M. Welsh.—It is with deep regret that we have to record the death of Mr. W. M. Welsh, senior partner of the firm of Messrs. Dicksons & Co., seedsmen, 1, Waterloo Place, Edinburgh. The illness, which has terminated fatally, has been severe, and long drawn out. The deceased was 61 years of age, and was born at Ericstane, near Moffat, Dumfriesshire. His is one of the old border families. Educated at Moffat Academy, he began business in Carlisle, and subsequently entered the employment of Mr. John Shaw, landscape gardener, Manchester. He joined the firm of Dicksons & Co., in 1862, and gained a reputation as an authority on all branches of natural science connected with the seed and kindred trades, especially with regard to fruit cultivation. He was a member of the Royal Scottish Arboricultural Society, had been its treasurer and member of council; was a member and Councillor of the Royal Caledonian Horticultural Society; a President and Councillor of the Scottish Horticultural Association; a life-member of the Highland and Agricultural Society; and a director of the Scottish Trade Protection Society. He took a leading part in local affairs, being Chairman of the Liberton Liberal-Unionist Association, a member of the Parish Council and School Board; and a representative of the Parish Council to the County Council. The deceased, who was a widower, leaves a grown-up family. His presence will be greatly missed.

A Celebrated Vine.—A correspondent, Mr. John Peebles, sends us a cutting from the *People's Journal*, in which a writer gives an account of his visit to the Kinnell Gardens, which extend from the back of the old Kinnell Castle down to the brink of the high banks of the river Dochart, at Killin. Here is the celebrated Kinnell Vine, the largest, not only in the United Kingdom, but in Europe, and about double the size of the famous Vine at Hampton Court, which for long was reckoned the largest in Britain. The Kinnell Vine was planted in 1763, but is now showing signs of decay. In 1882 it carried 1,250 bunches of grapes; but of late years the berries and bunches have been smaller, while some of the rods are decaying. Another Vine, planted in 1832, covered 240 superficial square yards in 1869. The vinery has been greatly enlarged since then and now measures 171 ft. in length. The upright front of the vinery is 6½ ft. high, and the roof 18½ ft. to the top, so that the whole has an area of 171 ft. by 25 ft., or 4,275 sq. ft. of glass. The whole of the glass is covered by the Vine. The upright stem is 6½ ft. before it branches. The trunk has a girth of 28 in. at one foot from the ground; and 21 in. below the two main divisions, the latter being each about 13 in. in girth. The Vine produced 1,179 bunches in 1869; last year 3,233; and this year 3,511 bunches. This famous Vine, situated about the centre of the Grampian mountain ranges, would thus be the largest and most productive in Europe. Its existence was very little known till quite recently. Few of the inhabitants of Killin and the district had ever seen it. The writer of the note visited Killin in 1869, and went to see the Kinnell Vine, when the gardener favoured him with the size of the vinery and the spread of the Vine in August of that year.

Edinburgh Chrysanthemum Show.—At the monthly meeting of the Scottish Horticultural Association, held on the 5th inst., a statement of income and expenditure of the recent Chrysanthemum show was submitted, which showed that though not quite so successful financially as the exhibitions of recent years there was a balance on the right side, and the sum of fifty guineas was unanimously voted to the Lord Provost of Edinburgh's War Relief Fund. This is highly gratifying, and the Scottish association deserves great praise for their broad-minded liberality. Sums of five guineas each were also voted to the Royal Gardeners' Orphan Fund and Gardeners' Royal Benevolent Institution. The ordinary business of the meeting included a paper on "The Parks of London," by Mr. Beech, The Grange, Bishop Stortford. Several interesting exhibits were on the table, including a handsome basket of Roses cut from the open from the gardens of Mr. M. Todd, showing the great mildness of the season. The varieties were chiefly Caroline Testout and General Jacqueminot. A resolution of regret at the death of Mr. W. M. Welsh, who had been a president of the association, and had taken great interest in its affairs, was unanimously adopted.

The Horticultural College, Swanley.—We are informed that the lecture on the "History of Gardens," given by Mr. A. F. Sieveking at the London Institution lately, will be repeated at Swanley Horticultural College, on Wednesday, December 13th, at 4.15 p.m. The lecture will be illustrated by slides. Tea will be given at 3.30, and the Principal, who will occupy the chair, has arranged for cheap return tickets between Swanley and Victoria (London) stations. The work of the College is progressing remarkably well, eighty-two students being there, and the two boarding houses which were opened in the summer have already proved insufficient to accommodate the applicants. In addition to the four County Councils already offering scholarships for Swanleyites (free training, board and lodging for two years), Staffordshire has just made a like offer, so that now there are five scholarships. The competitions or exhibitions in which the college has entered, and been successful during the year, are: for fruit at the Temple Show, where a Banksian Medal was gained; while during November a silver cup, and two first and three second prizes were won at Bromley for Chrysanthemums. At Woolwich, three first and four second prizes were awarded for Japanese and incurved blooms from the Swanley Horticultural College.

CINERARIAS AND CALCEOLARIAS.

I CLASS the two together, as the same treatment will do for both. Young plants of the former, occupying 3 in. or 5-in. pots, should at once be moved into 6-in. and 7 in. pots, using loam, leaf-soil, a bushel finely sifted to every two barrows of the former with half a bushel of well decayed manure, running the same through a ¼-in. sieve, adding enough coarse river or silver sand to keep the whole porous, and, if at hand, an 8-in. potful of soot. Well mix all together and pot firmly, taking care that the foliage does not get crippled or broken about as the work proceeds. After potting, the plants should be placed in quite a cold house, though frost must not be allowed to touch them. They must not be too far from the glass nor too crowded or else weak plants will be the order. In whatever position they are placed the plants should be turned round once a week, giving them abundance of air but avoiding cold draughts. On bright mornings, if the plants should appear to have no moisture on the foliage, a very light dewing overhead with a syringe would be very beneficial; but, as a rule, at this time of the year, they keep moist enough when no fire-heat has to be turned on.

The earliest batch will be showing their flower heads, so should be helped with some kind of stimulant twice a week. In Devon and Cornwall these plants can generally be kept growing in cold pits and frames up to very near Christmas, but wherever they are stood a watch must be kept that greenfly does not make any headway. Fumigating as soon as perceived is the best and surest remedy. Slugs and caterpillars, too, are passionately fond of them, and play havoc in a very short time. At night is a good time to search for both these enemies. We are growing 100 of Sutton's variety of Cineraria stellata this year, recommended by the raisers as good for

cut flowers. If so, they will prove very useful, for usually Cinerarias, when cut, are useless, so soon drooping their heads. If specimen plants are required some neat stakes should be used, keeping the centre fairly open; and if the plants are stood on wooden staging water should be poured among the pots daily, as they enjoy a cool, moist bottom.

Calceolarias, in most instances, are still in pits and frames; ours are in 3-in. and 4-in. pots at present (the third week in November), but the majority will soon be fit for transferring into 5½ in. and 6½-in. pots, using the same kind of compost advocated for Cinerarias, repotting into 7-in. and 8-in. pots as soon as the former are full of roots, but not allowing them to become, what we gardeners call, pot-bound first, as this gives them a check from which they never satisfactorily recover. We keep the plants in unheated pits plunged in ashes, unless hard frost compel us to house them. Then they are put on shelves in a late vinery, and care taken that they at no period of their existence suffer for want of water or the attack of fly, two things the would-be successful grower must adhere to. On the other hand, very few plants so quickly resent being kept sodden as do those these notes concern. Weak manure water may be given weekly when the plants get established in the pots in which they are to flower. Like the Cinerarias they are of little service as cut flowers; but to the writer's idea no class of soft-wooded plants makes such a grand display of floral wealth from early February up to early in June as do Cinerarias and Calceolarias. How your readers, who visited the Temple show of this year, must have envied the well grown plants of the latter of such diverse colours and size of flowers, combined with the dwarf and vigorous habit, of those that Messrs. Sutton & Sons exhibited on that occasion. They certainly were the finest batch (and this not a small one) I ever gazed on; and I found myself near that corner more than once admiring this good culture.

Both Cinerarias and Calceolarias are readily raised from seed. I generally sow the first packet of Cineraria about April 20th, and another six weeks later, these two batches giving us flowering plants from February to May. Any good varieties can be increased by offsets or suckers if the old plants are cut down within 6 in. of the pot; in fact, this is the way some of the double varieties are kept.

Mrs. Thomas Lloyd is one of the best-named varieties, a most pleasing blue and a strong grower. Doubles in variety are now raised from seed, but to my mind they are not nearly so pretty as the singles. Calceolarias, too, are raised annually from seed, as a rule, though these can be treated similarly to Cinerarias. Seedlings, in both instances, grow away the soonest and make the finest plants. We generally sow the Calceolaria about July 10th, and rely upon one sowing only. I ought to add that both require shade from the bright sun from early March to quite the end of September. For Cinerarias the grower must be guided as to the time for putting on and taking off the shading according to position.—*Grower.*

PINKHILL NURSERY, MURRAYFIELD.

A LITTLE beyond the municipal boundary of Edinburgh, on the great western road to Glasgow, is the old established business of Messrs. R. B. Laird & Sons, Ltd., Pinkhill Nursery, Murrayfield, Midlothian. One blustering day in September last found us inspecting the houses and grounds on the hillside overlooking the fertile expanse drained by the Water of Leith.

The ranges of glass on the lower side of the road above-mentioned are relatively new. Some cool conservatories and greenhouses are on a level with the road, and in one of these we noted, as we hurriedly passed through, some healthy bushes of *Bambusa Ecklonis variegata*, Otaheite Oranges in fruit, and the showy *Begonia President Carnot*, in bloom. *Clerodendrons* and *Allamandas* draped the roof. The next division contained a fine batch of *Araucaria excelsa*, and tall *Camellias*, amongst which *Lilium speciosum*, *L. s. Melpomene*, and *L. s. album* were all flowering in grand form. Other conservatory stuff was plentiful. One division was chiefly filled with Indian Azaleas, in neatly trained, pyramidal specimens, for which the firm has long been noted. A collection of *Fuchsias* is also grown. A fourth division was similarly gay with single and double zonal *Pelargoniums*, *Statice profusa*, the broad leaved *S. Holfordi*, *Hydrangea paniculata*

grandiflora, *Rhododendron McNabiana* and *R. fragrantissima*, the latter a hybrid with fragrant white flowers and hairy leaves. Useful subjects also are *Clianthus puniceus*, the common Myrtle, with its variegated form, and seedling plants of *Retinospora squarrosa*, often mentioned as *Juniperus bermudiana*.

On a lower terrace are two blocks of span-roofed houses, in one of which we noted a fine lot of Crotons. A fine variety is *C. Mdme. Ernest Bergman*, with yellow and red leaves. *C. Hawkeri* reminds one of the Caricature Plant. *C. latimaculata* is an improved Hawkeri, with large, golden-yellow blotches. Others which may be familiar to those who grow Crotons largely are *C. Veitchi*, *C. Thomsoni*, *C. Mortei*, *C. Baron James Rothschild*, *Golden Queen*, *Aigburth Gem*, *Golden Ring*, *Princess of Wales*, and *C. desfontaineanum*, the latter of which may be likened to *C. roseum pictum*. *C. Russellii* is one of the best of the broad leaved sorts, an improvement upon *C. Disraeli*. Thirty varieties were shown in an exhibition group recently, and altogether there are fifty varieties in the collection. The Crotons were repeated in the next house by different varieties. All the best varieties of Caladiums are grown here. *Pteris ludens* has the largest leaves found in the group of Ferns to which it belongs. The bronze and silvery leaves of *Tillandsia zonale* are very pretty. Good stove fine foliage plants are *Pellionia daveauana* and *P. pulchra*. *Princess May*, *Duchess of York*, *Mrs. Laird*, and *Marchioness of Lothian* are fine narrow-leaved Dracaenas. A very pretty new Caladium, raised here, is *Laird's seedling*, with silvery leaves and red and green veins. Elsewhere a house was gay with *Begonia Gloire de Lorraine*. Ferns in variety were also conspicuous. Epiphyllums are grown as standards. Fine foliage plants were the feature of another house, and included a fine batch of *Ruellia Portellae*, *Acalypha Sanderi*, *A. godseffiana*, *Phrynium variegatum*, and *Zingiber d'Arcyi*, having leaves all along the stems, instead of being crowded at the top. They are variegated. The popular species of Asparagus are well represented by *A. plumosus*, *A. tenuissimus*, *A. retroflexus*, and *A. Sprengeri*. A quantity of *Dracaena Sanderi* is well grown, healthy and clean. Palms, Ferns, *Aspidistra lurida* and *A. l. variegata* occupied another structure.

The Palm house proper is a large structure, occupied with all the large old plants, which are so much used for decorative purposes. Amongst them we noted huge specimens of *Caryota urens*, and *C. mitis*. A rare species is *Kentia kersteriana*. Very pretty is a species of *Daemonorops* with arching leaves and a dwarf habit. The largest plant of *Kentia fosteriana variegata* we have seen, is here. There are also massive specimens of *Phoenix rupicola*, one of the neatest of the Date Palms. *Licuala grandis*, also known as *Pritchardia*, makes handsome specimens. One of the most useful Palms for decorative groups is *Cocos plumosa*. The long, massive, ribbed leaves of *Stenandrium grandifolia* are not often seen in private establishments.

On the upper side of the great western road the oldest part of the establishment is situated, including some ranges of glass. The first into which we peeped was devoted to young Roses in pots and Tomatos, the latter being trained under the roof. *Laird's Supreme* and *Stirling Castle* were varieties of repute, being grown for seed purposes in the next house to the above. Young Coryphas and *Aspidistras* were grown beneath them. A similar structure accommodated young Vines in pots, with *Cocos weddelliana* and Ferns beneath them. Further on we came upon Palms of various sizes for decorative purposes, *Eucharis* and *Coelogyne cristata*, the two latter being grown for the sake of cut flowers. A very pretty fan Palm is *Corypha rotundifolia*, which was accompanied by *Areca Baueri*, *Phoenix reclinata*, *Kentias* and other Palms in fine condition and of a useful size. Close by we noted some of the largest specimens of *Livistona rotundifolia* which had come under our notice. *Kentias* of various sizes kept them company. Thirty to forty varieties of Japanese Maples in pots are kept in stock here. A thousand or more of seedling *Retinospora squarrosa* (*Juniperus bermudiana*) met our eye in another house. They are popular for decorative purposes in pots. On the shelves were Tomatos again.

A very large cool house gives accommodation to a great variety of subjects, such as Tree Ferns, large

plants of *Cycas revoluta*, good fruiting Vines in pots, *Ampelopsis Veitchi*, *Clematis indivisa*, large specimen Camellias, which afford a good harvest of blossom from which to cut; also *Acacia longifolia floribunda*, *Euonymus japonicus*, and the broad-leaved and variegated forms. Many seedling *Rhododendrons*, crosses between *R. argenteum* and *R. Falconeri*, prove interesting as they come into bloom successively upon attaining the flowering size. About 200 to 300 young Camellias, 12 in. to 18 in. high, prove useful in supplying orders. Flg trees in pots are stocked in all the leading varieties, but curiously enough *Brown Turkey* is always most in demand.

A collection of Ivies has long been cultivated at Pinkhill, the most popular variety for pot work being *Madeiriensis variegata*. Next we came upon a collection of all the leading varieties of zonal Pelargoniums. *Areca Baueri* and cool Orchids monopolised another house. White and blue flowered *Ophiopogons* and *Clivias* were the features of another structure, while thousands of seedlings of *Amaryllis* raised here next came under observation. Thousands of Alpine plants and Conifers in pots filled another structure. Frames were also filled with young Conifers, seedling *Pernettyas*, Ivies, *Escallonias*, and other choice shrubs.

In the open ground Dahlias were still in full bloom, including the popular Cactus varieties, also pompon, single, show and fancy sorts, the two latter being also grown in stock pots. Seedling *Pentstemons* were in full bloom, as were *Antirrhinums* and *Lobelias* of the *Queen Victoria* type. Other florists' flowers are represented by perennial Phloxes, show and fancy Pansies, Violas, Carnations, Pyrethrums, *Potentillas*, &c. Herbaceous plants are abundant.

Shrubs are represented by large quantities of *Rhododendrons*, *Cherry Laurels*, *Olearia Haastii*, *Pernettyas*, hardy Heaths, and a fine collection of shrubby *Veronicas*, of which *V. Traversii* is one of the most reliable and useful.

CONIFERS.—Ornamental species and varieties of Conifers are grown in great variety in the wide borders on either side of the main walk. Choice and uncommon subjects are *Podocarpus andina*, *P. koraiana*, and *Prumnopitys*, allied to the Yew. Better known and very useful are *Retinospora filifera*, *R. f. aurea*, *R. pisifera aurea*, *R. plumosa aurea*, *C. squarrosa*, *R. tetragona aurea*, *R. hypnoides*, and *R. leptoclada*, all neat shrubs for restricted areas, either singly or in groups in borders or upon the lawn. Junipers are numerous, some of the finest being *Juniperus chinensis aurea*, *J. japonica aurea*, with their variegated forms, *J. excelsa stricta*, *J. communis hibernica*, &c. *Fitzroya patagonica* is seldom seen in collections.

The Cypresses include *Cupressus macrocarpa*, *C. lawsoniana*, and *C. nutkaensis*, with a host of varieties, many of them very choice, belonging to the two latter. Space forbids mention of the many beautiful varieties to be seen here; but a mention of the more important may be taken to mean that the more common are also grown here. *C. nutkaensis aurea*, *C. n. compacta glauca*, and *C. n. lutea* should find their way to every collection.

C. lawsoniana is a host in itself, the seedling variations simply marvellous. They keep their colour well in winter. Such as *C. l. erecta viridis*, *C. l. lutea*, *C. l. Allumi*, *C. l. Fraseri*, *C. l. aurea*, *C. l. glauca*, *C. l. Silver Queen*, *C. l. Youngii*, *C. l. argentea*, and many others should be introduced to every garden where pleasure grounds and shrubberies exist. Both in colour and form they add greatly to the beauty of the landscape. All the Cedars are grown, including the silvery *Cedrus atlantica glauca*.

The Arbor Vitae types of Conifer are simply a little less numerous than the Cypresses. They include the golden *Biota orientalis elegantissima*, *B. o. aurea*, and *B. o. semperaurescens*. Very bold types are *Thuyopsis dolabrata* and *T. Standishii*. Very fine also are *Thuya occidentalis lutea*, *T. o. vervaeneana*, *T. o. lutea*, *T. o. ericoides*, &c. The Yews include *Taxus baccata adpressa*, *T. fastigiata aurea*, *T. baccata aurea*, *T. b. argentea*, and *T. b. elegantissima*.

Spruces (*Picea*) are very numerous, the more uncommon being *P. ajanensis*, *P. Engelmanni*, *P. E. glauca*, *P. Morinda*, *P. excelsa aurea*, *P. e. pendula*, and other fancy types. Amongst the Hemlock Spruces, *Tsuga hookeriana*, and *T. canadensis* may be noted. Beautiful Silver Firs (*Abies*) are A.

concolor, *A. firma*, *A. nobilis glauca*, *A. magnifica*, *A. Veitchi*, *A. Pinsapo*, and many others. The true Pines include *Pinus aristata*, *P. benthamiana*, *P. lambertiana*, *P. sylvestris aurea*, *P. Cembra*, *P. Bolanderi*, *P. jeffreyana*, *P. ponderosa*, and others. Interested planters should pay a visit of inspection.

THE PLANT HOUSES.

BEGONIA GLOIRE DE LORRAINE.—The plants when used in the dwelling-house or mansion for decoration are apt to be upset a little, and to lose a quantity of blooms from various causes. Some growers may be inclined to prune off the flowering shoots rather than have bedraggled specimens. This Begonia is a winter-flowering species, however, and to cut off the flowering shoots at so early a date as this is equal to spoiling the plants as producers of cuttings. The basal shoots which spring up after the cutting-back process, almost certainly will produce flower buds, and such short flower-bearing shoots can hardly be expected to withstand any detrimental influence whatever. They do not develop into sturdy and serviceable plants either. What is proved to be the better plan is to let the plants flower on and on until their strength in this direction is spent. Then cut them back, slightly rest them for a fortnight and restart them. If the old plants are to be grown on again into larger specimens they may be shaken from the old pots and repotted. Stout cuttings with a strong foundation from which to start, are then to be obtained. Leaf cuttings and stem cuttings produce plants of quite distinct habits. The plants from leaf cuttings are by far the most graceful, their flowers being larger, though paler, and the shoots themselves longer. From stem cuttings very bushy and floriferous plants develop, but they lack the free style of those grown from the leaf.

STEPHANOTIS FLORIBUNDA.—According to the needs of the household for white flowers at Christmas-time or later, will the period for flowering this fine stove climber be determined. The Chrysanthemums all over the land are going to be early past. Of course precaution will be taken to have a later batch of bush Chrysanthemums, &c., to supply long-stalked, large flowers to go along with the white or crimson, or pink *Bouvardias*, *Cyclamen*, *Pelargoniums* and *Roses*. *Stephanotis floribunda* can always be put into service and is never present without our having a use for it. Plants which have been rested may now be started, the means taken to quicken root-action being the use of tepid water containing weak artificial manure in solution. A rich topdressing may at the same time be given. The old spent wood will have been taken out and new shoots will have been laid in. Insects, bugs or scales must not be allowed a footing; and to keep them off use the syringe and the sponge frequently, paraffin and soft soap solutions being a grand means of suppression.

ERANTHEMUM PULCHELLUM.—As one of our outstanding brilliant blue flowered stove plants, the above, which is now correctly known as *Daedalacanthus nervosus*, ought to be grown in batches for stove decoration. An intermediate house temperature suits it well. Prune the plants back after the flowering period. Cuttings may be taken about May.

SELAGINELLA WILLDENOVII.—In this species of Selaginella we have a very pretty stove or fernery climber. It may be trained to a pillar or to a beam or trellis by the side wall of a warm house. At this period of the year its medium sized beautifully dissected fronds are tinged deeply with a lilac-pink colour, which when suffused or contrasted with the light creamy-green of the other portions, is sweet and effective. Young plants may be got at any time from cuttings or by division. A temperature of 65° in winter will suit it.

Conservatory.

ROMAN HYACINTHS, LILY-OF-THE-VALLEY, Freesias, and other forced bulbs and roots, have begun to delight us with the fragrance and the charm which they bring. Now-a-days, before winter sets in, we have spring with us! *Salvia splendens grandiflora* in 6-in. pots is at this period one of the chiefest glories of the conservatory. The *Cinerarias* too have just begun to pop along to fill the vacancies made by the dwarf Chrysanthemums. *Roses* which were started in September will be in fine condition by Christmas. The Chinese Primulas, and Primula

floribunda, are both in capital form with us. Mignonette is yielding small supplies of its precious shoots for bouquets, &c., and the Bride's Wreath is showing up well. The chief precautions at so dull and uncertain a period are, not to overwater, but to consider each pot separately as to whether it really requires water or not. Feeding is another matter of some judgment; very little feeding is necessary now. Then ventilation and stoking are subjects requiring careful attention also.—*J.H.D.*

Kitchen Garden Calendar.

THE late dry weather has been very favourable for getting on with all outside work, and those who were behind in this department have had a chance of pulling up with any arrears. Unless some headway can be made before the turn of days there is not so much chance afterwards, particularly should we be visited with a long spell of frost. It is not advisable to delay work of any description that cannot be done in frosty weather, whereas such things as clipping hedges, sharpening Pea, Bean, and other stakes, burning of refuse and the like should be deferred till later on, when we may expect severe weather. Considering the lateness of the season most garden crops have done well since the rains came; until then Spinach, Turnips, and other green crops fared badly. As before pointed out do not fail to have ample material in readiness for protection in case severe frost should visit us of a sudden. Should the wind get northward we may expect a change in the weather. As yet there has been no frost to do any serious harm, but it is as well to be prepared.

The indoor department must, however, not be neglected, for it is from here that the choice vegetables are procured, and great care is needed to keep all in a flourishing condition. Where French Beans are grown in low heated pits they have to receive attention by removing the lights. This should be done if possible in the middle of the day when warm. These old-fashioned structures have somewhat gone out of date, and more light and airy ones have taken their place. Narrow, well heated houses are far preferable, as one is able to walk in and work under cover. Where houses of this class are provided there is not half the difficulty in growing the crops. The first hatch of Beans will now be getting exhausted, and as soon as these are over another lot ought to be planted, as time is a consideration; those brought forward in pots should be transplanted into the beds, and others sown to take their place. Where houses are provided for growing early Peas in, the ground ought to be dug in readiness for sowing. If sown at the beginning of January the pods ought to be ready for gathering towards the end of April or early in May. Those who do not possess houses may utilise the late vineries as soon as the Grapes are cut. Span-roofed houses are far better adapted for this than lean-to ones, these being more light and a freer circulation of air in them.

Potatoes growing in pits will need careful attention in frosty weather, for if the temperature falls too low this will cause a check in their growth; at the same time a hot, close atmosphere should be avoided. Plants that require earthing should have the soil made of the same temperature as that of the structure in which they are growing. Avoid over-watering; at the same time keep the soil sufficiently moist to maintain a free growth. Should any Aphis make its appearance fumigate the plants as soon as observed. Place other sets in shallow boxes to start into growth, and if it becomes necessary to push them forward place one set in the centre of a 4-in. pot, and fill the same with soil. The pots may be stood in any convenient place where a little heat and light can be afforded them to induce a robust growth.

The Mushroom house will now be fully occupied; if not required for the growth of Mushrooms other things can be forced there. Mushrooms, however, are always in demand, and as one bed becomes exhausted others have to be made to take their place. Where sufficient material is at command this is no difficult task, but there are places where it takes a considerable time to get together sufficient material for a fair sized bed. Those who have to contend with this would do well to content themselves with

making smaller ones rather than allow the material to become stale. It will now be necessary to use a little fire-heat to keep up the requisite temperature to promote a free growth, but too much should be avoided, as this would cause the Mushrooms to be less fleshy, from 60° to 65° being ample.—*Kitchen Gardener.*

Gleanings from the World of Science.

Parrots poisoned by eating Parsley.—At a meeting of the Linnean Society of London, on November 16th, Mr. J. E. Hartig, F.L.S., communicated particulars of several cases in which Parrots had been poisoned by eating Parsley. After commenting on instances in which plants that were innocuous to man had proved fatal to some of the lower animals, he mentioned in support of the converse case that the berries of the Yew and Privet, which are generally considered to be poisonous to man, were greedily eaten by blackbirds, thrushes, bullfinches, and other birds; while, on the other hand, several cases were on record of pheasants having been poisoned by eating Yew leaves. The immunity of goats from Yew poisoning was remarkable in view of the fact that deer and cattle died after eating the leaves of that tree, although it had been stated that the ill effects were due to the leaves having been eaten in a desiccated state, and not while growing on the tree. A discussion followed in which Messrs. E. M. Holmes, Thomas Christy, A. W. Bennett, J. B. Carruthers, Revs. F. Walker and T. R. Stebbing took part.

Vascular System of Cycads.—Mr. W. C. Worsdell, F.L.S., read a paper on "The Comparative Anatomy of certain Species of Encephalartos." The chief features of the anatomy were shown to be the presence of several vascular cylinders in the stem, a character found also in Cycas and Macrozamia; and the medullary system of vascular bundles, forming, as in Macrozamia Fraseri, Miq., a complex network, intimately united with a corresponding network of mucilage-canals. The system of mucilage-canals in the pith is continuous with that of the cortex, but the medullary bundles form an independent primary system. The mucilage-canal system is probably of use as a storehouse of moisture during the dry season, when the roots and foliage die away. A younger seedling plant of E. horridus, Lehm., exhibited in the hypocotyledonary region, the transitional region between stem and root, at one point a curious large cauline, and partially concentric strand, and several smaller strands or bundles lying farther out in the cortex. These, according to the author, represented the rudiments of the outer vascular cylinders. The character of these strands and the region in which they occur (which is that where the first-formed tissues are located, and where, therefore, ancestral characters would be sure to preponderate) tend to show that the collaterally-constructed vascular cylinders were originally derived from vascular cylinders possessing a concentric type of structure such as is met with in the stems of such fossil plants as the Medullosea. In the opinion of the author the ancestry of modern Cycads must be looked for in that fossil group.

At a meeting of the Scientific Committee of the Royal Horticultural Society on the 21st ult., the under-mentioned subjects were discussed:—

Hippeastrum, species.—With regard to the specimen exhibited by Mr. Wilks at the last meeting, supposed to be a reversion from the florists' "Amaryllis," which was derived by hybridisation on species of Hippeastrum, it appears to be very close to H. stylosum, "Bot. Mag.," 2,278, introduced in 1822. It differs, however, in having white streaks instead of green on the perianth, and the stamens and style are shorter. The leaves also are narrower. Mr. Wilks observed that he has had it eighteen years, and that it is remarkable for its very vigorous growth, being also very nearly hardy. Mr. Thurn remarked that it is very abundant in British Guiana, and is so close to H. equestre that it would seem to be a form of that species.

Lilium giganteum, capsule.—Mr. Wilks brought a ripe capsule of this species, and alluded to the readiness with which it ripens abundance of seed in

various localities in this country, giving opportunities for producing varieties.

Canker on Apple Trees.—Dr. W. G. Smlth sent the following report on specimens received in October and forwarded to him for examination:—

"A specimen of this canker was received recently with a request for some information on the cause of this common trouble. The case sent I consider a typical form of canker caused by the Ascomycete fungus, Nectria ditissima. The action of this fungus in causing canker was first described by Robert Hartig (Untersuchungen aus d. forst-hotan. Institut. (Munich). I. p. 209, 1880). Good descriptions are given in the English translations of Hartig's and Tubeuf's text books, in G. Massee's recent text book, in H. Marshall Ward's "Timber Diseases," and by Plowright ("Gard. Chron.," April 19th, 1884). It is unnecessary to repeat here the details given in these works. The reasons for considering Nectria as the chief agent in the present case are:—(1) Near the centre of each of the three canker areas sent is the dead stump of a side twig, which by being pruned or broken would give the entrance to Nectria—a wound fungus; from this point the canker has spread up, down and round the still living main branch. (2) The presence of two forms of spores of Nectria. In one branch the external canker has passed over into a form of wood-rot, which is passing along the inside of the branch.

"This is one form of Apple tree canker, but is not the only form. The condition which disposes a tree to canker is a wound deep enough to penetrate the softer tissues of the bark. This may be caused by the pruning of twigs, or by their being broken or gnawed; it might also be due to a deep crack in the bark, such as one sometimes sees on trees as the result of excessive growth or internal pressure; or it might be a crack in the bark caused by sun or frost, or the killing back of immature twigs in winter. (The latter case Hartig distinguishes as a frost-canker, capable of extending each successive winter without the agency of fungi.) Given, then, an open wound, the soft tissues exposed offer a suitable substratum for the growth of fungi, bacteria, or animal organisms. The tissues of the Apple tree seem well suited for the growth of Nectria, and, when one considers the common occurrence of the fungus as a saprophyte on dead wood, or as a parasite on many trees, it is not surprising that it is the fungus which generally establishes itself. Hartig and others have proved that, having obtained a footing on the wound, Nectria is able to attack the living tissues, and gradually to bring about a canker. In the same way any other organism with a partiality for the tissues of the Apple tree may, individually or in company, be the agents in converting a wound into a canker; for instance, at least three species of Polyporus and a Hydnum amongst the Hymenomycete fungi, and, probably some bacteria.

Prevention.—No form of spray or wash is likely to give permanent results. Trees badly cankered should be removed and burnt as soon as possible. Where practicable, the canker may be cut out, care being taken to cut well into the healthy parts around; the wound thus produced should be carefully painted over with tar. This must be done in autumn or winter, otherwise the tar will not sink in. Wounds made in pruning, lopping, or otherwise, should be tarred. If the orchard is liable to canker it is safest to tar even small pruning cuts."

Apple stocks with Caterpillars.—Mr. Ballard of Colwall sent some tops of a Lord Suffield stock perforated. They had been attacked by the caterpillar of the "Wood-leopard" (Zeuzera Aesculi), some being still within it. A woodpecker had subsequently further injured the shoots by trying to extract the grubs. The best remedy is to insert a stiff wire and so destroy them.

Nests of the Rose leaf-cutter Bee.—Mrs. Biggs, of Leyton, contributed a large section of a decayed Poplar perforated all over by the borings of a caterpillar. These were now occupied by the nests of this species of bee, Megachile centuncularis.

Fog deposits on Glass.—Mr. Hudson sent a sheet of glass from a conservatory to show the large amount of deposit upon it after the late destructive fog described at the last meeting.

God gave us the flowers for our delight, and it should be one of the signs of a cultivated age to love and study them.

HINTS FOR AMATEURS.

Tulips, Hyacinths, and Crocuses which have not yet been planted are beginning to become somewhat soft, if not, indeed, really sending forth shoots. Such bulbs cannot be expected to return such fine flower spikes as those which were planted a month ago, and whose roots have since then been forming. A bulb has a quantity of starchy and albuminous matter stored in its thick leaves (or bulb-scales as you may care to term them), and this starchy matter has to be surrendered for the up-building of the new foliage and flowers. Therefore, it is not wise to delay the planting beyond this time. It may be well to point out that bulbs can still be bought for immediate planting, the prices being much reduced.

Begonias, Dahlias, Gladioli, and Gloxinias in store should be looked over once in every fortnight. When a tuber, corm or bulb begins to decay, and is in contact with others, those others are in peril of becoming smitten, the infection if not at once remedied by removing the decaying members, will eventually run through the stock. The same thing holds good with Apples and Pears in store; unless the bad ones are taken out of reach of the others the natural consequences follow, and they, too, become worthless, and are lost. By this time, however, all the Begonias and Gladioli will have become properly ripened. Whenever the chance admits some of the larger and finer tubers and corms may be selected and placed in boxes to be ready for starting in January. From this early batch fine flowering plants are developed by the month of May.

Cannas.—Various growers have shown that these can be had in perfect condition during every month of the year. At once, however, I would condemn the practice of trying to grow either these or anything else to be in bloom all the year through—by successive batches I mean. The hint of the R.H.S. Floral Committee some years ago to an enthusiastic Chrysanthemist—at least I personally know he was at that time—who exhibited a splendid collection of Chrysanthemum blooms in midsummer, was to the effect that "They were very nice, but they (the committee) didn't quite wish Chrysanthemums in bloom all the year round." But in reference to the Cannas, what I want to say is that they come in very nicely with the Begonias during May, and they have the advantage over the equally brilliant Azaleas and Rhododendrons, that their spikes can be cut for decorative purposes, and by care one can still rely on having fresh spikes from the same tubers during the following season. We cannot cut the shoots of Azaleas or Rhododendrons at random.

Chrysanthemums.—The very serviceable and loveliest of all decorative Chrysanthemums—the singles—are just at this time in the pink of perfection. Numerous lists have been given in one or other of the descriptive articles in THE GARDENING WORLD on the various nurseries which its representatives have visited, so that names need not be repeated here. The singles and the market varieties, the latter so called because that market men like them and grow them because of their distinct colours and lasting qualities, are far more to be recommended than are the large flowering varieties of the Japanese section.

Difficulties frequently arise in the striking of cuttings, even after all that can be given in the way of written hints. I had experience of this only a day or two ago. A friend of mine who went to the expense of erecting a greenhouse specially to grow Chrysanthemums in, and after having bought cuttings of a couple of dozen varieties, was chagrined to find that only one became a rooted plant. He had abundance of hints in his gardening paper. Yet there he was. I hope he may be successful with his "pets" this year. One point in which the amateur errs oftener than with others is in making his cuttings too long. Some amount of judgment should be exercised in this decision. As a rule, short and moderately firm cuttings succeed best. Cuttings do not require much water until they have begun to root, which under favourable conditions will be from twenty-one to twenty-five days.

Cinerarias.—At this time these are just coming into bloom. Those which are expanding may still be treated to a very little weak manure. Quick acting artificial manures, such as Clay's or Canary

Guano, are much to be preferred to natural manurial liquid. It will generally be found that plants which have been grown firmly, not stunted, but stout and hard, with strong, dark foliage, these throw up, if not the largest, at least the best formed, and prettiest flower heads. Small pots, then, are safer and better than large ones. Cinerarias are in some gardens successfully grown by being planted out during the summer, just as Chrysanthemums, Callas, &c., are planted, and lifted at the end of September for potting up. Not having tried this practice myself, I can only give it as it was expressed to me by a reliable craftsman.

Arum Lilies.—All who love and grow plants, like to have a few pot Arums. The foliage is the only part of their beauty which we have at present to enjoy, but this of itself is beautiful. If the plants are in dwelling-rooms, keep the leaves clean and free from dust. Not only does this aid their appearance, it also is necessary toward their well-being. Here again, small pots with rich soil, firmly pressed, are more advisable than very large pots.

Potting.—The instances already noted, *re* that of small pots for the Cinerarias and for the Arum Lilies, directs the attention to the necessity for giving a few special hints to the subject. Not yet a while will the annual re-potting, potting-on, or top-dressing of the permanent greenhouse or stove plants be done, but there is always a little potting under way, and it seems well to say, that in all cases, without exception, it is far safer and better to adopt the small shift system. Amateurs are placed doubly at a disadvantage as compared with professional gardeners, because while the latter have many more conveniences and have the skill which the amateur, whose garden-work is only as a recreation, does not possess, they also have their whole time and attention to give to cultural details. If a gardener gives a plant, or a batch of plants, too large a shift, his skilful after-treatment in providing a pleasant and proper temperature and in the watering—upon which so very much of all cultural success depends—generally saves the stock from anything more serious than a short check, and slower progress of growth. Then shift step by step, potting moderately firm to start with, and when the plants are of a size to require, say, 6-inch pots, space should more or less always be left at the top for later top dressings.

Primula floribunda.—Those who have not seen nice plants of this sweet little Primrose can form no just conception as to its beauty or value. It is one of the freest and most persistent of flowering plants that I am acquainted with. Everyone should endeavour to see it. A sowing at this time is hardly natural or reasonable. Delay the act, then, until signs of longer days begin to be apparent. Shallow pans, filled with a friable compost, and the seeds merely sprinkled over the firm surface, then slightly moistened by immersing the pan nearly to the rim in a tank of water, and afterwards placing a sheet of glass over the top of the pan, are the only items to occupy the attention. A warm propagating case will be the most suitable place in which to plunge the pans.

Lobelia.—The plants which were lifted from the flower-beds and potted at the beginning of last month are very liable to "damp off" from various causes. The chiefest source of destruction is moisture around the collars, combined, at the same time, with a close and damp atmosphere. A dry, but, of course, not too cold atmosphere, is the surest antidote to any deleterious cause. All "damping off" is affected by the growth of a fungus, microscopic in its dimensions, and minute in its unitary actions, and the first named conditions are just those in which this fungus delights; but of this we may say more at a later date.

Strawberries for forcing may be put into frames with a packing of leaves or cinders between the pots. I read recently of a gardener, who, being scrimped for space, built his pots with Strawberry plants in them in tiers by laying them on their sides in rows, leaving 2 in. space between each row. Other rows of pots were then stacked on the top of those first laid down, and so on row after row till they mounted high and became narrow at the top. Sifted coal ashes, of course, were all along banked in, over, and about the pots and the plants. The system has been quite successfully adopted by others besides him of whom I speak and with satisfactory results.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Hardy Ferns.—*"West of Scotland"*: Hardy Ferns are best when divided in early April. Cut the edges of the split sections cleanly, and plant in a moist, humic soil in a well drained sheltered station.

Tomatoes.—*Epicure*: We would not advise you to make a sowing until the month of February at the earliest.

Rhododendrons.—*Abovist, Wales*: Notch the lowermost shoots or branches of your plants and peg them down. First of all bend the shoot to the ground, when you will see the most suitable part at which to make the incision, which must be kept open. Place some light soil around the notched part after pegging.

Chrysanthemums as Bush Plants.—*J. S.*: We shall endeavour to furnish a few necessary hints in one complete article. Thanks for your suggestion.

Storage Cellar.—*J. Ingram*: Any cool, dark and dry shed will do quite as well as the cellar you have described. The cause of your Beet having become flabby more than likely is the result of incautious lifting. Bruised Beet is of little good, or Beet in any way "bled," is much impaired.

Mixing paint and painting.—*J. Worrell, Gorgie*: It is not the vapours from the paint, unless, perhaps, turpentine was a strong element, which harmed your neighbour's plants. The cold draughts of air during the renovations most likely were to blame. Anyone can paint a greenhouse, given the liquid. We have seen white and other coloured paints mixed, but do not assume to be experts in the art. For white paint secure a quantity of soft white lead, a cask of sperm oil, and another of turpentine. To make sure about the quantities of each to use in mixing, consult a local painter.

Dried Fish Manures.—*Dealer*: Thousands of tons of fish manure are annually manufactured in this country. The heads, offal, and bones of fishes, particularly those from which Codliver oil is obtained, are ground to a fine powder, which by itself supplied nitrogen and phosphates. Kainit (potash), can be mixed in a certain proportion so as to add the other "leg" to the tripod—the golden tripod as it has been termed, seeing that nitrogen, potash and phosphates are always necessary for plant life. Fish manure should be applied at the rate of three to five cwt. per acre, or from $\frac{3}{4}$ to $1\frac{1}{2}$ oz. per square yard, lightly forked into the soil in early spring or while the crops are still young.

Schizanthus pinnatus.—*O. Seward*: Sow as advised some time ago, and by steady treatment flowering plants will be yours in ten or twelve weeks' time.

Wood Ashes as a dressing.—*M. L.*: Wood ashes as a dressing have much to recommend them. They supply potash to the soil, and have a mechanical effect on heavy soils in so far that they make them more workable. They also are in a small way deleterious to the progress of slug and insect pest development. As a dressing for lawns, with some lime and fine soil added they are to be recommended.

Cob Nuts.—*Herts*: The difference between Cob Nuts and Filberts is, that in the Cob Nut the husk does not entirely cover the nut, whereas it envelopes it in the case of the Filbert. The bushes like a warm and rich soil, and should be planted at a distance of from 12 ft. to 14 ft. apart. The after treatment consists in forming a good open head and in keeping up a supply of sound fruiting shoots. Do not prune them until just after the flowering period, which is in March.

Iris laevigata.—*R.*: The Japanese Iris, and also known as *I. Kaempferi*, is cultivated in Japan by the gardeners there as a marsh-loving or sub-aquatic plant. British husbandmen find it to flower more largely and in better form as a true aquatic. At

Kew it can be seen growing in an open air brick built tank. The flowers are very handsome with a depth of the most beautiful of chiefly blue and white shades. They succeed in a peaty loam compost, and when once planted, which can be now or in spring, they do not like to be disturbed.

SPINFIELD, GREAT MARLOW.

HAVING heard much of Spinfield, the beautiful residence of R. Hay-Murray, Esq., near Marlow, I had an opportunity some time ago of spending a pleasant evening in company with Mr. Thos. Blackmore, the genial and successful head gardener there.

The mansion commands a fine view up the Thames valley, and is situated sufficiently high to clear the

newer hybrids. A fine variety of *Cattleya gaskelliana* bore evidence of the highest culture; indeed, the whole collection was in the best of health. There were many other varieties and species too numerous to mention separately.

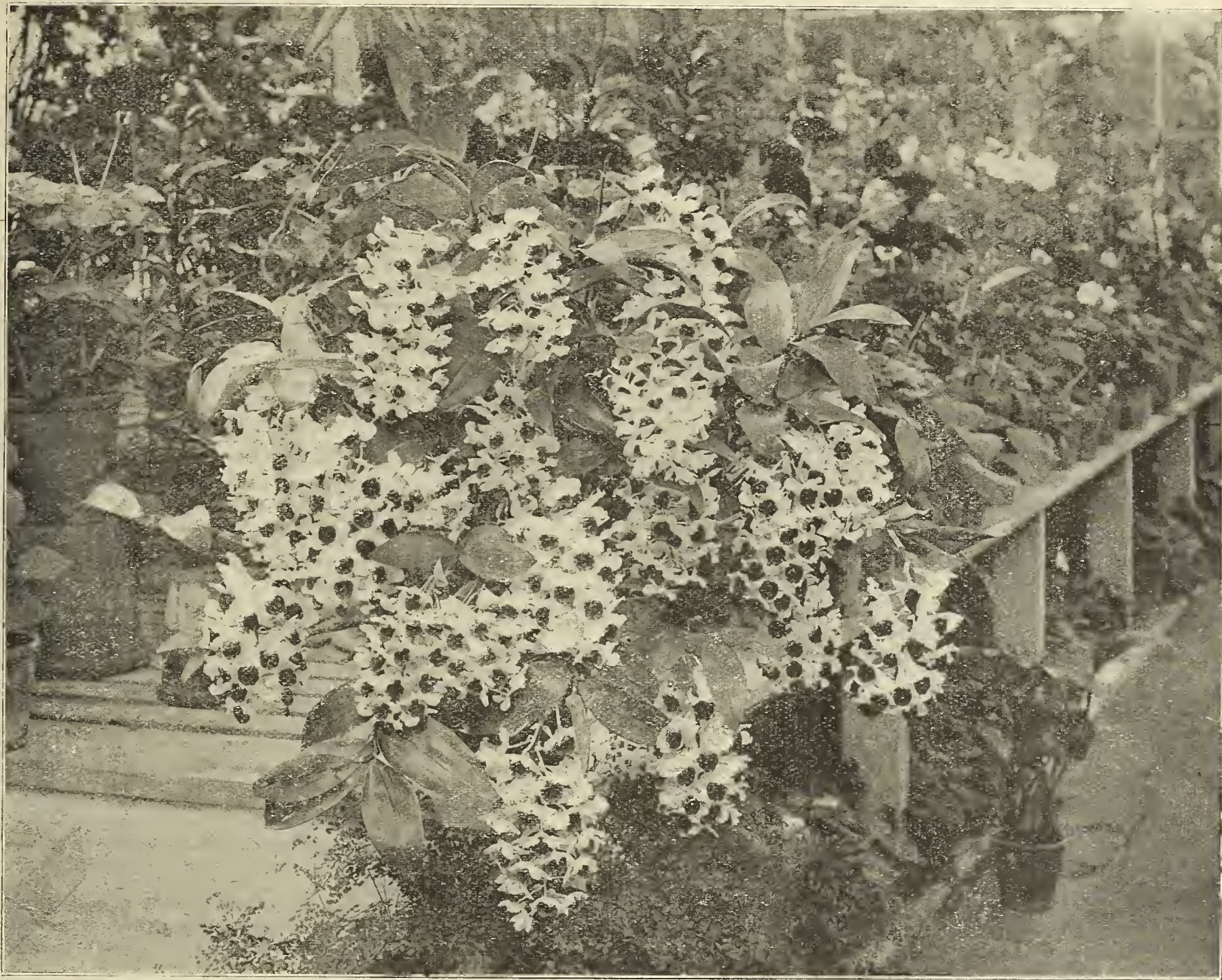
The Croton house was full of healthy young stuff, *Warrenii* being in good form. Mr. Blackmore is an adept at Croton culture; and a handsome specimen of the variety *Superhum* will doubtless adorn the stages of the local horticultural show soon, where for several years the exhibits from Mr. Murray's establishment have practically carried all before them. Specimen Palms, Ferns, and other stove subjects were all well grown. Carnations are largely grown for indoor decoration; also pot Roses, the hybrid perpetuals being mostly favoured. Large specimens of *Hydrangeas* were making a fine show—as was also

CHRYSANTHEMUM NOTES.

EARLSWOOD NURSERIES, REDHILL.

FOR years, Mr. W. Wells, the central pillar of Messrs. W. Wells & Co., Ltd., of Earlswood Nurseries, Redhill, Surrey, has been of great assistance to many of those interested in Chrysanthemums and the manifold side issues which the study of this "golden-flower" implies. Acting upon his own motto, which most of our readers no doubt have seen, "One customer well served is equal to ten advertisements," Mr. Wells has become more fully recognised, and more frequently referred to as one of the most eminent of present day introducers and cultivators of the Chrysanthemum.

Each year the list of varieties is put under consideration, the really old and now unknown



DENDROBIUM THYRSIFLORUM AT SPINFIELD, MARLOW.

frequent fogs that overhang the valley in winter and spring. Mr. Murray takes a keen interest in gardening, and spares no expense evidently to have everything of the best, and at the time of my visit many were the interesting objects both inside and outside. The Orchids were first inspected and a healthier lot of plants of various species would be hard to find. The collection is varied but the *Dendrobiums* were in specially fine form. On a single plant of *D. thyrsiflorum*, I counted as many as twenty-eight racemes of flower; and the plant was the very picture of health and good culture, as will be seen from the photograph figured here. The variety *D. nobile* had also made fine growths as well as the beautiful *D. wardianum*.

Cypripediums were in good force, some fine plants of *C. insigne* being noted, as well as many of the

the beautiful *Streptosolen Jamesoni*, with stems 2 ft. high, as standards.

The vineries contained a good crop of bunches. *Madresfield Court* here gives little or no trouble as regards cracking, and is much favoured as a black Grape. A fine house of Peach and Nectarine trees was carrying a heavy crop; especially fine was *Princess of Wales Peach*.

The kitchen garden was well cropped, and herbaceous plants are grown in large quantities, and in fine variety in this department. The shades of night were fast drawing on us and we had reluctantly to postpone to a future time further inspection of this beautiful and well kept establishment.—*Jas. Dinning.*

Gardening is the art by which Nature is made to improve her own productions.

varieties being times and again replaced by the newer proved varieties. Thus it becomes a matter of importance to secure the yearly list. He has applied himself to the securing of all that is choicest of the newly raised Continental and even far away Australian novelties. The system in vogue between Mr. John Pockett, Australia, and Mr. W. Wells, England, is for the latter to send plants to the Antipodes, whose drier climate is far more suitable than our own for seed saving purposes. This latter operation having been fulfilled there and the seedlings tried, Mr. Pockett packs off to Mr. Wells all the varieties, which, as seedlings with him, seemed to have "something in them." When brought here they require two years to acclimatise, so that from first to last no pains are spared to do things well. Having had a turn through the con-

servatories during the blooming period some of the newer varieties for the coming season might well be brought before our readers.

For those of the "WELLS-POCKETT" strain, the catalogued descriptions are meagre, yet this is a safe plan, for it would be utterly false to give glowing descriptions to young stock coming from Australia direct to England. These have now been tried for a season so that their characters with us are pretty certain. Toorong is our first choice. The form is after the Globe d'Or type, the habit capitally dwarf and most vigorous, the flower being of a deeper yellow and firmer build than that of the above named. Yellow Good Gracious it is almost certain, will soon be found in every up-to-date collection. Good Gracious itself was striking enough, but in this novelty the twisted florets are finer and lend a charming quality to the bloom. Then Meredith may be selected. In this we have an enormous bloom of a clean terra-cotta colour with golden suffusion. The strength of the blooms seen even on the late struck plants, grown in small pots, was quite remarkable. It is sure to satisfy the most fastidious tastes. To add yet three more from this group the names of Lady Clarke, Sir W. J. Clarke, and Lord Brassey, may be noted. Lord Brassey, by the way, is a very large and handsome flower of crimson and old gold colours.

M. E. Calvat's novelties are strongly represented in the Earlswood collection. Many of them are very promising, others are not so brilliant, while yet a certain few have been weighed in the balance and have been found wanting. Among the finer introductions from this source, which it may be well for cultivators to enquire after, is Lydia, which Mr. Wells announced when his list was published, as "not doing well." Like the seedlings of the herbaceous Calceolarias however, the finest blooms come ultimately from those which were delicate and refined in the early stages. Delicacy is not the failing with Lydia, the variety is not weak, but its wants require to be known. The colour of the flower is an exquisitely soft, but perfectly decided lilac, or lavender-rose tone, and the blooms are strongly built; the habit is also good. Mdle. Delaire is well described as a rosy-pearl incurved Jap, the florets of which are slightly hairy, a point which adds something to its merits. In W. Wells we have not an ideal bloom, for it comes, at least so far has come, rather too dense, but the colour is good—a bright gold. Among other continental novelties the richness of Francois Filon, a deep golden-yellow, left a favourable impression. Margaret L. Silhol which grows rather tall, is all the same a lovely, pure white, Jap. This, along with Sir H. Kitchener, Sir J. W. Clarke, Miss Lucy Cheeseman, Lord Salisbury and other recent novelties was shown in capital form in the Drill Hall, Westminster, on November 7th.

Taking just a skip here and there through the general collection of Japs, the following really splendid varieties cannot be left unconsidered:—Amiral Avellan, rich golden-yellow, Annie Prevost, pure white; Chatsworth, white, suffused with pink, the recurved petals curving up at the ends; Col. W. B. Smith, golden-bronze, suitable for any purpose; Eastman Bell, a crimson sport from President Borel; Emily Towers, which proved to be one of the finest large lilac-pink varieties of the season; Etoile de Feu (fiery star), a rich gloriously and brilliant combination of hues, a splendid variety for cutting purposes; Helen Shrimpton, rosy-crimson tipped with deep yellow; Henry Weeks, H. J. Jones, Hero of Omdurman, Hon. W. F. D. Smith, all of various depths and shades of crimson, and all of such merit that one cannot be chosen without the other. Mdme. Louise Kemp, a pure white, sport from Mrs. Harman Payne; Mrs. Coombes, a large bloomer, and of a deep rosy flesh-pink; Mrs. W. Seward, one of the finest flowers there is. The upper surface of the petals is of the brightest crimson, while the reverse is rich gold. Lili Boutroy, Little Nell and Lionel Humphrey are all good. Mrs. White Popham, R. Hooper Pearson, and Wattleblossom are likewise of the first merit.

Though incurved varieties are not so strongly represented, yet we cannot omit to mention C. H. Curtis, Hanwell Glory, Duchess of Fife, Mr. A. E. Stubbs, Mrs. H. J. Jones and President Bevan. The single varieties, and those suitable for market, are in larger stock here than in most other collections. Taking a look in upon the ever beautiful and useful

singles, we noted Admiral Sir T. Symonds, large deep yellow; Carrie Wells, crimson, with gold reverse; Disraeli, a beautiful primrose shade, very fine; Earlswood Beauty, also very fine; Christmas Cheer, pure white; Elsie Neville, large crimson; Gladys Foster (see p. 183 of THE GARDENING WORLD); Gus Harris, Mayblossom, Miss Crissy, Lady Windsor, Poinsettia, Purity, Rose Pink, White Eye, and Yellow Giant. These in their various sections though hurriedly and scantily noticed may in all freedom be recommended as some of the best of present attainments among Chrysanthemums.—H.

THE FRUIT CROP OF 1899.

(Concluded from p. 215.)

PASSING on to Plums, these were somewhat patchy in the Midlands, some localities having practically no fruit at all whilst others had a very fair crop. It is, I know, the custom to lay the blame of all failures upon spring frosts, but mischievous as these undoubtedly are, I think that much loss is charged to them of which they are in a great measure guiltless. What I mean is this, when trees are suffering from an overcrop the previous season, and oftentimes also from a lack of manure, the blossom is more easily damaged by spring frost than would have been the case had the trees been in more robust health. I noticed particularly this year that the Plum and Damson bloom at Chilwell was almost entirely destroyed, whilst at Lowdham, thirteen miles away, in the same valley, with the same climatic conditions, and what seems an exactly similar soil, the trees were well loaded, in fact many Victorias had to be supported with props to prevent the trees being broken. I have purposely said "what seems to be an exactly similar soil," for although the soil is on the same geological formation and to all appearance is as much alike as possible, I believe that some difference exists (which possibly a chemical analysis would show), and that this difference in the constituents of the soil is the main cause why one village is essentially a Plum district whilst the other cannot lay claim to be anything more than a fair-weather locality for Plums. It may illustrate this point more clearly if I state that for twenty years we never saw fruit upon young nursery trees of Pond's Seedling, at Chilwell, whilst this year, at Lowdham, although an unfavourable spring, three-year feathered standards were roped with fruit; also untrimmed standards of Brussels and Brompton Plums, used for stocks, carried fruit, which I have never seen any but old-established trees do at Chilwell.

Our neighbours made an excellent price of their Plums and Damsons, the latter realising the comfortable price of 3s. per peck of 18 lbs.—in 1877 we sold Damsons at 11s. 6d. per peck, but the crop was so thin that they did not pay very well even at that price. Speaking of pecks, is it not absurd that although these measures are supposed to be abolished, each local market, not to leave out London which heads the list in these absurdities, has its own terms of pecks, bushels, baskets, sieves, pots, and whatnot, the meaning, or rather weight, of which not one person in a dozen living in the district understands, and still fewer out of it? For example: a housekeeper in Nottingham buys a peck of Potatoes and receives 20 lbs. If she weighs her purchase and subsequently buys a peck of Pears or Plums she thinks they are short weight, because they only weigh 18 lbs. a peck, Apples 16 lbs., Black Currants 14 lbs., Beans 9 lbs., Peas 8 lbs.

What idea do these quotations of pecks, pots, and others, convey to the intelligent grower in another county who is trying to study our market's prices? Our old-fashioned tons, hundredweights, quarters and pounds, are somewhat cumbersome as compared to the metric system of our continental neighbours, but these local measures and weights for fruits, corn, and other things, are "confusion confounded."

Pears this season were generally a failure, and the French producers must have had a good time if they received anything like a share of the 2½d. each for which very ordinary Williams' Bon Chrétien were retailed in our shops. Strange to say, as soon as home-grown fruit came in (certainly within a fortnight) better Williams' Bon could be bought at 3d. per lb.; what a profit to the grower would have resulted from the use of a tiny bit of thin blue paper wrapped around each fruit!

Apples in the Midlands have been almost an

average crop; some varieties, indeed, have produced a heavy crop. I wish someone who has the time to study such things would tell us why certain varieties almost always pull through the worst of spring weather, whilst others alongside, in bloom at the same time, quite as constantly succumb. One of our leading nurserymen once told us that the hardy varieties were those in which the petals were incurved, but the little observation I have given to this point does not quite bear this out, and I think the reason is still to seek.

If there is one fact which stands out more prominently than another in respect to the fruit crop of 1899, it is that the British gardener can, despite the weather, produce a sample of hardy fruits which it would puzzle any other portion of the world to excel. Every visitor to the Crystal Palace Show must have been amazed to find that, with all the talk of failure of crops, cold, ungenial spring, and burning, droughty summer, the fruit exhibited was really splendid. When one tries calmly to carry one's mind back to the Apple and Pear Congress of 1888 and the samples of Apples and Pears which were then exhibited and considered good, one cannot but marvel at the enormous progress which has been made in the production of fine fruit. I venture to say that many market samples from young and well cared for orchards of to-day are far superior to the picked fruit which was exhibited at the Conference in 1888.

It would be difficult to exaggerate the value of the Apple and Pear Congress, the great Guildhall Show, and the subsequent Crystal Palace Shows from an educational point of view, and I am sure you will agree that the effect they have had in stimulating growers to produce better fruit has been simply marvellous. To many visitors at the earlier shows the fruit exhibited was a revelation; they had no idea such fruits could be produced in the open, still less had they any thought that such fruits could be grown anywhere except in favoured Kent and Devon; and yet to-day the Midland exhibitors stage fruits superior to the best seen in 1888, whilst our friends from Maidstone, Exmouth, Bassaleg, Hereford, and other places have made still further progress in excellency.

This march of progress is a matter of congratulation to all, for it is undoubtedly only by the production of fine fruit of high quality that we can hope to command our home markets, or to make fruit growing a commercial success. That our exhibitors can much improve upon the results already obtained with our present varieties of fruits we can scarcely hope, nor can we expect that market growers can quite attain the high level at which our friend Mr. Woodward, of Barham Court, stands; but some of them are close upon his heels, and when one looks back upon the market samples of fifteen years ago and tries to compare them with the best of to-day one can but rejoice. I say the best of to-day, for unfortunately there is still a fearful amount of rubbish sent to market, but its day is over, and it must soon be a thing of the past, from the simple fact that the public will not buy it at any price, and the only market open for it is the "smasher," by which term I suppose you will recognise the jam maker, who uses these small fruit as a basis upon which to make several kinds of jam, which are not always sold under the name of Apples. Our local growers have been making from 40s. to 55s. per ton of small Apples sent to the jam factory, but they do not like the price, and many of them are now planting orchards of bush fruits on cultivated land, and intend shortly to lay to the axe in the old orchards to provide some Christmas fuel.

I must apologise for having wandered somewhat from my subject, but I have been preaching improvement in fruit growing for so many years now that I find it difficult to keep away from a matter which is, after all, slightly connected with the fruit crop of 1899, nor can one help rejoicing when one sees the improvement which has been already effected, for the question is one of no mean importance or narrow bounds.

Seeing that during the past fourteen years we have imported no less than 55,727,756 bushels of Apples, valued at £15,726,476, the question is of some importance financially, especially when we see that the imports are rapidly increasing, and that the average price is higher during the latter half of the period than it was during the first seven years. This shows that the taste for fruit is increasing; a fact which is

hopeful for the grower, and of great importance to the health of our people, for all medical authorities are agreed that fresh fruit is most beneficial to health, and is especially needed by the dwellers in towns and cities.

But the question of improved fruit culture does not end here, for if the industry of fruit growing can be made to pay in the future, as it most undoubtedly has done in the past, I know of nothing which will help to solve the difficulty of making the land reproductive to the capital and labour bestowed upon it, and of inducing men to live upon it and make their homes in the rural districts like this same fruit culture. I find nowhere such thriving villages in districts not dependent upon manufacturers as those in which fruit growing is extensively carried on, and if only for this reason this matter is of national importance. We see tracts of land in the Highlands of Scotland which once maintained a sturdy race of cottars, nearly all of whom sent a member to our Highland regiments, now, alas! cleared of human habitations and sacred to the grouse or red deer; we see thousands of acres of land which in our younger days was in cultivation and maintaining a contented and healthy population, now laid down to grass, and we ask ourselves the question, Whence are our great towns and cities to receive fresh blood and sinew, whence shall come our future stalwart soldiers? I know not, unless it be by the help of fruit growing, market gardening, and all kinds of small culture, and this is why I say this is a question of national importance.—*Mr. A. H. Pearson, Chilwell.*

A very valuable discussion followed the reading of the paper, in which Mr. George Bunyard, Mr. Monro, Mr. Alfred Rivers, and others took part.

NATIONAL CHRYSANTHEMUM SOCIETY.

ANNUAL DINNER.

THE annual dinner of the National Chrysanthemum Society was held in the Venetian Room of the Holborn Restaurant, London, on the 29th ult., when about 130 of the members and their friends sat down to dinner. The chair was taken by P. Waterer, Esq., F.R.H.S., F.N.C.S., the chairman of the general committee. Amongst those present were the Rev. B. Staunton Batty, Mrs. Waterer, Miss Easterbrook, Miss Dean, Mrs. Witty, and many other ladies; also Messrs. Thos. Bevan, C. Harman Payne, Richard Dean, J. R. Cholmeley, H. J. Jones, J. H. Witty, James Wood, W. H. Berry, J. W. Moorman, J. F. McLeod, Dean, Junior, Robert Fife, J. T. Simpson, D. B. Crane, Robert Sydenham, M. Gleeson, John Russell, John McKerchar, J. George, R. Hooper Pearson, C. H. Curtis, Greenwood, J. Fraser, and others.

After dinner the loyal toasts were proposed and received with great enthusiasm. Soon after this the Chairman rose to propose the toast of the evening, "The National Chrysanthemum Society," and said they were still popular with various Continental societies, including those of France, Belgium, Germany, Portugal, and even Denmark, the latter recently wishing to become affiliated with the N.C.S. Delegates would be asked to go to Paris in 1900 on the occasion of the Chrysanthemum show and conference there. He referred, in feeling terms, to the death of M. Henry L. de Vilmorin, which was a great blow to France as well as to his friends here. The visitors to the French and Belgian shows from this country were always treated with great hospitality. Coming nearer home, he said that there had been some dispute over medals sent to the affiliated societies, but steps had been taken to remedy the matter; and then none would be happy till they got a N.C.S. medal.

He referred also, with much pleasure, to the great success of the vase competition at the November show, and which was a decided feature of the same. The society was much indebted to Mr. H. J. Jones and Messrs. Green and Nephews for the success of that competition. Last year he himself offered £5 for the best essay on the "Rust of Chrysanthemums"; and he promised to repeat his offer next year for a display of decorative Chrysanthemums, with blooms not over 3-in. in diameter. He also promised to give special prizes to the wives, sisters, and daughters of exhibitors for displays of decorative varieties.

In the absence, through illness, of Mr. C. E. Wil-

kins, the treasurer, "The Donors of Special Prizes" was proposed by Mr. R. Fife, of Messrs. Dobbie & Co., and this was replied to by Mr. H. J. Jones, of Lewisham; Mr. James Wood, of Messrs. Wood & Sons, Wood Green, N.; and Mr. J. T. Simpson. Mr. Jones said there was no more noble sight than the first three prize lots in the vase class, in which a total of 540 blooms competed for the four prizes. Mr. Simpson thought that every member of the society might give a special prize, however small. The Chairman here announced that Mr. Jones was to renew his special prize of £20.

Mr. W. H. Berry, proposed the "Affiliated Societies," and made reference to the winning of the Challenge Shield by the Portsmouth society. He suggested that all previous winners in the societies' competition should compete in one year, and that the winning one should receive the Shield. The Portsmouth Society was almost second to none in the country.

The Chairman at this point presented the leading prizes to the winners, Mr. W. H. Berry receiving the Challenge Trophy for the Portsmouth society; Mr. F. Vallis, Chippenham, the Holmes Memorial Cup for forty-eight Japanese blooms. Other winners of Cups, Medals, &c., were Mr. Edwin Beckett, Mr. J. W. McHattie, Mr. W. H. Lees, Mr. W. Higgs, Mr. W. Aldridge, Miss Easterbrook, Mr. E. Jones, Mr. J. Agate, Mr. H. J. Jones, Mr. Norman Davis, Messrs. B. S. Williams, Messrs. Wm. Cutbush & Son, and others. Mr. Robert Sydenham promised to give another Cup for vegetables next year.

Mr. V. B. M. Zanchi proposed the "President, Vice-Presidents, Officers, Auditors, and Committees of the Society." He said that all put their heart in their work, and as a consequence the society was progressing from year to year. Mr. Thos. Bevan replied, saying that the work of the Floral Committee was interesting and useful; that the finances were well to the good with something to spare, and hoped that England would be well represented at the grand exhibition in Paris, on October 23rd, 1900. Mr. J. R. Cholmeley also replied, saying that the finances of the society were good, and hoped they would improve from year to year and never go back. Mr. R. Dean replied very briefly.

Mr. C. Harman Payne proposed "The Chairman," giving some of his experiences on the Continent, and stated that the chairman there was not exactly in the same position as a chairman here.

The Chairman replied, and then proposed the "Visitors," stating that he had invited some strangers in the hope of adding to the membership of the society. To this the Rev. B. S. Batty replied.

Mr. J. W. Moorman proposed the "Press," and Mr. R. H. Pearson replied. At the recent grand competition, the Chairman stated that 2,241 Japanese blooms had been shown; 618 incurved, 240 Anemones, 48 Anemone pompons, 84 pompons, 36 reflexed, and 42 singles, making a total of 3,309 blooms in all.

GARDENING MISCELLANY.

"THE SISSEY" APPLE.

MR. BASHAM, in his lecture before the Fellows of the R.H.S. on the 21st of the November, mentioned the above Apple as being a very great favourite with growers in his own county of Monmouthshire. The variety has been shown at some of the larger fruit exhibitions where it made a favourable impression on pomologists. "The Sissey" as a name seemingly did not appeal to those who were strangers to it; so at an important show, and by an authoritative body it was named "Monmouthshire Beauty." But just as the Boers do not like to have their little ways altered—or Britains either for that matter—the minority away in the South Welsh lands did not agree with the change, and have not taken kindly to it. So here you see how synonyms and confounded confusions arise! But referring again to the Apple, Mr. John Basham told its history. It was briefly this:—It was raised from seed by a labourer (we are indebted to labourers for not a few good Apples) a century ago, who resided near the town of Monmouth. The variety won great renown, and in good heartedness its raiser, whose name I have not,

distributed grafts to his fellow-workers and neighbouring friends. Upon his death his sister continued to distribute the grafts as he had done, whereupon they became known as "The Sister's Apple," and latterly as Sisseys. The samples shown by Mr. Basham at the Drill Hall, very fine, of an even, moderate size, smooth skin and beautiful rosy colour.—*H.*

CHRYSANTHEMUM SHOWS.

DUNDEE.—Nov. 23rd, 24th, and 25th.

(Concluded from p. 221.)

IN our last week's issue we made no mention of the miscellaneous exhibits which are always a feature on the side tables at the Drill Hall, Dundee.

A Gold Medal was awarded to Mr. Norman Davies, Framfield, Sussex, whose magnificent exhibit of Chrysanthemums was admitted on all hands to be the most effective and imposing display in the show. Bold and massive vases of blooms, in all the brightest, as well as the whitest, of the varieties of Chrysanthemum, were set up with boughs and sprays of autumn-tinted foliage of trees and shrubs. These were exhibition blooms, but there was a fringe of decorative varieties, which also added to the general display.

Messrs. Laird and Sinclair, High Street, Dundee, are always present at these shows, and vary their exhibits considerably. On this occasion they had a beautiful display of wreaths, crosses, and various floral devices, backed up with foliage plants for effect.

Messrs. W. Wells & Co., Earlswood Nurseries, Redhill, Surrey, had an interesting and most attractive collection of Chrysanthemum blooms, grown to the splendid proportions usually seen from Earlswood. Several of the blooms were unique.

Messrs. Storrie and Storrie, Dundee, brought up from their nurseries, at Glencarse, a collection of fruit and fruit trees, which should encourage a revival of the culture of Apples in the Carse of Gowrie. Mr. Dingwall, gardener to Sir Henry Campbell Bannerman, Belmont, also staged a collection of Apples.

Mr. Robert Grossart, Clarendon Park Nursery, Dundee, had, as usual, a table of decorative Chrysanthemums and floral devices. The gate-money taken on the opening day was well ahead of that for the corresponding date of last year, so that the Society is to be congratulated on its general prosperity.

Mr. John Forbes, Hawick, Scotland, exhibited a little group of his now well-known Begonia Caledonia, a white sport from Gloire de Lorraine, differing only in the colour of the flowers.

ABERDEEN.—November 24th and 25th.

THE show this year in the Art Gallery Buildings, Aberdeen, has proved more successful than any show of previous years, there having been an increase of ninety entries over that of the year 1898, when the number stood at 550. The growers away here in the north are beginning to catch the Chrysanthemum fever rather strongly. Such a "fever" is by no means to be regretted or suppressed.

The groups of plants arranged for effect proved to be one of the strongest features of the show. Mr. John Proctor, gardener to Sir William Henderson, Devanha House, Aberdeen, had one of the handsomest groups which have been seen for a long while. Mr. Mason, of Albyn Place, was awarded first prize for his arrangement, which was the best of the smaller groups.

The cut flowers were remarkably fine for the north, so good, indeed, that a connoisseur in all 'Mum lore, declared that the first prize collections for twenty-four and one dozen blooms, were as fine as any he had seen during the season. Bravo! then, Aberdonians.

Orchids were splendidly shown by Mr. Grigor, gardener to Alex. O. Gill, Esq., Fairfield House, Aberdeen, he having fine samples of Cattleyas. Mr. Cornwall stood high with his batch of Angraecum sesquipedale. One point on which the amateur gardeners may be justly proud, is that in which Mr. Tough, of Great Western Road, showed a pot Chrysanthemum which was admittedly superior to any shown by the professionals. Mr. Paterson's collection of six varieties was of a high order of

merit. The trade exhibits, as usual, filled up a large part of the exhibition, and the visitors were under some obligation to this class of exhibitors for the pains they took in presenting their best for notice. Lord Aberdeen performed the opening ceremony, and among those present were members of the neighbouring aristocracy, M.P.'s, and gentlemen in various offices, the Town and County Council, with their wives and lady friends. Mrs. Bryce presented the prizes to the winners in the more important classes. Various speeches referring to the society itself, to Chrysanthemums, and to horticulture in general, were given by various gentlemen. Mr. Bryce winding up his address in a pleasing manner by reference to the universality of Scotch bankers, Scotch physicians, and Scotch gardeners. Below will be found a list of the winners in the more important classes:—

POT PLANTS: OPEN.—The winner for the large group has been already noticed. Coming in as second in the same class was Mr. J. Robertson, gardener to A. J. T. Cumine, Esq., Ferryhill House, Aberdeen. For a semi-circular group arranged against a wall, Mr. R. Mason, of 38, Albyn Place, was first; Mr. G. H. Fyfe, 5, Thistle Place, being second. There were three entries for three varieties of pot Chrysanthemums, the first prize falling to Mr. Masson; Mr. J. MacDonald, gardener to Mrs. Crombie, Balgonie Lodge, Aberdeen, coming next him; and Mr. J. Robertson, third. The order for one specimen was Messrs. R. Masson, J. Robertson, and A. McLeod, Ardbeck House, Milltimber.

For two Palms, G. A. Cornwallis, Esq. (gardener, Mr. J. Johnston), Howburn Cottage, was awarded both the first and second prizes, and likewise so for two Ferns. For three Cinerarias, Mr. Alexander Grigor, of Fairfield House, was first; Sir David Stewart (gardener, Mr. James Elder), Banchory House, being second.

CUT FLOWERS.—For twenty-four blooms of Japanese Chrysanthemums in at least a dozen varieties, all to be named, the first prize was well won by Sir T. Burnett, Bart. (gardener, Mr. J. Fraser), Crathes; Mr. F. Fraser, of Tillery, was a capital second; and Mr. Elder a close third. The competition for a dozen blooms in six varieties fell to the honour of Mr. John Pirie, The Gardens, Strichen House; second, Mr. W. Morrice, Mount St. Ternan, Banchory; and third, Mr. D. MacDonald, Willowbank.

For twelve incurved Chrysanthemums in six varieties, Mr. A. Grigor once more was strongest. Mr. J. MacDonald was first for six varieties of incurved. Four varieties of single Chrysanthemums in six bunches were staged by Mr. A. Grigor, who secured first and second prizes. There were seven entries for three blooms of any white Japanese variety, Messrs. John Pirie, Frank Fraser, and J. Fraser were arranged in this order.

Mr. Andrew Reid, gardener to H. R. Baird, Esq., Durris, was the winner in the class for six bunches of stove and greenhouse flowers (Orchids excluded); Mr. James Elder was second. For four spikes, trusses, or blooms of Orchids, there were the respectable total of five entries. Mr. A. Reid here again proved victor; Mr. Alex. Grigor, second; and Mr. John Proctor, third. For a hand bouquet of Chrysanthemums, any kind of foliage, Mr. A. Burns, Junr., Fruiterer, New Market, was first; W. Harvey, Esq. (gardener, Mr. Alex. Douglas), Middlemuir, second; and Mr. G. H. Fyfe, third.

FRUIT.—The collection of six varieties of Apples, four of each, shown by Mr. Wm. Morgan, Raemoir, took the first award. Mr. D. Chapman, gardener to General Russell, M.P., Aden, Aberdeenshire, being second; and Mr. A. Middleton, of Manor, third.

For six baking Apples, there were fourteen entries, Mr. J. Grigor, of Maryhill, Elgin, was the foremost exhibitor; Mr. John Fraser, second; and Mr. Wm. Morgan, third. For six dessert Apples, there were again fourteen entries, Mr. A. Middleton beat Mr. D. Chapman, with Mr. J. Grigor, third. For six baking Pears, Mr. A. King, of Danestone, was the winner.

Mr. A. Paterson, of Ruthrieston was first; and Mr. Alex. Douglas, of Middlemuir, Belhelvie, second, for a collection of six kinds of vegetables.

MISCELLANEOUS EXHIBITS.—Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, showed an unusually fine lot of Chrysanthemums, many of the varieties being of the most recent introduction, the collection forming a centre piece of

much attraction and admiration. (Diploma of Merit.)

Mr. John Forbes, Hawick, N.B., showed a stand of his new Begonia, "Caledonia." (Diploma of Merit.)

Messrs. Ban. Reid & Co., Messrs. J. Cocker & Sons, and Messrs. Smith & Co., all of Aberdeen, showed floral designs of unique and varied arrangement, some of the devices showing great taste and artistic conception, each firm having done itself great credit.

N.C.S. WINTER EXHIBITION.—Dec. 5th, 6th & 7th.

THE early winter exhibition of the National Chrysanthemum Society was held in the Central Area of the Royal Aquarium, Westminster, on Tuesday, the 5th, and the two following days of this month. A sweeter show and a more spirited competition could not have been expected. Everyone seemed to excel themselves on their previous exhibitions. The miscellaneous groups, of course, were strong features of the show, but not less effective or less admired were the groups of plants for competition. The arrangements of the vases and the classes for decorative merit were all very well filled, and of much merit. The judges were, for cut blooms, Messrs. W. Mease, Downside, and P. Waterer, Fawkham; for miscellaneous exhibits, Messrs. M. Gleeson, Warren House, A. Outram, Fulham, and J. H. Witty, Nunhead, with the officers *ex-officio*.

OPEN CLASSES (CUT BLOOMS).—For twenty-four Japanese blooms, not less than eighteen varieties, A. F. Hills, Esq. (gardener, Mr. R. Kenyon), Monkham, Woodford Green, Essex, was first with splendid and massive blooms. His Mrs. Mease, J. Scaramanga, Surpasse Amiral, Mrs. Barkley, J. R. Upton, and Wattleblossom were perfect. The Earl of Faversham (gardener, Mr. D. Williams), Duncombe Park, Helmsley, York, was a very close second. Mary Molyneux (here shown as a pink variety), Vivian Morel, J. Scaramanga, and others were at. A. F. Perkins, Esq. (gardener, Mr. F. King), Oakdene, Holmwood, Surrey, was an able third. There were six entries. For twelve Japs., distinct, Mr. R. C. Notcutt, of Woodbridge, was first, all of his blooms being extra good. President Bevan, Master H. Tucker, and others were the finest. G. W. Wright Ingle, Esq. (gardener, Mr. T. Sandford, Woodhouse, N. Finchley), was a good second, his Nellie Pockett, C. W. Richardson, and Mme. Carnot being superb. Lady Byron (gardener, Mr. H. Weeks), Thrumpton Hall, Derby, was third. A. F. Hills, Esq., of Woodford Green, received an extra prize.

For twelve bunches of Japanese, not less than six varieties, three blooms of one variety only in a bunch, A. F. Hills, Esq., again came first. The blooms were effectively disposed, and good individually. Mr. R. C. Notcutt was second; and Messrs. Smith Dorrien (gardener, Mr. W. Tyler), Hartwell Villa, Aylesbury, third.

The Hon. W. F. D. Smith (gardener, Mr. Henry Perkins) Greenlands, Henley-on-Thames, was first for six bunches of Japanese, his blooms being remarkably sweet and pure. G. Alexander, Esq. (gardener, Mr. T. Tullett), Warley Lodge, Brentwood, came second.

For six Japanese blooms (Amateur's section), Mr. W. G. Prudden Clark, York Road, Hitchin, was first, with extra good blooms; Mr. D. Durrant, 4, New Road, Ware, Herts, was second; and Mr. G. C. Farmer, Leeds Abbey, Maidstone, third.

For a like entry (open), the Hon. W. F. D. Smith was the leader, his Mrs. Mease, G. Warren, Mrs. Crompton, Mary Molyneux, &c., were capital samples; A. F. Hills, Esq., was a good second, with M. Davis, Mrs. Barkley, and J. P. Upton, &c.; G. F. Wright Ingle, Esq., was third.

For one large vase of Chrysanthemum blooms (amateurs), E. S. Wigram, Esq. (gardener, Mr. H. Pestell), Elston, Bedford, was the winner, followed by Mr. W. T. Lister, Rose Hill, Totteridge. The prize for a basket of autumn berries and foliage went to Mr. C. B. Cole, The Vineyard, Feltham, who had a very bright arrangement of the seed vessels of various plants, and the coloured foliage of Vine, Barberries, &c., was very fine. Miss Easterbrook, The Briars, Fawkham, was a good second; Mr. W. Taylor, Tewkesbury Lodge, Forest Hill, coming in third, and equal third, Mr. S. Hardy, Cholmeley Lodge, Highgate. A. F. Perkins, Esq. (gardener, Mr. J. King), Oak Dene, was the first prize winner for

twelve incurved blooms. This stand was of great quality, Bonnie Dundee, Mrs. J. Gardiner, and C. B. Whitnall being perfect in every quality; Mrs. Lawrence (gardener, Mr. Thomas Robinson), Elsfeld House, Hollingbourne, Kent, second; and Mrs. Ryecroft (gardener, Mr. W. Tebay), Everland, Sevenoaks, third.

For a vase of Chrysanthemums arranged with foliage, the order ran:—first, Mr. W. G. Prudden Clark, York Road, Hitchin; second, Mr. A. Taylor, 5, Vernon Terrace, East Finchley; and third, Mr. J. A. Korrill, 259, Southampton Street, S.E.

For six bunches of large flowered single varieties, six trusses, only one variety in each, not disbudded, and distinct, G. Alexander, Esq. (gardener, Mr. T. Tullett), Warley Lodge, Brentwood, was first; Mme. Nicols (gardener, Mr. G. W. Forbes), Regent House, Surbiton, came closely second.

For six bunches of the spidery varieties, J. Courteney, Esq. (gardener, Mr. W. C. Pagram), The Whin, Weybridge, was first.

B. Johnstone, Esq. (gardener, Mr. D. Gibson), Coombe Cottage, Kingston-on-Thames, won for the collection of flowering plants, his table of Begonias, Roman Hyacinths, Primulas, Cyclamens, and Orchids, being of high merit.

MISCELLANEOUS EXHIBITS.—Mr. H. J. Jones, Ryecroft, Lewisham, S.E., followed the style of arrangement which he had so successfully adopted for the November show, and the month or five weeks of difference with its continuous succession of fogs seem rather to have improved than detracted from the quality of the blooms. No finer workmanship so far as decorations are concerned was to be seen in the exhibition. Florence Molyneux, Hooper Pearson, Edith Perkins, Mrs. W. Seward, Rivers H. Langton, H. J. Jones, Emily Towers, Duchess of York, Little Nell, W. H. White. (Gold Medal.) Begonia Gloire de Lorraine, was also well shown by Mr. Jones.

Mr. Norman Davis, Framfield, Sussex, was very strongly represented with a splendid group of beautifully fresh blooms, rich in their variety and most charmingly disposed. Though flatter and not so massive in the conjoined or completed arrangement as that of the neighbouring group just described it had yet a quiet merit and beauty which found heaps of admirers. The Mrs. Mease, Mdm. R. Cadbury, Chatsworth, Jos. Chamberlain, Miss Maud Douglas, Mrs. W. Cursham, Mrs. Barkley, Western King, were among the finest of the large Japanese and Japanese incurved varieties. A few of these are yet to be introduced. (Gold Medal.)

Mr. J. Williams, 4a, Oxford Road, Ealing, had a very sweet and most artistic table of pink decorative 'Mums, white Marguerites, and grasses. The "rural" floral decorations answer at for neat and beautiful work of this kind.

Mr. W. J. Godfrey, of Exmouth, Devon, added much to the interest of this winter show by his skilful use of decorative Chrysanthemums. It must have cost some labour to preserve such fresh, strong and handsome blooms in the manner seen here. Christmas White, Mme. E. Rogers, Queen of Pinks, and others of the class which these represent were put up in great splendour. (Small Silver Medal.)

Mr. J. Agate, Nurseryman, Havant, showed a stand of twelve of the new Florence Molyneux. They were superb.

Messrs. H. Cannell & Sons, Swanley, Kent, were to the front this time with cut Jap. Chrysanthemum blooms, groups of superbly flowered Begonia Gloire de Lorraine, and trusses of the famous Swanley zonal Pelargonium were arranged in the high-class, painstaking manner which is always shown in the Swanley exhibits. Leaving 'Mums alone, and taking a glance at the Pelargoniums, we find the following as first-rate varieties:—Royal Purple, Menelik, The Mikado, The Sirdar, Barbara Hope, The Khalifa, Snowstorm, Lord Reay, Countess de Morille, St. Cecilia. (Silver Medal.)

Mr. Robert Owen, Maidenhead, came forth in cut flowers, plants, and floral decorations. His central lyre was a grand conception. The fine quality and variety of the Crotons, Dracaenas, and Palms amid the vases of strong and clearly-coloured blooms were most pleasing and acceptable. Cut blooms in Major Plumbe, Yellow Mogul, Waban, and a very large assortment of seedlings, one particularly good variety coming from Edith Tabor, and likely to be a good thing. Mrs. Winkley Smith, a very yellow,

one of the brightest in fact, which will prove good for all purposes. (Silver Medal.)

The Ichthemic Guano Co., Ipswich, as is usual, occupied their position in the centre of the western division of the hall. Samples of their famous manure were arranged in varied assortment on a conical convex raised staging.

The Lawes' Chemical Manure Co., Ltd., 59, Mark Lane, London, E.C., also had a large selection of tins, bags, and other quantities of their chemical fertiliser on display.

Mr. Sam. Dears, Victoria Works, Harlow, Essex, showed a number of samples of his patent heating appurtenances, which are so suitable for amateur gardeners and others.

Mr. C. E. Haydon, Avenue Road, Southgate, London, N., had samples of his new patent broom-holder, a clever and effective invention.

Sir H. Pigott, Bart. (gardener, Mr. John Fleming), Wexham Park, Slough, Bucks., staged a group of flowering plants, which proved to be the best feature in the show. It is safe that nothing finer has ever been seen inside the Aquarium, and this sums up all opinion of the group. It was magnificent. (Gold Medal.)

SOCIETIES.

LADYWELL, LEWISHAM, AND DISTRICT COTTAGERS' HORTICULTURAL.—Nov. 30th.

THE above society held their sixteenth annual dinner on Thursday evening, the 30th ult., at the Parish Hall, Ladywell, the President, Mr. H. J. Jones, F.R.H.S., of Ryecroft Nurseries, presiding over a large company, which included many ladies.

Mr. T. W. White, vice-president, occupied the vice-chair, and those present included the Rev. S. Bickersteth (Vicar of Lewisham), Messrs. H. T. Skinner, C. T. Green, H. L. Dodds, Mr. and Mrs. W. H. Webb, Mr. and Mrs. Brockman (of Margate), Mrs. H. J. Jones, Mr. and Mrs. Taylor, Mr. and Mrs. W. Logan, Mr. and Mrs. Pett, Sergt-Major Lalley, Mr. D. B. Crane, Mr. G. F. Richardson, F.S.A.A., &c.

The hall was most conveniently arranged for dining, and foliage and flowering plants were prettily dispersed on both tables and stage, making a charming effect. The plants were kindly lent by Mr. H. J. Jones. The dinner was well served, and the selections of music provided by the Metzner Mandoline and Guitar Band added considerably to the enjoyment of the diners. The unanimous unity of spirit, and marvellous manner in which the officers and committee work together is a credit to any society, which well deserves to be a flourishing one.

Dessert having arrived, Mr. H. J. Jones in the chair, rose to propose "The Queen," which was, as is usual, drunk with great enthusiasm, and the National Anthem was well sung by Mr. D. B. Crane, who led off the audience splendidly. Mr. T. W. White, the vice-chairman, spoke with much eloquence to the toast of "The Navy, Army, and Auxiliary Forces," to which Sergt-Major Lalley, of the 2nd West Kent Volunteers responded.

Mr. W. Dawtry followed by proposing "The Society and its Officers," and spoke in very flattering terms of the work done by his colleagues, and was given acclamation, with musical honours. The responses of Messrs. H. J. Jones, T. W. White, and Mr. A. Pratt (the secretary), were to the point, kindly and heartily, the latter saying that last year they gave in prizes, £48, and this £73: that they had 750 exhibits against 500 last year; and have a good substantial balance at the bank; although they had had much more expenses than the previous year. He went on to remark, that seeing the show so flourishing, he hoped that next year there would be £100 in prizes to be distributed. "Success to Horticultural and kindred Societies" was proposed by the Chairman, and responded to by Mr. D. B. Crane, who dealt at length on the advantages of horticulture, and its pleasures, as well as being an education. The toast of "The Patrons and Visitors," proposed by Mr. Greenwood, was also acknowledged by Mr. Crane, and that of "The Judges," submitted by Mr. W. T. Kinnear, responded to by Mr. T. Tomlinson. "The Chairman and Vice-Chairman" was in the hands of Mr. C. Green. "The Press" was proposed by Mr. T. W.

White, who thanked the representatives for their company. This was replied to by Mr. Greenwood and Mr. Kedaway, representing horticultural and local papers.

Interspersed with the toasts were a number of songs, and it would be unfair to pass over the artistes without a vote of thanks to them, as there was not a poor one among them. "Auld Lang Syne" brought a delightful evening to a close.—*W. L.*

ROYAL HORTICULTURAL.—December 5th.

THE leading features of the meeting on Tuesday last were Chrysanthemums, including single varieties, Begonia Gloire de Lorraine, Cyclamen, succulents such as Agaves and Yuccas, Conifers in quantity, and Bouvardias. Orchids were most numerically represented by Calanthes.

A Silver Flora Medal was awarded to Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, for a large and representative collection of hybrid Calanthes, in all the best varieties and colours. He had little groups of *C. hursfordiensis*, crimson; *C. Victoria Regina*, pink; *Veitchi splendens*, carmine-rose; *C. Veitchi lactea*, a large and handsome white variety; *C. hella*, rosy; Bryan, white with crimson eye, &c. Very fine also were his *Cypripedium Hera* var. *Euryades*, *C. fowlerianum*, two large plants of *C. spicerianum*, *Vanda sanderiana*, the beautifully marked *Maxillaria elegantula*, and the pretty *Odontoglossum blandum*. The group was by far the largest lot of Orchids at the meeting, and unique.

The Hon. Mrs. Albert Brassey (gardener, Mr. Henry Downing), The Gardens, Heythorpe Park, Chipping Norton, had a small group of Calanthe *Veitchi* and *C. vestita* in tall, well grown specimens.

Messrs. F. Sander & Co., St. Albans, staged a group of Orchids, amongst which *Angraecum Humblottii* maximum was notable for the huge size of its lip. Here also were the sweet-scented *A. polystachya*, *Cymbidium gamieanum*, *Gongora armenlaca*, and *Cattleya intermedia* × *Laelia clinnabarina*.

Horticole Coloniale, Ltd., Parc Leopold, Brussels, exhibited choice varieties of Orchids, including *Oncidium varicosum* Lindeni, *O. v. Rogersi*, *O. Forhesi moorteheekense*, *O. F. castaneum*, *O. F. nigricans*, and other unnamed varieties.

Mr. J. S. Moss, Winter's Hill, Bishop's Hill, staged a very dark *Cymbidium tracyanum* Crawshay's var. A light green variety of it was also shown by Mr. H. A. Tracy, Orchid Nursery, Twickenham. Messrs. J. McBean & Sons, Cocksbridge, Lewes, Sussex, showed *Odontoglossum andersonianum*, McBean's var. *R. I. Measures*, Esq. (gardener, Mr. H. J. Chapman), Cambridge Lodge, Flodden Road, Camberwell, staged *Cypripedium leeanum giganteum*. M. Charles Vuylsteke, Loochristy, Ghent, exhibited two natural hybrids of *Odontoglossum crispum* × *harryanum*.

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited *Cypripedium Minos magnificum*. The Right Hon. J. Chamberlain (grower, Mr. J. Smith), Highbury Moor Green, Birmingham, exhibited *Soprocattleya chamberlainianum* var. *triumphans*, and *Cattleya* Mrs. Endicott.

Messrs. Thos. Cripps & Son, Tunbridge Wells Nurseries, exhibited a pretty and interesting group of well-flowered Bouvardias, including President Garfield, Alfred Neuner, President Cleveland, and other choice varieties.

Messrs. Sutton & Sons, Reading, exhibited three boxes of their new Tomato Sutton's Winter Beauty, which received an Award of Merit in April last from the R.H.S. It is a free setter for winter work, and all the fruits had been ripened on the plants, one of which was shown in fruit.

Messrs. W. Wells & Co., Ltd., Redhill, Surrey, staged a hearty collection of Japanese, incurved, decorative, market and single varieties of Chrysanthemum. Probably the single varieties were the most superior, certainly in the greater preponderance. May, Jeal, Purly, Disraeli, Mrs. G. Brown (Jap.), Triumph, Mons. Joanny Molin, J. T. Angus, Lady Windsor, and Admiral Sir T. Symons. (Silver Banksian Medal.)

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., sent a very large collection of the Begonia Gloire de Lorraine, the appearance of the sturdy and freely flowered plants commanding the respect of all.

Messrs. Hugh Low & Co., Bush Hill Park,

Enfield, had a very fine table of Cyclamen in the sections Persicum, Papilio, and the lesser formed sorts. The strength of these plants is just becoming apparent, and at later shows we shall hope to see the Bush Hill Park strain as one unsurpassed. (Silver Flora Medal.)

Messrs. William Clibran & Sons, Altrincham, showed a varied and fine assortment of single Chrysanthemums in vases. Particularly graceful were the varieties Lucy Clibran, Seedlings No. 60, 47, 75, 46, 76, &c. Amy Fletcher, Mrs. E. Coward, and others were most beautiful. (Silver Banksian Medal.)

Mr. John Russell, Richmond Nurseries, Richmond, Surrey, staged a handsome group of Coniferae in the central portion of the Hall. The collection comprised about 50 species and varieties of trees suitable for planting in ornamental and pleasure grounds, such as the whipcord-like *Retinospora filifera*, *R. pisifera aurea*, *R. plumosa* and *R. p. aurea*, Yews of all kinds, Cedars, Cryptomerias, *Picea nordmanniana*, *P. parryana glauca*, &c. (Silver Banksian Medal.) They also had a group of Yuccas.

Messrs. B. S. Williams and Son, Upper Holloway, London, made a most brilliant and very much admired group of Begonia Gloire de Lorraine. The plants were marvels of the florists' care. (Silver Gilt Flora Medal.)

The Countess of Limerick (gardener, Mr. J. Ryder), The Gardens, Hawkswick, sent three varieties of Grapes, Mrs. Pearson, Alicante, and Gros Colman, each very fine samples.

Lady Ashburton (gardener, Mr. D. Allan), The Grange, Alresford, Hants, received a cultural commendation for a sweet collection of Violets in different varieties.

Messrs. J. Veitch & Sons, Ltd., the Royal Exotic Nurseries, Chelsea, sent many of their fine varieties of the Javanico jasminiflorum Rhododendrons.

OBITUARY.

MR. WILLIAM HENRY PROTHEROE, F.S.I.

IT is with much regret that we announce the sudden death of Mr. William Henry Protheroe, F.S.I.,



MR. W. H. PROTHEROE.

at his residence, Bourn House, Leytonstone, on Saturday last, at the age of fifty-three. He has been ailing more or less for the last three years, and was again taken ill at 3 a.m. on Saturday, and died at 3.45 in the afternoon of the same day.

Most of our readers are familiar with his name, he being one of the two senior partners in the firm of Messrs. Protheroe & Morris, auctioneers, 67 and 68 Cheapside, London, E.C., though residing, like all the other four partners of the firm, on the borders of

Epping Forest. The sudden and unexpected character of his death may be gleaned from the fact that he was selling on Wednesday and Thursday, the 29th and 30th ult., at Bocking Place, Braintree, Essex, the collection of Orchids, &c., left by the late Sydney Courtauld, Esq. He was in the sale rooms at Cheapside on Friday, but, not feeling well, he was relieved of his duties in the rostrum by the younger members of the horticultural staff. At the same time he set about clearing up some correspondence as he was intending to go to Matlock, Derby, for a month.

Mr. W. H. Protheroe was the head of the Horticultural Department of the firm, and the second of the two senior partners. He was born in 1846, at Leytonstone, being the only son of the late Alexander Protheroe, who, in conjunction with Mr. Thomas Morris, also deceased, commenced business as horticultural auctioneers and nurserymen at Highbury, London, about the year 1830. Mr. W. H. Protheroe, during the early part of his life, was educated privately, but at the age of sixteen was sent to the Government Horticultural College, Ghent, Belgium, to complete his education. The tuition he received there fitted him for the duties he afterwards had to perform at Cheapside, and elsewhere all over Britain, when called upon to conduct the sales of private establishments, &c.

After studying for three years at Ghent, he returned to his country armed with his diploma and the highest honours the college could bestow. At the age of twenty he became connected in business with his father, and on the retirement of that gentleman in the beginning of 1873, after thirty-eight years of active service, he took his father's position in the business. He has thus been connected with the business of the firm for the past thirty-three years.

So frequently are the names of Messrs. Protheroe & Morris associated with Cheapside, that one is apt to imagine they have always been there. The fact is the founders of the firm commenced at Highbury in 1830. A forward movement was made in 1840 when the firm acquired the American Nurseries at Leytonstone. For forty-one years these nurseries held a very prominent position, but they were dismantled in 1885 to make room for the residential needs of the rapidly growing village of Leytonstone, on the borders of Epping Forest. The sale of land in plots at that and other places in the suburbs of London, as well as at the seaside, became the principal features of the business.

Between 1873 and 1883 the business of the firm increased by leaps and bounds, so that it was necessary to acquire extensive premises for the sale of bulbs, Orchids, and other horticultural produce. The premises at 67 and 68 Cheapside, were, therefore, acquired in the latter year. The business was split up into departments, and the Horticultural Department, which had occupied the foremost position from the inception of the business, was taken in charge by Mr. W. H. Protheroe, assisted by Mr. Harold George Morris, F.S.I., and Mr. T. A. Morris, F.S.I., two of the younger partners of the firm. The estate agency department is in the hands of Mr. George Field Morris, F.S.I., the first of the senior partners, and Mr. James Benjamin Slade. During the autumn months, however, when horticultural sales sometimes number twenty per week, Mr. Slade has to assist his overworked colleagues at Cheapside.

Mr. Protheroe leaves a widow and a family of three sons and two daughters. One of the sons, Mr. A. E. Protheroe, is in the business of the firm at Cheapside. The funeral took place at Ilford Cemetery, on Thursday, the 7th inst., at 12 noon.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

Why do not all Roots throw up Stems?—S. J.: In speaking of the development of adventitious buds, it is more easy to cite samples of plants which may develop them on either the roots, stems or leaves, than to say why other plants will not or do not behave in that way. That they can do so in certain cases merely indicates the relative independence of certain parts of plants when separated from the main body. It also indicates the latent energy, or in other words, the store of elaborated food material laid up in the parts which produce the adventitious buds. Therefore when such parts are removed from the mother plant the store of reserve material must find vent for its vegetative energy, and forms adventitious

buds. Instances of this kind are most common on plants of a succulent nature, though not invariably confined to them. Annuals would not throw up adventitious buds from the root, because they store no reserve material. Biennials do not as a rule develop adventitious buds from their tap roots. It may be stated that they are unable to do so; but why? is a question that has not been satisfactorily solved. We have seen Potatoes apparently making a futile endeavour to form adventitious buds on the tubers when the eyes had been destroyed. We regard the Potato as a perennial, but if it were not for the tuber, which resembles a biennial in its behaviour, it would be merely an annual. Adventitious buds are generally confined to perennial plants, whether woody, succulent or herbaceous.

Fruit Tree Planting Against a West Wall.—W. H. M.: We are not at all certain as to whether you mean an east or a west aspect wall, that is, whether it faces the east or the west. If it is merely a wall on the west side of your garden then it faces the east. The chief difference between the two is that a west aspect wall does not get much, if any, direct sunshine till noon, so that the sun cannot harm the blossom of the trees in the case of late frosts in spring, while on the other hand a wall that faces the east gets the morning sun to the injury of the blossom on frosty mornings. If the wall faces the west then you could plant Pears, Plums, or Cherries against it, as they flower early in spring, but would be sheltered from direct sun on frosty mornings, so that the blossom would get thawed gradually by the rise of the temperature before noon. Apricots might also be planted if the soil is suitable and the garden fairly sheltered. Peaches, if they ripen at all in your district, would require a wall facing the sun at noon. Apple trees would be the most suitable to plant on a wall facing the rising sun, as they flower late in spring, when frosty mornings of any severity are more rare.

Wiring Fruit Walls.—W. H. M.: We would approve of them provided they are properly and substantially put up, and kept properly painted. Galvanised wire is that usually employed to avoid the rusting of the same; but if it is used in the ordinary naked form, the two metals set up electric currents that are highly injurious to the shoots of trees that lie against them. That part of the shoots lying against the wires gradually assumes a brown appearance as if burnt, and if the evil proceeds far enough, the shoots either get killed outright above the injury, or they get snapped off by the wind at the injured part. To avoid all this, the wires must receive a double coat of white paint as soon as they are fixed up, and to be kept in proper repair afterwards. If so treated they will prove useful, and save a lot of work in nailing, as well as save injury to the walls. They must, however, be placed as close to the walls as possible, in order that the trees may get the benefit of the heat radiated from the stones or bricks.

Grasses for Drying.—J. R.: *Briza maxima*, *B. minor*, *Maned Barley* (*Hordeum jubatum*), *Agrostis nebulosa*, and *Eragrostis pulchella*, are all annuals of great beauty, which would be worth your while to get in the first place. You might also add *Lamarckia aurea* and *Phalaris canariensis* (Canary Grass) for the sake of variety. Amongst biennials *Bromus brizaeformis* is a heavy-headed grass of considerable beauty, and would flower freely the second year from the seed. Several of the perennials are of considerable beauty, but they require longer time to come into bearing, and require more patience, as well as space to flower them well. *Stipa pinnata* might be reared and planted in clumps in herbaceous borders. The Pampas Grass (*Gynerium argenteum*) and *Arundo conspicua* are large grasses that look best in large beds or in isolated clumps upon the grass. You would be able to get young plants. Seedlings would require longer time to come into bloom. Their plumes are very handsome. The Oat Grass (*Uniola latifolia*) is another handsome perennial.

Fruit Trees near towns.—W. H. M.: Fruit trees can be grown with fair success near large towns, for they thrive and often furnish good crops in the suburbs of London, which is smoky and foggy enough in winter at least. Success depends greatly upon whether the garden to be planted is fairly exposed to light, and a free circulation of air. Both these needs are essential—sunlight to ripen the fruit and wood, and air to keep the trees free from fungoid and insect pests. Both these kinds of enemies thrive too much in too close and sheltered areas to get healthy trees or satisfactory crops of fruit. It will be for you to judge whether the conditions as to light and air are satisfactory, and that your garden is not too near chemical manufactories or other similar nuisances.

Names of Fruits.—J. Gates Hardham: 1, Hornead Pearmain; 2, Brabant Bellefleur; 3, Blenheim Orange; 4, decayed; 5, not known; 6, Adam's Pearmain.—E. W. M.: The Apple appears to be New or Winter Hawthornden, but the specimen sent was small.

Names of Plants.—T. M.: 1, *Oncidium Forbesii*, 2, *Oncidium ampliatum majus*; 3, *Odontoglossum crispum guttatum* var.—R. M.: 1, *Cassinia fulvida*; 2, *Azara microphylla*; 3, *Hamamelis virginica*; 4, *Berberis Wallichii*.—A. C.: 1, *Peristrophe speciosa*; 2, *Libonia floribunda*; 3, *Reidia* or *Phyllanthus*

glaucescens; 4, *Antennaria margaritacea* is the usual garden name; 5, *Selaginella Braunii*; 6, *Metrosideros floribunda*.—J. F.: 1, *Lamium album*; 2, *Symphoricarpos racemosus*; 3, *Crataegus Pyracantha*.—Botan.: It is a variety of the Portugal Laurel from the Azores, namely, *Prunus lusitanica azorica*.

Communications Received.—Geo. Russell.—James Dobbie.—C. Mullins.—Jas. Moir.—A. E. S.—R. W.—A. F. B.—A. McDonald.—R. Greig.—T. B.—A. L.—D. C.—W. S.

TRADE CATALOGUE RECEIVED.

WILLIAM COLCHESTER, Ipswich.—Bone, Blood, and Chemical Manures, &c.

Obituary.

ON NOVEMBER 28TH, at 2, Thanet Villas, Hanworth Road, Hounslow, STEPHEN SPOONER, of the Hounslow Nurseries, aged 36.

ANCIENT SOCIETY OF YORK FLORISTS.

The twentieth annual show of this society was held on the 15th November in the Exhibition at York. The new secretary, Mr. George F. W. Oman, A.S.A.A., is to be congratulated on this, his first show. There was brisk competition in Class I. for groups, in which was the Lord Mayor and City Sheriff's Cup, valued £15 15s., and a sum of £8 8s. by the society, as first prize. This was secured by Mrs. Whitaker, Cliff House, Hesse (gardener, Mr. G. Jarvis). The group had a tall background of foliage plants picked out with giant *Chrysanthemums*. Mr. Councilor G. Cottam, of Cottingham, Hull, was a good second; Mrs. G. Pease (gardener, Mr. J. McIntyre), Woodside, Darlington, third; and Mr. J. Key, Clifton Nursery, York, fourth. For a group for effect and cultural excellence of *Chrysanthemums*, Mr. J. Pettinger, Strawberry Dale Nursery, Harrogate, took the lead. Mr. J. W. Hildes, of Acomb, an amateur, was second. In the cut flower class, the Citizens' Challenge Prize, value £20 and £10 in money, for thirty-six *Chrysanthemums* (eighteen incurved and eighteen Japanese), was secured by Mr. J. P. Leadbetter, gardener to A. Wilson, Esq., M.F.H., Tranby Croft, Hesse, owing to the disqualification of Mr. H. Hotham, gardener to Mrs. J. E. Wade, Brantinghamthorpe. Second, Sir J. Walker, Bart. (gardener, Mr. J. Folkard), Sand Hutton, York. Third, Alderman Harding, J.P. (gardener, Mr. J. Coultas), Hollyhurst, Darlington. Fourth, Mr. E. Woods, gardener to Miss C. Rawson, Mill House, Halifax. For eighteen Japanese, distinct, the first prize and the Rycroft Silver Gilt Medal, the gift of Mr. H. J. Jones, Rycroft Nurseries, the Earl of Faversham (gardener, Mr. D. Williams), Duncomb Park, Helmsley, was first with magnificent blooms. Sir J. Walker was second; Captain C. Duncombe, third; and Mr. J. D. Hutchinson, Kirby Moorside, fourth. The executive made admirable arrangements for the ladies' section. There were several entries for the dessert table, and some exquisite confections in floral art. Mrs. Gutch (gardener, Mr. E. Everard), Holgate Lodge, York, was first. In the first classes for six bunches of Grapes, Lord Hotham was first with fine samples of Muscat of Alexandria, Mrs. Pince, and Alicante. Messrs. Backhouse & Son, Ltd., York, gave the first prize for a collection of fruit, and this was won by Sir J. W. Pease.

Trade exhibits were excellent, but not numerous. Messrs. Isaac House & Son exhibited Violets. Messrs. Nalshaw & Son, Scarborough, showed Lily of the Valley, *Lilium Harrisli*, and *Poinsettias*. Mr. John Forbes, Hawick, N.B., received a First-class Certificate for his new *Begonia*, *Caledonia*. Messrs. Wm. Clibran & Son, Altrincham and Manchester, had a comprehensive exhibit of new varieties of *Chrysanthemums*, foliage plants, &c. The firm was ably represented by Mr. F. C. Edwards, the author of "Cyclamen and how to grow them."

The amount awarded in prizes was:—

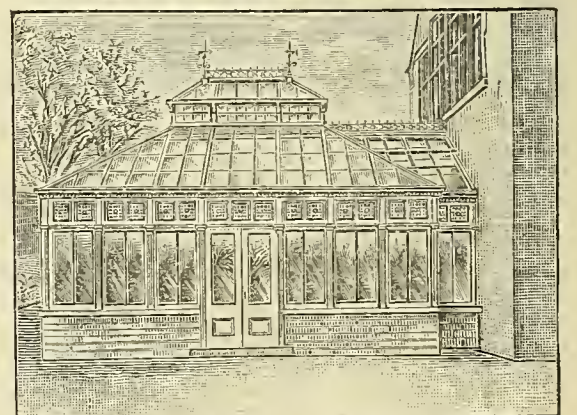
Cash	...	...	...	...	...	245	8	6
Plate	...	...	...	...	...	30	18	c
Two Challenge Vases and three Medals	...	...	...	...	...	30	0	0
						£506	6	6

Total for 1898 £232 4 6

The receipts at door were £325 6s. 3d., being £11 15s. 9d. in excess of previous records.

732 members have this year paid subscriptions of 5/- and upwards. Total, £184 17s. 6d., being £10 5s. 6d. in excess of previous years. A subscription of 5/- entitles a member to one pass and two complimentary tickets—hence these and 104 Exhibitors, with sundry passes and receipts at door made a splendid crowd. There was a very dense fog at York on the Friday. Carts, &c., stopped running, or undoubtedly the receipts would have been larger.

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'Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man.'—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 16th, 1899.

TOLL CROSS PARK, GLASGOW.—As towns increase in size—and unhappily they do so at an alarming rate—there are some redeeming features in the fact that open spaces continue to be secured, over which the bricks and mortar fiend is prevented from laying his finger. Waste places and commons, as well as cultivated fields are annexed by the corporations of growing towns and thus kept open for ever, as the statement goes, for the benefit of the community at large. A more pleasant aspect, even, of this method of retaining open spaces in the midst of populous spaces for the quiet enjoyment of the people, is when proprietors giving up private establishments, either by gift or sale, give the communities, most concerned about the same, the opportunity of acquiring them. The quasi-private character of such places is so far appreciated and respected, that they are kept as far as possible in the same state and apparently secluded character as when they were individual property. We have instances of this in the neighbourhood of London in Golder's Hill, Waterlow Park, Ravenscourt Park, and Brockwell Park. Toll Cross Park, Glasgow, was also a private establishment, but has been secured by the Corporation of Glasgow for the sum of £29,000, for the purpose of a public park. The estate runs to eighty-three acres, is richly wooded with fine old trees and shrubbery, and includes the mansion upon it, which belonged to the former proprietor. This is a little over £349 per acre; but if the purchase had not been made it would have become more costly in a few years, if, indeed, Glasgow had not by that time swallowed it up for building purposes.

It has been open to the public for some time, but when we visited it last autumn Mr. James Whitton, the superintendent of parks, was having some fine ranges of glass put up on a secluded portion of the ground, and accomplishing other improvements as well. Mr. Whitton believes in having practical gardeners as foremen in the parks, and Mr. David Wilson, formerly of Westmount, Glasgow, has been installed here since the opening of the park; and, when the glass ranges have been erected, he will be in his element again, for he is a good plantsman and Orchid grower.

A great hollow or valley runs through the grounds, with a natural stream meandering through it. Rhododendrons are freely planted along its banks and will be fine in early summer. The trees have grown well and form good timber, with straight boles running up to a great height. They consist chiefly of Beech, Elm, Oak, Ash, Red Chestnuts, and a fine specimen of the Tulip tree stands near the mansion. We noted also a beautiful specimen of the weeping Mountain Elm (*Ulmus montana pendula*),

with a low stem and spreading head. There was a fine patch of the American Mandrake (*Podophyllum peltatum*) under the trees. High overhead is a starling rookery, so to speak, and to those unaccustomed to the screaming of a myriad of live starlings in one continuous roar, the sound is most peculiar. No distinction can be made between one bird and another, so that the aggregate noise is deafening and like a mighty waterfall at no great distance off.

By this time we had reached the old plant houses and flower garden, originally belonging to the private mansion, which stands in a prominent position on a higher part of the grounds. Some of these old glasshouses contained decorative plants of various kinds, Orchids, Camellias, Coleus, &c. The flower garden was still gay in the middle of September. Amongst other plants very conspicuous were the yellow and crimson Calceolarias, all in perfection, though the trees about were beginning to indicate the end of the season, by the browning of the foliage. Four houses were being built on modern principles for the growing of plants, intended ultimately to be staged in the range to which the public will be admitted, when the building is accomplished. The whole of the houses are to be heated by two large, sectional American boilers. The crowning piece of this park will be a large T range of houses, doubtless now in a very advanced stage, and intended as a winter garden, to which the public will be admitted. The entrance will be by means of a porch, intended to be covered by climbers. The porch will serve to keep the cold air or wind from driving directly upon the plants when the door is opened. Broad, well made and finely gravelled walks or drives pass and radiate from the mansion, offering every facility for promenading and movement in various directions over the park. Some of the walks are shady and cool in summer. The utility to which the house itself can be put is an enigma, or at all events had not been decided upon when we saw it. A band stand has been erected from which music is dispensed to the visitors in fine weather.

The Portugal Fly Catcher, one of the "carnivorous plants," is said to be used in the houses of the poor in Portugal as a fly destroyer.

Royal Horticultural Society.—The last meeting this year of the Royal Horticultural Society will take place next Tuesday, the 19th inst., in the Drill Hall, James Street, Westminster, when the Fruit, Floral and Orchid Committees will meet as usual at 12 o'clock. Election of new Fellows at 3 p.m.

Messrs Geo. Bunyard & Co., the Royal Nurseries, Maidstone, exhibited a small collection of eighteen dishes of Apples, at the show of the Aberdeen Chrysanthemum Society, on November 24th and 25th. The fruits were of large size, finely coloured, and much admired by the visitors to the show. This was inadvertently omitted from our report of the show in last week's issue.

The Rev. Dean Hole, of Rochester, celebrated his eightieth birthday on Wednesday the 5th of December. The old gentleman is so hale and hearty, so well preserved mentally and physically that he might be recorded as a man ten years younger at least. The Dean is a keen gardener, more especially a Rosarian. He is the author of a number of works, one of the earliest of his books being "A Little Tour in Ireland," illustrated by John Leech. "A Book about Roses" was another of his first productions, which so far has gone to a fifteenth edition. His latest book of horticultural interest is the one entitled "Our Gardens," which was issued early this year. This book has been sold to the extent of 5,000 copies. He has also given to posterity a couple of volumes of "Reminiscences," all of his books affording most interesting reading.

Snow lies heavily all over Scotland, and is now down to sea level on the west coast. Snow fell in Rothesay on Tuesday, and frost was also setting in keenly. It seldom lasts long in that warm quarter, however.

Royal Botanic Society.—At a meeting of this society on Saturday last, the Chairman, Major J. W. M. Cotton, congratulated the members, because a larger number had been admitted as Fellows than in any other year since the society was incorporated.

Weather in Lothian.—Since Friday the 8th inst., the weather has been cold and wintry. Snow fell at intervals on Monday, Tuesday and Wednesday. Most of it melts before night in all the busy thoroughfares, but a few miles out it has been lying all day, and on Wednesday morning to the depth of an inch.

Fruit Growing in Aberdeenshire.—The Queen is said to be taking an increased interest in the cultivation of hardy British fruits around Braemar and Balmoral. Aberdonians are patting themselves on the back because of the success of exhibits which have been on view in the Drill Hall, Aberdeen, whose worth proved that up that way they at least are advanced in the growing of marketable fruits. The Carse o' Gowrie fruit industry ought to be rejuvenated.

Earl's Court Exhibition.—During the summer we paid a visit to the Greater Britain Exhibition, at Earl's Court, for the purpose of viewing the handiwork of Messrs. John Laing & Sons, of Forest Hill, S.E. Our readers may remember the article which referred to the fine bedding work and the tasty arrangement of the shrubberies, &c., which had been planned, effected, and likewise kept in order, during the whole run of the Exhibition, by this firm. We are pleased to add that a Gold Medal and Diploma has been awarded to the Messrs. Laing, by way of acknowledgment for their admirable rendering of the contract.

Important Gardening Appointment.—It is with pleasure we have to announce the appointment of Mr. Duncan Brough as head gardener to the Right Hon. Earl Fitzwilliam, K.G., at Coollattan Park, Shillelagh, Co. Wicklow, Ireland. Mr. Brough was formerly gardener to Sir Arch. Edmonstone, at Duntreath Castle, and it was during his stay there that the gardens and grounds were extended and improved, and at the time of his leaving there were regarded as amongst the finest in the county. We congratulate Mr. Brough on his appointment, and are confident of his upholding the high standard of the gardens at Coollattan Park.

Col. and Mrs. W. G. Webb's Silver Wedding.—The employees of Messrs. Webb & Sons, Royal Seedsmen, Wordsley, Stourbridge, were entertained to dinner at the Drill Hall, Wordsley, on Tuesday evening, November 28th, by Colonel and Mrs. W. G. Webb, on the occasion of their silver wedding. The anniversary of the wedding day was October 14th. The members of the Messrs. Webb's vast and varied staff, thought the time opportune in which to show their good feeling and great respect for the Colonel and his wife. A committee with Mr. J. P. Hitchings as hon. sec., and Mr. T. R. Marshall as treasurer, was constituted, and included Messrs. J. W. Andrews, W. C. Cadle, H. J. Fallows, G. Harding, G. H. Jones, J. W. Berrington, W. A. Everitt, E. Griffiths, W. H. Horsfall, E. Penn, and W. W. Wyld. The presentation which the committee fixed on was a silver punch bowl, and a complete dessert service of solid silver. A splendid dinner was furnished, and all arrangements, which were entrusted to Mr. J. P. Hitchings, were ably carried out. Mr. Andrews, Doncaster, made the presentation. In a few heartfelt words of thanks the genial Colonel replied. The following programme was ably given during the evening:—Violin solo, "Il Trovatore" (*Verdi*), Mr. Ben Phillips; song, "Mary," Mr. W. Sheppard; part song, "Maiden of the Fleur de Lys," Messrs. Tompkins, Clarke, Horsfall, and Maw; song, "I'm a Philosopher," Mr. Harry Wharton; part song, "Dame Durden" (*Anon.*), Messrs. Clarke, Horsfall, Tompkins, and Maw; violin solo, "Scotch Melodies," Mr. Ben Phillips. Messrs. F. W. Clarke and W. H. White were the accompanists. "God save the Queen" was sung with much heartiness at the close of the evening's proceedings.

Language of Flowers.—Fair one: "I want to send him a flower that shall tell him to be gone. What flower will that be?" Absurd male creature: "I really don't know. Why not try him with a Begonia?"—*Scraps*.

National Dahlia Society.—A committee meeting of this society will be held by the kind permission of the Horticultural Club in the Club Room at the Hotel Windsor, Victoria Street, London, S.W., on Tuesday, December 19th, at 2 p.m. The items on the agenda are the report for 1899, the schedule for 1900, the financial statement and other business.

Expected Too Much for the Money.—A man went to look at a house with the view of renting it. The owner had evidently let it get into bad repair, yet asked a big price for it. When going round the premises, the inquirer said, "I think you are asking too much; just look at the moss all over the walls." "Why," exclaimed the owner, "did you expect Orchids for the price?"—*Snaggs*.

Messrs. Dobbie & Co's New Premises.—At the opening of new premises by this well-known Rothesay firm, on Friday, December 9th, they entertained their employes and friends in a social evening. Mr. Burnie presided, and, under warm welcome, spoke of the flourishing manner in which their firm was sailing along. Mr. Fife also spoke. An interesting musical programme was gone through.

Large Purchases.—From *The Canadian Horticulturist* we learn that a Chicago fruit firm purchased so much as ten thousand acres of land on Maniton Island, Lake Michigan, and this they intended to plant up as one great Apple orchard. The plan has been abandoned, however, probably because of the decline in Apple values. The property will be converted into a summer resort.

Scabby Potatoes.—Scab is frequently seen on Potatoes, but it is not a dire disease, and not greatly to be feared. However, it is always nicer to have clean tubers if they can be had. The cause of scab is not well understood, but is thought to be the work of a very persistent fungus. Numerous methods of treatment have been adopted with more or less success or failure. By immersing the seed tubers for two hours in one pint of formalin to twenty gallons of water the fungus pest is fairly well eradicated.

Fruit Trees for Africa.—It is reported in *American Gardening* that the U. S. Consul-General Stowe, of Cape Town, gives notice that a representative of a United States nursery had been there eight weeks, and that he had made very large sales. He had only been canvassing the city and suburbs, and had met with much success. Though frosts are never dreaded at Cape Town, the great damage done to trees by insects which live on in perpetual glory, increasing in hosts, from the want of any climatic severity, turns the tables, and probably more damage comes from the latter source than from the former. The Consul further suggests the introduction and use of American spraying pumps. So here we see America pushing herself and establishing a power on a fundamental basis, one which may be established and permanent. Great Britain on the other hand is penetrating to the bowels of the earth for gold, but the glitter of gold does not last.

Poisonous Native Plants.—Included in the dozen or more native plants which are known to botanists, special mention deserves to be made of the Water Dropwort, one of the Umbelliferae. There are several species of this genus and all of them are commonly known under the name of Hemlock, though the true Hemlock is *Conium maculatum*. Like the Dropwort, however, the Hemlock is poisonous and has often been known to produce fatal results when partaken of by stock. The root of the Dropwort when partaken of acts as a narcotic poison, and has often been the cause of the deaths of cattle, sheep, and other stock. The most dangerous of the other native plants are Fool's Parsley (*Aethusa Cynapium*), Monkshood (*Aconitum Napellus*), Water Parsnip (*Sium*), Cowbane (*Cicuta virosa*), Henbane (*Hyoscyamus niger*), Woody Nightshade (*Solanum Dulcamara*), Deadly Nightshade (*Atropa Belladonna*), Figwort (*Scrophularia*), Foxglove (*Digitalis purpurea*), Meadow Saffron (*Colchicum autumnale*) and the Yew (*Taxus baccata*).

The Board of Agriculture has just issued three leaflets for gratis distribution, post free, to all who may apply for them. They deal with the Canker Fungus, the Wood Leopard Moth, and Sheep Scab.

The Shelves for fruit rooms in which Apples, Pears, and the like, are placed, should be made from a white wooded variety of tree such as Poplar, Sycamore, or Lime. It is said that Deal, Oak, Ash, and Elm give rather a disagreeable taste to the fruits. Very fresh hare shelves might, but of course, they do not always do so.

Ripe Strawberries in November.—Mr. George Gray, of East Carmont, Dunnotar, is the proud possessor of a field of Strawberries in full bloom some of them are even bearing a crop of fruits. The points of comment which such phenomena suggest might furnish a pregnant leader or article for some experienced observer.

Bute Botanical Society.—A meeting of this society was held in the Y.M.C.A. rooms on Tuesday, the 5th inst., Mr. Wm. Cuthbertson presiding. Mr. S. Jones was the lecturer, having under discussion the subject of propagation. In mentioning seeds as being the most natural and generally far the better means of propagation Mr. Jones referred to the idle talk about mummy Peas and Wheat seeds having ever germinated; no scientific man, he said, believed it. The manner by which runners, slips, cuttings, &c., were produced and prepared by the plant and by man, was also fully explained. Leaf propagation was noted, and the practice of grafting weaker or finer varieties of Rhododendrons, Roses, Clematis, Ivy and many shrubs and plants, upon more vigorous and hardier members of the same genus was one of Mr. Jones' most interesting points. The lecturer was heartily thanked at the conclusion of his discourse. "The Internal Structure of Plants" by Mr. Ballantyne is the subject for December 19th.

Experiments with Brussels Sprouts.—Farmers around the larger of our towns and cities have found it a remunerative venture in these degenerate days for agriculture, to cultivate crops of Brassicae instead of cereals. Brussels Sprouts are of no small economic importance. From this crop it is possible to get £30 to £38 per acre. Mr. F.W.E. Shrivell, F.L.S., has for six years past been experimenting with this vegetable at the grounds in Golden Green, Hadlow, near Tonbridge, Kent. The operations have been directed by Dr. Bernard Dyer. The results, as tabulated, show what is nowadays generally known, that a judicious use of natural manure (dung) and proper chemical fertilisers are at once the cheapest and the most profitable mode of manuring. From plot "D" the heaviest yield was taken. Here the manures and their quantities per acre were 25 loads of dung, 4 cwt. of superphosphate, 1 cwt. of sulphate of potash, 4 cwt. of nitrate of soda, the total cost being put down at £8 2s. per acre. Last year 251½ sieves were obtained from this plot, or 321 sieves as an average for four years. As this is the best result it would only be confusing to add the result of other trials.

Flowery Plains and Bustards.—Mr. Harry F. Witherby, F.Z.S., continues his sketches upon his two months' travel and hunting on the Guadalquivir, in the current number of *Knowledge*. This makes his fifth instalment, in which he recounts a bustard hunt, and what he saw of the country when so engaged. In the south of Spain these birds are still plentiful, and likely to remain so. They feed, live, and die in native freedom upon the great rolling grassy expanses, which cannot be called fields. White and yellow flowers grow away on all sides for miles. Cornfields also cover acres and acres. Mr. Witherby also described the peculiar phenomenon called "mirage," by which travellers are deluded by reflections of lakes or sheets of water, probably miles and miles out of reach, but which reflect light from their surface to the clouds, and from the clouds the light in the representation of gleaming water is reflected upon the desert beneath. Mimicry in Nature is also shown in the note which refers to the brown sand-grouse, whose coats are identical with the brown grass. Some of the grasses thereabout grow so tall as to reach the horses' withers. The article is very interesting to the student of natural science, and a valuable addition to our knowledge of the Guadalquivir regions.

Mr. Cecil Rhodes is still going on with the construction and planting of his "Siege Avenue" at Kenilworth, Kimberley. At present there are 1,400 natives in his employment.

Public Gardens, Potbury.—Visitor to hoy: "I hear there is a big and very special bug in these gardens. Could I see it?" Boy shouts to superintendent: "A gentleman wants to see you, please."—*Snaggs*.

Odontoglossum crispum in Cheapside.—A fine variety of this cool Odontoglossum was put up at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside, on the 8th inst., and was knocked down at 100 gs. The sepals and petals were heavily and beautifully blotched with dark purple, the blotches on the petals taking the form of arches like a horse-shoe.

The Bi-Centenary of Sweet Pea.—With a view to the celebration of the bi-centenary of the introduction of the Sweet Pea into Great Britain (1700), a preliminary meeting was held at Edinburgh, on September 13th last, Mr. Geo. Gordon, V.M.H., presiding. This meeting agreed upon the advisability of having some celebration. Propositions were put forth toward the instituting of a conference for the purpose of classification into groups of colour and form; to make selections, and to point out various passages for improvement and so on. The conference has been suggested for next July to be held in London. Prizes and awards will be arranged for in an exclusive Sweet Pea exhibition, papers by experts will be delivered, and banquets and other social observances provided. A sum of about £300 will be required to deftly carry out the celebration, towards which amount less than £20 has been contributed from various prominent persons, and the appeal is made for all who are interested in this charming flower to aid the fund. A strong representative committee has been formed.

The Edinburgh Seed Trade.—The assistants held their customary annual dinner on Friday evening, the 8th inst., in the West End Cafe, which was, as usual, attended with great success. The menu, which consisted of Scotch dishes in various tit-bits, was greatly relished. The haggis went well and so did the "bubblyjock." The menu card itself was a work of art, and got up in splendid style by Messrs. Blake & Mackenzie, of Liverpool. After the usual loyal and patriotic toasts and the recital of Kipling's up-to-date "Beggar," the "hat" was passed round, and a handsome collection was subscribed for the Widows' and Orphans' Fund. The programme was of all-round excellence and interspersed with toasts, in which the employers took a leading part. Speeches of interest were delivered by Mr. David Mitchell (chairman), Mr. David Syme, Mr. D. P. Laird, Mr. A. Milne, Mr. D. W. Thomson, Mr. M. Todd, and others. The veteran chairman presided with his usual hearty geniality, and contributed in no uncertain way to the success of the gathering, which was pronounced to be the most enjoyable yet held. Over a hundred gentlemen were present—all the leading houses being well represented.

Chiswick Gardeners' Mutual Improvement Society.—At a meeting of this society on the 7th inst., in the Council Room of the Royal Horticultural Society, Chiswick, Mr. W. J. Gingell, superintendent of Ravenscourt Park, Hammersmith, read a paper on "Public Parks and Gardens." He practically dealt with the London Parks and open spaces, under the control of the London County Council and other bodies, showing that London can boast of some 17,000 acres of open spaces for amusement, recreation, and other uses. No other city or town in the country can boast of a similar area. This, of course, included Epping Forest, which alone extends to 5,500 acres, exclusive of the recent additions. He first compared the keeping of the parks of Paris with our own, then gave a summary of the leading features of each of the London parks and gardens. Victoria and Southwark parks it would seem were amongst the most deleterious to vegetation, on account of their smoky and sooty atmosphere. He condemned the brick burrs in the making of the rockeries in Dulwich Park, and said that stones would better have conserved moisture about the plants. The lake on the crown of the hill at Finsbury Park was unnatural and out of keeping with the place. He was accorded a hearty vote of thanks after the discussion.

The Chrysanthemum Pest and Ladybirds.—Lady birds are accepted friends of plantsmen, particularly Chrysanthemists. They live upon the green flies, and this alone is why they ought to be fostered. In *Indian Gardening* a correspondent, writing under the above heading, remarks upon a species of ladybird which seems more voracious in its green fly devouring capacities than those of other species which he has. The black ants, on the other hand, he has observed, are most considerate and active in the interests of the aphides, going so far even as to pick them up and carry them from the ground to which they had fallen back to their feeding ground.

Scottish Horticultural Association.—As mentioned on page 229 of last week's *GARDENING WORLD* at the monthly meeting held on the 5th inst., Mr. Geo. Beech, The Grange, Bishops Stortford, Herts, read a paper entitled "A Visit to the London Parks." Mr. Beech described the bedding of the various seasons, to be seen in the larger of the London parks. The paper was cordially received, and some discussion followed the reading of it. The prevalent opinion was that something more might be attempted by the Parks' Committee of Edinburgh. The city and its environs were beautiful naturally, but these could be greatly aided by a dash of spring bedding, so sadly lacking at the present time. Glasgow being a richer city, and of course not so beautiful in its confines, was more elaborately ornamented than was the capital.

A Panther at large.—A panther of a vicious turn of mind, escaped from a ship in the Royal Albert Docks the other week, and spent the night near the Thames, worrying and killing all the cats it could find. The cow keepers in the North Woolwich Marshes were warned that it would kill sheep or cattle when hungry, so that all were prepared with guns for the defence of their cow houses. After the animal had been twenty-four hours at large, a gardener in the North Woolwich Gardens, and in the employment of the London County Council, saw the panther in a building, and rushing off, summoned a policeman. The latter shut the panther in, and the ship's crew brought its cage. Nothing could induce the brute to re-enter its cage, however, till lighted newspapers made it too hot for the animal, which at last rushed into the cage. Some in our neighbourhood would like the panther to visit the cats, but would like timely notice of the visit of his majesty the pard.—*Leo*.

The Chrysanthemum.—In *The Florist Exchange* for November 4th, there appear two poems which were read by Mr. Edmund M. Wood, in a paper he gave before members of the Massachusetts Horticultural Society on the Chrysanthemum. We give them both below. The first is a translation from the Japanese of Satoni Sensei, and the second is by the Irish poet, William Allingham:—

"O bloom of Chrysanthemum,
Fabled of old,
A fountain of rapture
And sweetness untold—
The dewy wine sparkled
With life in its flame,
And mortals partaking,
Immortals became.
But lo! There hath opened
A wondrous flower,
For God's love hath blossomed—
Soul life in its dower,
And its petals shall shine
More endearing than thine,
With their fabulous treasures of life-giving wine—
Far fairyland's store,
And its dewdrops shall glow,
And its fragrance shall grow
From more unto more
While the years come and go."

"The rustic family of ox-eyes claim
A royal cousin clad in purple and gold,
Pearl, ruby, fleecy colours, such as fold
The crouching sun, and with a lofty name
Chrysanthemum—appearing bright and bold
To startle poor November with a flame
Of sumptuous flowerage, making summer tame,
And flush with Eastern pomp the dark and cold.
Voyager from Japan and broad Cathay,
The slant-eyed yellow people love thee much:
(All humans love a flower) and know the way
To fix their garden favourite with fine touch
In shapes of art. How joyful we to clutch
Their gifts!—but shall we clasp their hands one
day?"

Senecio macroglossus.—Than this no cool house climber is more distinct, more strikingly ornamental or sweet, because though the blooms are not in great abundance, their simplicity (like a large star, and bright yellow in colour) gives them a quaint charm. A fine plant of this Senecio is to be seen flowering in the succulent house at Kew.

TOWN STABLE MANURE v. NATIVE GUANO.

I AM often perplexed where to go for my garden manure. When I kept a horse I always had plenty; since, I have not known where to go, though plenty of stables all round. But new ideas seem to have taken hold of most horse keepers; and now economy rules everywhere, and no less in the stable. And now in the place of straw the unfortunate horse has his bed made of anything, chiefly saw dust, chips and shavings, together with rubbish of any kind. A few have peat-moss; but it is only in the very best stables you can get clean straw manure.

As I should not like my garden filled with the foul rubbish I see some of my neighbours buy for manure, I have to look elsewhere for a suitable nourishment, than the town stable. Last season I tried the Native Guano. It gave excellent results in all crops except Potatoes, which were injured by the drought. It is not very expensive, and has not so offensive a smell as some of the similar manures. I should recommend other readers wanting a clean manure to use, themselves, to give it a trial, and I think they will be satisfied both in results and the small quantity required, compared with ordinary manure.—*C. Mullins*.

CHRYSANTHEMUMS AT CAMPHILL, GLASGOW.

THE Camphill conservatories you have described in your columns; the contents of these houses are fully entitled to a few lines, now that the exhibitions are over for this season. What was confidently predicted when Mr. Whitton took over the superintendence of the Glasgow Parks is now patent to every intelligent visitor. When these conservatories were built Mr. Whitton put in charge Mr. Wm. M'Ivor, a gardener of undoubted ability, and quite recently the oversight of the Queen's Park has been added to his duties. Mr. M'Ivor has an able staff under him, as is evidenced by the splendid manner in which every department is looked after.

For over a month the large Chrysanthemum house has been a mass of grandly grown and very highly coloured blooms. Many of them compared very well with the best shown at Edinburgh and Dundee, and that is a sufficient testimony to their high quality. About 4,000 plants are grown, a portion of which, when in flower, is sent to make a display in the People's Palace on the Glasgow Green.

At Camphill the large show house is entirely filled with the Autumn Queen. The plants are in oval beds down the centre of the large conservatory, and set out along the sides in a very elegant and tasteful way; while at the far end of the house is placed a magnificent bank of very handsome and highly-coloured specimens, a background of Palms finishing the whole, so that the eye is rested and gratified. Names of varieties have been so prominent lately that it is needless to recapitulate.

A large span-roofed house is also ablaze with pompons and single flowered sorts, and the people seem to enjoy these kinds very much. Chrysanthemums are not the only feature, for the display of the Cattleyas is such as has not been seen in Glasgow. Particularly rich in colour was *C. bowringiana*, and many grand spikes of *Oncidiums* were peeping out from green nooks; while the Moth Dendrobe (*Dendrobium Phalaenopsis*) was in good form suspended overhead. Round the sides are the *Cypripedium* insigne family, some of the rarer forms, and many very fine specimens of the *C. i. montanum* type.

The large collection of zonal Pelargoniums are just at their best. They could not be in better form, although it had been midsummer instead of bleak and foggy November. Indeed, a visit to Camphill is a treat at any time of the year, and one is always sure of a hearty welcome.—*G. R.*

ROSE HILL HOUSE, HENLEY-ON-THAMES.

A VISIT to Rose Hill, the residence of Lady Donaldson, is always attended with happy associations, whether it be looking round the gardens in company with Mr. James Strachan, the head gardener, or viewing the famous stretch of river, almost from Henley-on-Thames till far beyond Marlow, many miles further east. It is very rare that a residence is more beautifully situated, or commands a finer view of the Thames valley.

The kitchen and fruit garden is well situated, although somewhat exposed, and rests on a thin, gravelly subsoil, and not the best to withstand the terrible drought of the past summer. But Mr. Strachan is not the man to trouble seriously about the elements over which we have no control, and in his own quiet way and unassuming manner provides against any such contingencies by the thorough cultivation of the soil. Long experience has taught him that on soil of this character nothing but deep trenching and well manuring, according to the requirements of each crop, have any chance of success in such a season.

Strawberries do well in most seasons here, and it was a surprise to learn that although the most of the newer sorts were tried none succeeded better outside or as forced than the variety Noble, the flavour being distinctly good. This only goes to prove that what may be a complete failure and of poor quality in one garden will often prove the very opposite in another, even when the cultivation is the same.

Vegetables generally were first-rate; especially good were Peas, Onions, and Celery at the time of my visit. The garden, being on high ground, is not so liable to spring frosts as some; but the effect of the very severe frost, when the Peaches were in flower, was still visible on the growth of the trees. The crop was thin, but the fruits were very good. Some cordon Pears planted a few years ago were giving a splendid account of themselves on a wall facing east; especially fine was Brockworth Park. Amongst others Red Currants on walls were carrying a finer crop than I have ever seen before. Bush fruits were generally good and in fine condition.

A feature in the kitchen garden is the herbaceous border, which margins the entire paths. An edging of the old "Sea Pink" (*Armeria*), as grown here, is first-rate, the soft colouring blending well when in full blossom with the other plants then in flower. Here and there many of the old-fashioned alpine plants in masses lend themselves admirably to the surroundings, and are a source of much pleasure to the visitor.

On entering the vinery, the early house bunches were mostly cut, but there still remained some grand bunches of Foster's Seedling and Buckland Sweet Water, Black Hamburg also being fine in bunch and berry. The Muscat house carried much heavier bunches than is usually seen considering the number on each rod, but Mr. Strachan has no difficulty in finishing them well, having the border well in hand by making fresh additions occasionally, thereby never allowing the Vines to become exhausted. The back wall of this house contained, planted out, a large plant of the old double Pelargonium, "Wonderful," and I could but think how aptly this had been named, as the number of trusses this plant carried was truly what its name implied "wonderful."

The Peach house was next entered, the fruit being mostly gathered. The trees were in fine condition generally, one tree giving some trouble through gumming, which may eventually have to be replaced.

The greenhouse contained a varied collection of useful plants, and such as are necessary for indoor decoration and were making a brilliant display. *Malmaison* Carnations were in good condition as was the pretty fringed varieties of the newer *Marguerite* form. Orchids were not largely grown, but what plants there were one could easily see their cultivation was thoroughly mastered. *Cypripedium* insigne, of which there were several fine pieces, was making strong and healthy growth and later on will no doubt give a capital display, their vigorous condition no doubt accounting for quite a quantity of twin flowers being produced, as Mr. Strachan explained. Several pieces of *Coelogyne cristata* were in 6-in. pots and here their culture is of the simplest character. Some years ago a few small pieces were got and were potted entirely in pure

loam with the usual drainage and it is quite astonishing the wonderful vigour and healthy growth that the loam compost has produced; indeed, I have never seen such healthy foliage and pseudobulbs. Mr. Strachan gives them a position near the roof when making their growth and feeds liberally, the roots clinging round the outside of the pots quite thickly.

Chrysanthemums are well grown and at the time of my visit promised to make a splendid show. The Japanese varieties are mostly favoured and include all the best varieties of recent date that have proved themselves reliable. Very promising indeed were the "Morel" family, Australian Gold, John Pockett, Phoebus, &c.

There were many interesting subjects on the lawns and flower garden, which will require to be dealt with in some future article.—*Visitor*.

SALVIAS.

THE timely article from the fluent pen of Mr. J. Mayne, Bicton, p. 197, November 25th, will most certainly have been closely read by all those who are anxious to retain their conservatories in a gay state throughout the winter. His appreciative summary is valuable. *S. patens* we grow as a pot plant for winter use, and, of course, it is one of the handsomest border plants of the summer garden. The old *S. Blue Beard* has slightly larger flowers than *S. patens*, and may on that account be preferred. It does not lose its leaves or blooms quite so readily either, so it would seem to be more suited as a pot plant than the former. *S. splendens* and *S. s. grandiflora* are kings among *Salvias*. The latter, of course, is a decided improvement upon the specific form, yet the former for bedding purposes and for the grower with limited space will yet remain and be treasured. Anent Mr. Mayne's note on keeping *S. splendens* and *S. rutilans* till the spring, may I ask whether any pruning back is done, or ought else, before the plants renew their flowering capacities? *S. s. grandiflora*, though at the present time a sight to behold, in 10-in. and 12-in. pots, generally goes past towards the end of February.—*J. Harris*.

SUTTON'S AMATEUR'S GUIDE IN HORTICULTURE.

THE century now drawing to a close has witnessed the rise, progress and decay of many periodicals. The number of works in existence which date back, without intermission, to the earlier years of the nineteenth century is exceedingly small, but among these it may be claimed that "Sutton's Amateur's Guide in Horticulture" is now far more interesting and attractive than at any former period of its remarkable career. Originally this publication was issued without illustrations, but gradually it has been developed into a work of fine art. In the edition for 1900 the number of illustrations exceeds three hundred. Many of them are singularly beautiful and all possess the merit of faithfully portraying subjects and scenes which cannot fail to interest every lover of horticulture.

During the long period of its issue "Sutton's Amateur's Guide" has exercised a wide and powerful influence in creating the modern taste for flowers. In recent years the range of colours has been extended by an immense number of new and beautiful tints, and at the same time there has been a large accession of diverse forms which add to the charm of the garden, conservatory and house. In decorative subjects alone the resources now at the gardener's command were unknown to former generations. What the future has in store it is impossible to foretell, but the increasing appreciation of new and striking colour affords evidence that in horticulture there can be no finality.

Quite as much has been achieved in the vegetable garden, and this aspect of Messrs. Suttons' labours concerns the daily comfort of all grades of society. After years of wrestling with Nature the season of many highly prized vegetables has been greatly prolonged, the flavour has been improved and the general usefulness augmented. Especially is this true concerning Peas, Beans, Broccoli, Salads and other subjects which contribute both to health and the enjoyment of life. And in at least one instance, a great national danger has been averted. The Potato crop became so precarious through the ravages of disease that in very unfavourable seasons

the prospect of famine had more than once to be faced, especially in Ireland. By distributing original seedling potatoes, possessing a strong constitution, the danger has been minimised, and it is only just to acknowledge that in this important work there is no parallel to the successful labours of the great Reading Firm either in this or any other country.

For this edition a special paper has been made. It is perceptibly thicker and smoother even than that of which last year's "Guide" consisted, so that it lacks the hard metallic surface of art paper, much to the advantage of the illustrations. The Peas, Beans, Runner Beans, Asparagus, Beet, Kales, Broccoli, Cabbages, Carrots, Leeks, Lettuces, Melons, Parsley, Onions, Tomatos, Potatos, Radishes and other vegetables are admirably portrayed and lifelike. Flowers are equally well done, very fine being the *Cinerarias*, *Gloxinias*, *Petunias*, *Poppies*, *Primulas*, *Polyanthuses*, *Chinese Primulas*, *Stocks*, *Sweet Peas*, *Sweet Williams*, and many other subjects.

FLOWER SHOWS.

THE flower show season, with its amenities, triumphs and defeats, for the present year, is now a thing of the past. At the present time, especially so when the favourite 'Mum shows have become so numerous, it has become a most necessary matter of consideration to many growers within the London district where they will take their productions; and naturally those societies which hold out the best inducements will be the most patronised. It is a sheer impossibility for any one grower to visit and exhibit at all the shows, which take place within a limited area, because they have become so numerous; and in no other direction have the results of friendly rivalry been more shown than these which have raised the "queen of autumn" to her present lofty position, the 'Mum shows rivaling those devoted to the honour of the "queen of summer." The stay-at-home man may possibly do great things to the rejoicing of his own heart, and be well satisfied with the results of his own labour. At the same time it may be that should they be pitted against those of his more go-ahead neighbours, in open competition, he would have some of the egotism, which comparative isolation engenders, taken out of him. Of course in saying this I am fully aware that there are many good men who through the action of employers are debarred from showing. This is a regrettable incident in the situation, for the interest centring around flower shows extend far beyond gardeners and gardening. The annual flower show gives to many lovers of flowers their one opportunity during the year of seeing flowers, fruit or vegetables grown to the highest attainable perfection; gives them a mental feast of the highest order. There may be those among employers who, if they could be induced to look upon the question in a more public spirited light, might withdraw their ban upon flower showing, both to their own interests and that of the public at large.—*W. B. G.*

WINTERING PLANTS IN POTS.

AT this season of the year, when everything of importance has to be housed, we generally feel as though we could do with three times the amount of space we have at disposal. Probably the more experienced growers may be beyond the reproach of having overdone the thing, I mean, have grown more plants than they can house; but younger enthusiasts or amateurs, with the desire to grow a few samples of everything, are subjects to whom warnings may not be amiss. However, in the present case, warnings about not to grow too much stuff is synonymous to locking the stable door after the horse has been stolen. Almost every grower must perforce have a large number of pot plants which trouble him, either specimens which have stood out about during summer, or batches of plants which have cropped up along with the passing weeks.

Taking the first set of plants, the specimens which have been placed at various prominent and effective places in the grounds or near by the buildings, we have *Aloes* and *Agaves*, some of them ungainly enough in all conscience, trained *Bay trees*, *Myrtles*, and huge plants of *Agapanthus*, *Araucarias*, *Eucalyptus*, and so on. These may find places in quite a variety of structures. *Vineries* and other fruit

houses may be filled without much inconvenience with the *Agaves* and *Agapanthus*; but the larger and hardier plants, ornamental shrubby plants mentioned above should have a house to themselves. If the house is light and able to be heated, so much the better. If not, the pots, tubs or boxes in which they grow, should be bound round with mats or have Spruce boughs, Bracken, dried leaves or straw between them. Protected thus, they may be safely left over winter in any disused room or building. I know of a gardener in Haddingtonshire, who yearly has to store many plants, such as I have named, in some disused stalls of a stable. The heat of the place and its humidity prove acceptable to the plants.

Then for plants such as *Strawberries* and much of the hard-wooded spring flowering stuff, room has to be found in ordinary cold frames. It is better for the plants to keep them thus in cool quarters. Leaves form the hardiest and best material for packing around the pots, for if the pots be placed in the frames alone, the chances are that if we get a sharp spell of frosts we may find half of the pots have burst. *Deutzias*, *Azaleas*, *Staphyleas*, and things of this sort are generally wintered in frames. Loose mats, so long as they are thick enough, are better than closely knit mats for resisting frosts. Along with these, I mean for covering up with, it is well to have a load or two, according to needs, of protective stuff from a farm. The bruised and half-trampled almost fresh straw from stables forms a very efficient protective material. For all outdoor border plants, half decayed leaf-mould placed around or over the crowns and slightly earthed over is a good method of protection. For the base parts of wall *Roses*, &c., the much recommended Spruce branches are not to be beaten.—*Prepared*.

THE EXTINCTION OF FERN SPECIES.

AMONG those who may be classed as a bane to their commonwealths and of humanity, those ardent, assiduous and persevering, yet all the time thoughtless collectors of plants, whose whole desire is to discover and eradicate from its station some species whose existence is the merest factum, and whose entire extinction may depend upon circumstances during the life history of the existing representatives.

The *Fern Bulletin* for October gives directions for collecting Ferns, but might be more pronounced in its warnings against indiscriminate uprooting of rare species. The following extracts show the gist of the hints:—"Those who make collections of Ferns usually have the single object in view of getting as many different species as possible, and when good representatives of each are obtained seldom or never collect more of the same species. But when it is considered that in North America, north of Mexico there are less than 200 species of Ferns, and that fully one-half of these are so rare or so difficult to obtain that none but the most fortunate of collectors can hope to obtain them, the limit of this sort of collecting is not difficult to see." The manner of and what to collect is then spoken of. "This consists in collecting everything relating to Ferns that will throw light upon their life histories. Why should we be content with the mere tops of Ferns—tops broken off at the surface of the earth—and think our collection complete when it still lacks root-stools, prothalli, fronds in bud, young fronds, and all the curious and wonderful variations of the mature plants." "The ideal collection for a student is one that contains representatives of each species from as many different localities as it is possible to obtain them."

Of course, this article does not purposely direct one to hunt up and eradicate the rare gems, at least, we ourselves do not take it so; but go-ahead enthusiasts would certainly take it in that sense as an object greatly to be striven for. If there is less than 200 species of Ferns north from Mexico not a few of which, we suspect, are rare, how many dozens of species would there be in a dozen years if all the Fern "students" could get a single specimen each? What is it all for? What do the Fern students want to do with the knowledge that they are so eager to amass? If there is healing or medicinal qualities in any parts of the Ferns they so carefully uproot, press, mount, and study, they might collect and sow spores to get stock for study and otherwise. If not, if it is merely knowledge for its own sake, I'd rather

they than me. There are other subjects nearer home to suit me and mine. But it is not themselves they ought alone to consider. It would take too long to go logically into the matter, but apart from the beauty of the Ferns as a covering or their primary use in the history of Nature of forming soil and even fuel, we do not know what effect the depletion of Ferns would have; but the result would certainly be in the direction of sterility.—D.

HERBACEOUS ASTERS.

It is difficult to say exactly whether the public or rather horticulturists are more in favour of this handsome and most welcome class of plants than they used to be or whether the opinion, appreciation or growing of them is just as before. If they do not attain great popularity or success they at least deserve it. Certain it is that a considerable number of new growers have taken them in hand.

To see large vases in a handsome drawing-room filled in glorious lavishness and laxity with these vigorous, bright and cheaply got Star flowers known in common parlance as Starworts and Michaelmas Daisies, creates—well, I cannot tell what; but it makes even a seared florist or judge of flowers just halt and—that's enough, if a florist, a flower-seller can even look two seconds at a stranger's vase of flowers it proves the worth of them.

Asters are very hardy and marvelously free flowering. Not many amateurs are without a certain number of plants, while gardeners must have them, they could not do without them. Roughly, the herbaceous Asters may be said to continue in bloom from early August until far into the year, indeed almost till its close in good seasons. The back parts of the herbaceous borders or beds out in the open grounds, where some slight shelter can be afforded are the best places for planting them. Young plants may be had from seeds sown in nursery beds or from the division of old plants. Probably the latter is the speedier method and is also a sure one. No one need hesitate to select any or all of the following varieties:—A. Novi-Belgii laevigatus, A. Amellus, A. Novae-Angliae ruber, A. N.-A. pulchellus, A. N.-A. roseus, A. amethystinus, A. ericoides, A. acris, or many others that are improved and worthy.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 5th inst.:—

Orchid Committee.

CYPRIPEDIUM HERA VAR. EURYADES.—The dorsal sepal of this variety is orbicular, of large size, and heavily blotched with blackish-crimson on a white ground. The central portion is edged with a white line, round which is a broad white margin, more or less mottled with crimson. Heavy crimson blotches on the back shine through on the face when the light falls that way. The petals are dark shining brown on the upper longitudinal half while the lower is blotched with brown. The lip is dark brown and shining. It is a very handsome hybrid derived from C. leeanum × Boxalli. (First-class Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

CATTLEYA MAGGIE RAPHAEL.—This beautiful hybrid was derived from C. aurea (female) and C. Trianaei (male). The sepals are buff coloured. The elliptic petals are heavily shaded with purple on a buff ground, especially towards the edges and tips. The large lip is maroon-crimson, with paler purple apex, and the dark colour is continued to the base of the tube, the outer face of which is pale purple. (First-class Certificate.) H. S. Leon, Esq. (gardener, Mr. Hislop), Bletchley Park, Bletchley.

SOPHROCATTLEYA CHAMBERLAINIANA TRIUMPHANS.—The parents of this bigeneric hybrid were Cattleya Harrisoniae (female) and Sophronites grandiflora. The sepals are deep carmine-red. The obovate-elliptic petals are darker, especially towards the tips. The lip is yellow shaded with red at the edges of the side lobes, and the tip of the lamina is fiery-scarlet. (Award of Merit.) Right Hon. J. Chamberlain (grower, Mr. J. Smith), Highbury Moor Green, Birmingham.

ONCIDIUM VARICOSUM LINDENI.—The sepals and petals of this species are small and striped with

brown, but they are quite overshadowed by the huge bright yellow lip which has a large crimson blotch on the centre where the three lobes join. (Award of Merit.) Horticole Coloniale, Parc Leopold, Brussels.

ONCIDIUM FORBESII MOORTEBEEKIENSE.—The sepals and petals of this handsome variety are of a dark chestnut-red and shining, the margin being yellow and variegated with lobed blotches. The margin of the lip is similar, but broader. (Award of Merit.) Horticole Coloniale.

CYMBIDIUM LONGIFLORUM.—The sepals of this species are oblanceolate, and long, the petals being narrower, and all striped with brownish-crimson lines on a fuscous ground. The lip is white with a short, central, crimson line on the lamina, and six crimson lines on each side of the ridge in the throat. (Award of Merit.) J. S. Moss, Esq., Wintershill Hall, Bishops Waltham.

Floral Committee.

CHRYSANTHEMUM MADAME R. CADBURY.—The blooms of this Japanese variety measure about 8 in. in diameter, without counting stray florets. The latter are very broad, more or less twisted and interlaced, pure white, and of great substance. (Award of Merit.) Mr. H. Weeks, Thrumpton Hall Gardens, Derby.

CHRYSANTHEMUM OSCAR.—In this we have a single variety measuring 2½ in. to 3 in. across the rays, which are orange-red, and arranged in two or three rows round a large yellow disc. (Award of Merit.) Messrs. Clibran & Son, Oldfield Nurseries, Altrincham.

SINGLE CHRYSANTHEMUM "EDITH."—In "Edith," Chrysanthemum lovers will have the most beautiful of the large-flowered single varieties at present in commerce. It is a broad petalled, deep pink bloom with a sweet bronze disc, and a halo or white circle encompassing it. (First-class Certificate, N.C.S.) Mr. W. C. Pagram, Whinn Gardens, Weybridge.

JAPANESE CHRYSANTHEMUM J. R. UPTON.—A very large, gracefully built, rich yellow or bright bronze Japanese bloom, sure to become a favourite. (First-class Certificate, N.C.S.) A. F. Hills, Esq. (gardener, Mr. R. Kenyon), Monkham's, Woodford Green, Essex.

THE FLOWER GARDEN.

PROTECTION.—Though we have almost reached the shortest day of the year, and have had no severe weather, yet as we write the signs are all pointing to a change. This change is toward colder conditions, some snow having fallen. Many things have bloomed out of doors up to the present time, such as Dahlias and Roses, to go no further. Other plants like Jasminum nudiflorum for example, have been forwarded out of season. Tea Roses, Banksians, and Noisettes, may be mulched with strawy manure. Some of course will have followed past directions, so that they are safe, and can go on with other necessary work. Other means of protection for various plants or beds are, broken fronds, Asparagus (dried), Straw, Spruce branches, and even an earthing up with soil. Mats, too, may well be used.

HARDY CHRYSANTHEMUMS.—From fogs and rain, and the advanced period of the year, these are now beginning to fade. It is useless to let them rot in bunches at the end of the shoots; it is better to cut back the shoots to below the flowering parts. Some slight covering may be given to the suckers if very severe weather comes on.

CHRISTMAS ROSES.—These lovely flowering plants produce blooms of a snowy and crystalline whiteness under the protection of a glass frame. Small plants do well under handlights, but large beds or clumps should be covered by very small and neat frames, otherwise the blooms are scarcely worth the cutting.

MICHAELMAS DAISIES.—At this time the stock of these plants should be planted; rich soil and a well-drained position should be accorded to them. For a good selection which may be sent for any time until March, consult some of the notes which have already appeared in the GARDENING WORLD.

BULBS, such as Tulips, Hyacinths, Crocuses, Snowdrops, &c., should no longer be delayed in planting. Daffodils may be planted for a short while to come, but these two are better in the ground.

It is now that buyers secure very cheap plots suitable for planting up the edges of woodlands and shrubberies. This is a phase of gardening which most certainly should be more attended to.

HYACINTHUS CANDICANS may be planted out in sheltered borders. It prefers a rich, warm, sandy loam.

LILIUM CANDIDUM, the common white or Madonna Lily may also be planted now. The bulbs should be given every care, and should not by any means be planted more than 3 in. deep. On heavy, cold soils special stations should be prepared.

DELPHINUMS, PYRETHRUMS and HOLLYHOCKS should have been planted at the end of last month, but owing to the mildness of the weather, and the absence of cold rains or snow, the conditions up to the present time have been safe enough for planting. In all cases allow them room and well prepared areas in which to root and grow.

PAEONIES.—These hardy flowering plants are among the most fashionable plants of the period. Some of the newer varieties are exquisitely beautiful, and what is equally or more to the point, they last longer than the old favourites. No one should be without an up-to-date collection. We find them very handy for large vase decorations. Old plants can be divided at the end of February, and the halves planted. Undivided plants can be shifted or planted now.

SHRUBS of all sorts may still be planted, and alterations or laying out of new grounds can still be pushed ahead.

COLD FRAMES.—Carnations, Calceolarias, Pansies, Violets, &c., &c., in frames, should have all the air possible during mild weather. Cover them up during frost.—J. H. D.

The Orchid Grower's Calendar.

WORK IN THE HOUSES.—We strongly advise that each division be thoroughly cleared of all kinds of insect pests that the XL All Vaporiser will touch, by the use of the same on alternate evenings during the next week; for owing to the sharp weather that has suddenly come upon us, the flies have to be pushed pretty hard, and this is very favourable to the breeding of thrips, &c., so that a stitch in time in this (as of old) will save not only time but the plants from disfigurement.

With all potting operations at a standstill it gives one a good chance to look through all the Odontoglossums for the early spikes. Suspend those that are forward enough out of the reach of slugs and thus afford additional room for those that are left standing on the stage. We put cotton wool around the spikes when up enough to keep these little predators back, which it does for a time, but not for long, so that you must look after them at night or they are sure to beat you in the end. Little saucers of new bran placed about are a capital trap for them, and, of course, Lettuce leaves. We would mention that those plants suspended should be sufficiently far from the glass that they will not be damaged by frost.

Where practicable we would recommend that some covering be put on the roof glass of the houses at night; mats or anything that can be easily removed at the break of day. The ordinary sun blinds are useless for this purpose as they get frozen and cannot be rolled up until late in the day; but with the patent wooden lath blinds it is different, and for that reason they are to be preferred.

VANDA CAERULEA.—Some time ago when writing of this lovely Orchid, I pointed out the advisability of trying a few in the cool house during the summer months. I am pleased to say that ours have done wonderfully well under such treatment, the foliage keeping beautifully green and free from spot. They were brought into the Cattleya house about the end of August and almost immediately they began to push their spikes and are now in full flower. The long lost Orchid, Laelia Jongheana, grown under similar conditions has exceeded our expectations, by pushing up its flower spikes as soon as being returned to stronger heat, and no doubt there are numerous other things that would receive much benefit by a course of treatment as indicated above.

TEMPERATURES.—Warm division, 60° to 65°; Cattleya house, 55°; cool house, 45° at night with a rise of about 5° by day or more with sun heat.—S. C.

HINTS FOR AMATEURS.

Bamboos.—Even though the Bamboos, such as *Bambusa gracilis*, and its variegated form, *B. Simonii*, *B. nana*, and *B. Fortuneii variegata* are plants of the most graceful appearance of any of the many thousands grown in British gardens, and, notwithstanding the extreme simplicity of their culture, their introduction to many a large, and more so, to many a small garden, has yet to take place. Their culture is simply this. Buy, say, three nicely furnished plants of a species or variety from a grower. These are generally stout and compact enough to allow of their being divided into about three portions. Pot up these parts so as to form distinct plants, placing the pots for a short while in a warm fermenting bed, or just on the stage of a warm house. New roots will soon ramify throughout the soil, and the plants will prick up. Cool treatment, no forcing or coddling, plenty of light, and mild air, with a steady supply of water according to needs are, after this point, really the only hints which are necessary. An ordinary loam compost with a dash of sand is found to suit them.

Adiantums.—While on the subject of foliage plants, the Maidenhair Ferns may be referred to. In houses by themselves, apart from anything else, I can always find much to admire in them. Very many plants during winter are tried to the last cord of their resistance by persons who have the best of intentions but who seem never for a moment to think they never exercise judgement in the most vital item of cultural treatment at this time—watering. Far rather dry the plants off and give them a rest than sodden and sour the balls of soil by constant dribblings. To those who are successful with their Ferns, it may seem redundant so much of this "cant," but almost daily evidence comes to one that the advice is necessary. The opposite extreme, that of allowing every kind of Fern to become dust-dry, is not intended to be adopted. Young stock always requires more careful attention and treatment than do older plants. All dying and withering fronds of the Adiantums or other members should be picked off cleanly.

Aspidistras.—These plants are favorites with all classes of garden lovers. They are at once most ornamental and steady in their growth, that is, ups and downs seem to have little effect upon their health. Pot-bound plants also seem to thrive equally as well as those which have plenty of space. The variegated variety of *A. lurida* is, indeed, increased in beauty by being potted first in a light limy soil and, when root-bound, kept so, only being nourished by small quantities of liquid manure. On the other hand, if *A. lurida* is desired as a fine, large sized, green specimen it should receive liberal treatment, being occasionally fed with a weak solution of nitrate of soda, or other chemical fertiliser. The foliage should be kept bright and clean.

Manettia bicolor.—For purposes of decoration, such as pillar-draping, or as plants for bush-trained greenhouse specimens, the Manettias, as a whole, may well be included in the garden list. The flowers of *M. bicolor* are tubular, about 1 in. in length, narrow, of a scarlet colour, with a deep yellow or orange tip. They are freely borne on the young wood. Cuttings may either be taken in autumn or in spring from half ripened wood of the previous season. The treatment meted to a *Fuchsia* will almost equally answer in regard to the Manettia. About June, just before potting the plants into 8-in. pots, pinch back the shoots so as to form more bushy and sturdier plants. The autumn treatment ought to be such as to secure firmly ripened wood rather than further formation. Older plants may be top dressed in spring instead of being repotted or potted on. The plant makes a splendid trellis climber. Well seasoned, hardy specimens are annually placed out in some of the fine beds in the London parks during summer, and flower under such treatment toward the end of August.

Panax Victoria.—This is a pretty silvery cut leaved stove plant, which is one of the foremost favourites in all our larger gardens. Here again we are fortunate in having a plant at once as beautiful as we might well wish any plant to be, yet whose cultural care seems to try one. Fine young plants

can be developed by any one who possesses a frame and a small, light, heated conservatory. The silvery foliage, plus its graceful habit and manner of filling out into well furnished plants as it goes along, should be strongly in its favour for acceptance by the younger volunteers to the army of amateur gardeners. Early in February slips from straight side shoots should be taken and inserted in the ordinary manner within small pots. Plunge them in a bed, giving a bottom heat to the pot of 75°. Keep them well encased so as prevent undue evaporation. When they have rooted grow them on for a short while in the same pots, placing them on a shelf in a warm house, the plants being within a few inches from the glass. Be sure that before potting them on the compost has been previously warmed. Ordinary care in potting, watering, slight pinching of the laterals, and the attention to maintain a temperature of not less than 60° Fahr. will be found all that this pretty little plant demands.

Plumbago capensis.—Hints on the culture of this gloriously beautiful, bright blue greenhouse climber are always sought for. Strong cuttings of a few inches in length are struck in spring, or where the circumstances will allow of it the shoots may be notched and pegged down. By such a process they soon send out roots. When the cuttings have become rooted plants cool house treatment and progressive shifts must be given, first into 5-in. pots, then into 7-in. or 8-in. pots, until after having raised fine, strong plants with one good central stem and a number of side branches the plants may be planted out. During the summer, when growth is being made, some amount of shade is absolutely essential. Water may then be freely given, and the plants will be all the better from having a daily overhead syringing. A shoot which has a tendency to overgrowth must be cut well back. The insect pests attacking them are greenfly and red spider chiefly, so that at times soft-soap water, with also a tobacco solution or fumigation should be employed.

Hedges.—When hedges become baggy, loose, and fail for the purposes of ornament, it sometimes proves a correct method to severely prune them in. They are for the time being made more wretched in appearance than before, but that has to be endured. No one unskilled to the work, however, should take any difficult reparation in hand. The whole after beauty and health of the hedge depends on the correct performance of this work of pruning in. In other cases again, where the hedge has become decrepit and dead in parts, generally through the effect of over-shadowing trees, where the trees above them cannot be pruned, the next plan is to dress the roots of the hedge, and to allow the whole body of it to grow rampant without any pruning for at least three years. This has a wonderfully recuperative effect.

Petunias for spring flowering should be past the cutting stage now. With facilities and a good knowledge of the plant, it is not too late even now to insert strong cuttings or to sow seeds. These, however, would not flower at so early a date as plants which at present are rooted and in 3-inch pots. A place on a greenhouse or peachery shelf is the best position for them at present.

Ampelopsis.—The usefulness, plus all the other qualities which the varieties of *Ampelopsis* possess, become more strongly apparent as each season passes. The hints which are applicable in their respect at this time are few. They can be planted all through the winter, weather permitting, care being taken to mulch the roots after having planted them. Layers, or cuttings, strike with freedom in light, sandy soils.

The Seed order.—Very soon the seed order for next year will require to be made up. Christmas and New Year time have so many calls upon our spare hours, and upon our money, that it would probably be wise to consider and fix upon the list of garden requirements before the buzz and the expenditures of parties, presents and people absorb more than the amounts which can be spared. There are many little objects which have been seen, admired, envied, and, perhaps, quietly promised to oneself or to the good wife, or other near member of the household during the summer, and this is just the time to get them, or make sure that they shall be got; it is also just the time that they are overlooked. See to it, then.

The Fruit houses.—The timely article on the winter treatment of the Vine, by a correspondent, in *THE GARDENING WORLD* recently, sums up all that

could have to say here. The peachery should also be gone over and put in order, pruning, washing, painting of trellis or wood-work, and various other points, which the article above noted will suggest, may all be seen to now.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Gloire de Dijon Rose.—*L. Logan*: Let the aspect be south or west. It is found doing well on all sorts of soils, but in our experience the most floriferous plants were grown on a gravelly loam. Unless the leading and lateral shoots are properly pruned in the training, this, like other varieties, is apt to flower all at the top, leaving the other shoots bare. It can be grafted upon seedling Briers in April, or budded later again about September.

Tibouchina macrantha.—*W. Errol*: From the description, and the fact that it is the only climber of the kind flowering at this time we conclude that the above is your plant. Cuttings or seeds, struck in the one case, or sown in the other, any time before May, will by cool greenhouse treatment furnish other plants in a short while. Keep the side shoots slightly pinched.

Thorns for Front Garden.—*J. Nicoll*: The Thorns are pretty in their flowering season, but not greatly so during the summer. They are more suited for the half-kept ornamental grounds. The False Acacia is a very pretty foliaged shrub or tree. *Cornus mas variegata* is sweet, Laburnums are worthy, so with the flowering Cherries, &c. *Prunus Pissardii* would be pleasant.

Liming Gooseberries.—*"Grower"*: The practice is mainly to prevent birds from alighting or at least from picking the buds. It to a certain extent prevents the Gooseberry sawfly and other pests from depositing eggs on the bushes. After having pruned your bushes if sparrows, bullfinches, or chaffinches are troublesome let a lad go over the bushes to string dark-coloured thread from tip to tip of the shoots. Threading rods are sold by most of our sundriesmen.

The Lavender.—*Wm. M., Selkirk*: In April when the soil has begun to get moistened and warm, transplant to a shady border. Slips may be taken from the plants at this time, and after being prepared as cuttings they should be placed in lines about 4 in. deep in sheltered south borders.

The Pruning of Shrubs.—*Arborist*: Weigelas, shrubby Spiraeas, and the host of flowering shrubs we know are paid more attention to by the German gardeners than by our own craftsmen. We ourselves are content to thin the branches only, so as to allow more light and air to enter; form has to be considered. It is a fact that nurserymen prune all manner of young stock to secure shapely specimens. Probably some of our readers may express a fuller opinion.

Mule Pinks.—*M. L. T.*: Splendid plants full of beauty and fragrance. At Dalkeith Palace they are grown all over the kitchen garden along the edges of the paths, &c., and afford a wealth of cut bloom. Layers or slips should have been taken in the early part of autumn. Could you not divide the plants, having roots to each division? We should leave the propagation alone for the present. They enjoy a rich, moist, rooting area in a half shaded border.

Salvia patens and Lobelia cardinalis.—*"Beginner"*: It is a curious coincidence your having mentioned two plants which we recommend should be lifted during winter. They are strikingly beautiful, each worthy of pot culture. Lift them both and store them in shallow boxes, firming the tubers and the roots well with light soil. Place the boxes on a cool house stage, and give very little water. In springtime take cuttings, and either pot up or plant out the old stools, as for Dahlias or in the case of the Lobelia, as for Pentstemons. Of course, on a light soil, well dried, and warm this work of lifting would not be necessary.

Pruning Apple Trees.—A. K., Donnybrook: Prune now, as advised recently in the "Hardy Fruit Garden."

Limb of Tree in Danger.—*Fearful*: If pruning is not a fault in your case, then relieve the limb of some of its weight. Otherwise the remedy or prevention of damage, lies in having iron girders made to encircle the limb—two semi-circular bands to be screwed together by means of nuts—and this to be attached by a stout chain or rod to the main trunk, which must also be encircled.

Hydrangeas.—R.S.: These should all be housed by this time, and potted firmly or well top-dressed in good soil. The houses which accommodate them should be cool enough to prevent new growth, but the proper ripening of the foliage is necessary, and for this reason it is well to make them secure and comfortable. The old foliage should be carefully treated and ought not to be dried off too suddenly.

CHRYSANTHEMUMS AT UDSTON HOUSE.

MANY fine collections of Chrysanthemums are never seen outside of the gardens which they have been grown to beautify; yet they redound to the credit of the gardeners who rear them in the seclusion of private domains.

The accompanying illustration shows a group of Chrysanthemums, which have seen good service in one of the houses at Udston House, Hamilton, the residence of Lady Belhaven. The photograph necessarily shows them very much reduced. Some of the blooms were equal to the conventional 14 in. across, which means that they would measure 8 in. or 9 in. in diameter in the natural position without spreading out the drooping florets. Mr. D. Chisholm, the gardener, informs us that he grew all the single stemmed Chrysanthemums, this year, by way of experiment, in 6-in. pots, with excellent results. No other feeding was given than that obtained from sheep droppings, and employed in the liquid form. In more ways than one this has given the greatest satisfaction. The nitrogenous constituents of this manure, like that of deer droppings and fowl manure, are generally reckoned the most valuable part of it. At the beginning of the present month the big blooms which appear in the front of the picture had been fully developed for two months, and gave promise of keeping fresh for another fortnight. This, for the moist climate of Hamilton, is certainly very good, and must also be an indication of the careful treatment given them on the part of the cultivator.

SYON HOUSE.

THE outstanding residences of aristocracy are comparatively voluminous but those which peer up like mountain peaks above a sea of well-defined but lesser summits, are, just like the physical objects referred to in *simile*, scarcer and in ratio, they attract and obtain greater attention. Of course the point of view from which each person, as a complete and separate medium of thought, regards a place or object regulates and determines the value of that place or object in the mind of the person who views.

Syon House, one of the seats of the Duke of Northumberland, from a horticultural standpoint is very eminent. A kindred science is forestry, and again seen through the tree-lovers' spectacles, Syon is a land flowing with milk and honey, a storehouse of many fine old relics. The architect might not have very intricate studies to engage him at Syon but the landscapist could spend days in meditation upon the ripened ideas of his ancestral brother craftsmen, for in all likelihood Knight, Price, Brown, Loudon, and others either had a share in the planning of Syon House grounds, or studied from its pattern at one time or other.

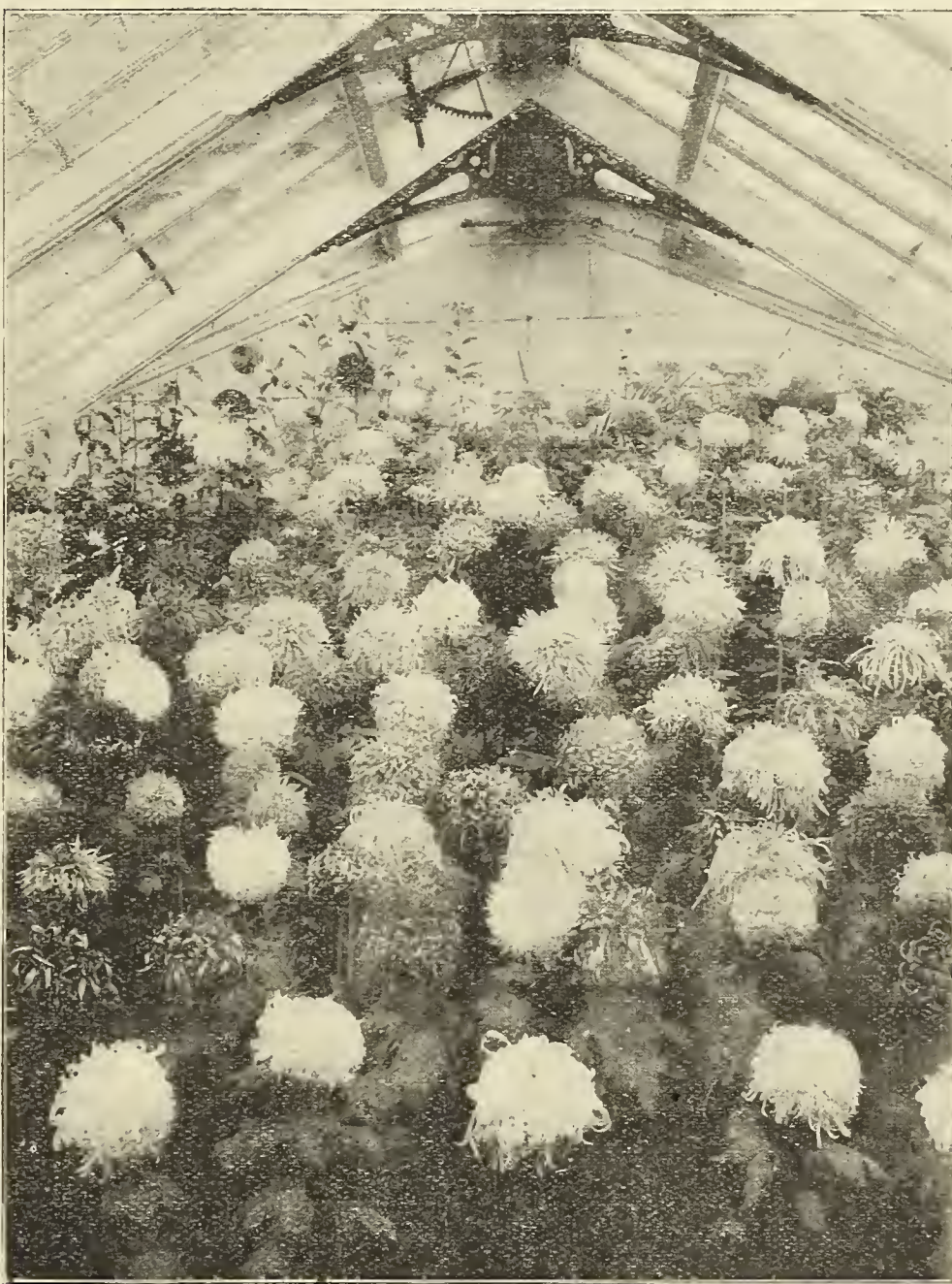
Syon House, Brentford, Middlesex,—the name of course hails up that of Mr. Geo. Wythes, and at the mention of Wythes and Syon House, one naturally has a picture of splendid gardens where vegetable and fruit culture are in their quintessence of perfection, where new ideas, bettered systems of procedure and every plan employed which an able and trustworthy gardener can adopt toward the improvement of the crops under his charge and their most economical management. We may as well speak upon a few things connected with

VEGETABLES,

and their method of treatment by Mr. Wythes. The manner in which clean, crisp, fat and well blanched Asparagus is produced is an "original" of Mr. Wythes' own invention. The beds are of the ordinary width—3 ft. or so—but in place of alleys or paths, one finds a brick built trench 18 in. to 24 in. wide and 4 ft. deep. The side walls, entirely loop-holed, are built on the principle of one halved brick laid on its edge and supporting a whole one which lies flat. At every 10 or 12 ft. along the trench a transverse little wall acts as a stay to the walls of the long trench. Into this trench about this time of year, fermenting material composed chiefly or entirely of forest leaves, is trodden in. The whole trench is filled and the beds likewise covered over to a goodly depth. From so simple and efficient a plan Mr. Wythes is able to cut beautiful heads of the luscious esculent in six weeks or two

every means for conserving solidity and moisture according as one or the other is demanded by a coming crop, every means, we say, has to be contrived to obtain the desired end.

The Strawberries for runners are entirely a separate crop to that of the Strawberries for fruits, the one is grown especially to produce fruits, in the others the flower-trusses are picked off. The young plants which are to furnish the runners for next June or July, are in lines about 15 in. apart, or rather more, and just now (and this is why I mention the Strawberries) St. Martin's Cabbages are forming or have formed their fine heads in lines between the Strawberry rows. So by such an economical combination, for neither crop appreciably suffers, the most and the best are raised from a given space. The St. Martin's Cabbage is one of Mr. Wythes' own raising. It is so named because it comes into use about St. Martin's Day. It received



CHRYSANTHEMUMS AT UDSTON HOUSE.

months from the time of applying the fermenting leaves. The system is as good as it is successful, for the heat is a steamy heat, not a drying one, suiting the marine likings of the Asparagus roots. The fermenting material is left in the trenches till the next season and by its decay, forms a rich region into which the strong roots and the weak roots of the Asparagus equally like to penetrate. For those who have not attempted the plan, which has been frequently exploited in our own and other papers, it is worthy of a fair trial.

Strawberries are grown as annuals. When they have given their yield of fruits and no further returns are expected they are razed with spades so that the ground is as even as a brake newly dug. Broccoli are intended to go upon the land, however, so it is not dug, but the surface is thoroughly cleaned. The Syon House soil is very sandy and light so that

an Award of Merit at Chiswick recently. The variety has a capital habit, forming as it does, conveniently sized heads, not too tightly packed, and when cooked it has the fine flavour of the Colewort, which with the Christmas Drumhead formed the two parents. Cardoons are not seen every day. At Syon these are grown, their culture being much like that of Celery after the manner of which plant they are cooked. The long leaf blades have to be blanched beneath the mounded soil. Specimens will be seen at the Drill Hall at a meeting in the near future.

(To be continued.)

"Just fancy! the thermometer registered twelve degrees below zero last night." "That's not Fahrenheit?" "No, but it's very far-in-cold."

WORK FOR WINTER.

WHEN the morning light only breaks about eight o'clock a.m., and when the curtain of evening falls as early as half-past four in the afternoon it might be thought that the hours between would be tightly employed by employees in gardens. But no! These short days of winter are a great hang. The men find little to do, or rather there is plenty to do, only unpropitious weather detains them, and the outdoor labourer has even to find indoor occupation. If there is no work to do the next thing is that of killing time, reflecting on the warm fireside at home while stowed away in some by-corner. Now the place that has not enough of indoor work to busy the hands employed, both outside and indoor workers, must be a prime one, an exception to the rule.

An observant and energetic gardener will see that all his tanks are clean and properly plugged; leaking valves will be examined and tightened, probably an alteration made. Where any radical change is required, as in shifting pipes, probably raising, or it may be lowering the fall either for the better economising of heat or flow of the water, one good engineer assisted by the gardener and a couple of men can do the work. Then there is indoor glazing, alterations and improvements to pavements or to pathways. Houses are all to wash, some of them or parts of them may require to be painted or have slight additions made; not absolutely additions, but erections such as shelves and trellises. After all such work has been seen to, there are plants to clean and cautious men from outdoors can always be trusted to do such work thoroughly. Labels and stakes of every size and for all purposes will take up somebody's time in their preparation. Pots are to wash and boxes and baskets to make. Not many gardeners now make their own baskets but where anyone has a knowledge of the art the time is well spent in furnishing new samples. Besoms are always needed in every garden and if the precaution has previously been taken to hie out to the woods for Hazel bunches or for Birch, and if these have been dried this is very profitable work for the outdoor men. Tool houses require an occasional rearrangement and clean up; and the implements themselves are none the worse for being burnished. Spades or forks may be in need of a handle, which work though is only for what may be termed the "handy man," the man who is indispensable about a place because he tries anything and generally succeeds with what he puts his talents to. It is marvellous how much a man can do when he tries, but it must be *try*. Then labels are to be written for the herbaceous borders, &c., and the stored crops to look over. But the more one enumerates the further does the range of suitable and necessary work widen. There is practically no end to the improvements and the preparations which could be effected by the outdoor garden worker in the days of winter, at present often a bore from morning till night.—*Worker*.

NOTICES OF BOOKS.

CITY OF BOSTON. DEPARTMENT OF PARKS. Twenty-fourth Annual Report of the Board of Commissioners for the year ending January 31st, 1899. Printed for the Department.

This annual report runs to seventy-nine pages, and contains a great amount of information and statistics relating to the numerous parks, gardens and recreation grounds in and around the city of Boston, Massachusetts, U.S.A. Mr. John A. Pettigrew is the superintendent of the Department of Parks, and he as well as some other heads of departments contribute to the report concerning their respective duties. Several beautiful photographic illustrations serve to render the book interesting, for it takes the form of a book, bound in cloth. The illustration of Jamaica pond shows a fine stretch of water, beautifully wooded on the farther shore. The playstead is the recreation ground for cricket, &c. Woodland brooks and many fine trees are also shown. Hemlock woods in the arboretum show some very fine timber.

The superintendent, Mr. J. A. Pettigrew, in his report gives some interesting information of the work being done under his charge in Franklin Park. He had been instructed by the Board of Commissioners to accentuate the New England woodland character of this park by the removal of exotic trees and

shrubs for the benefit of native species. *Berberis vulgaris*, *B. Thunbergii* and the common Privet have been retained because they have so long been associated with the woods of New England that they now seem fit associates for the true natives. Much thinning of the other trees has been effected during the past three years, so that the remaining ones have greatly improved in health and growth, while the admission of light and air to the underwood has proved highly beneficial to the young and dwarf subjects that always add to the charm of woodland scenery. This hint might well apply to our own woodlands in the neighbourhood of populous places, including Putney Heath, Wimbledon Common and Epping Forest in the vicinity of London, where the so-called improvements of native scenery are not always appreciated. From 6 in. to 10 in. of soil were spread over The Glade and the woods on either side where the roots of trees were exposed owing to the deficiency in depth of soil. Several knolls and high pieces of ground were ploughed, subsoiled and then planted after a liberal quantity of fresh soil had been spread over the surface. Plantations have also been made round the park in several places to shut out the views of street trolley cars, telegraph poles, &c., which had been intruding upon the quiet retirement of the park.

The whole of the report is taken up with interesting information of this kind relating to the numerous parks, ornamental and recreation grounds now enjoyed by Boston. Between the Public Garden and Franklin Park there are 26.2 miles of driveway, all of which have to be kept in proper order. This driveway connects the various places in a sort of system. The main park system includes some thirty-one pieces of ground, all of which are mentioned in the financial statements. The second half of the book is taken up with statistics and data relating to the parks.

THE CENTURY BOOK OF GARDENING. A Comprehensive Work for every Lover of the Garden. Published at the offices of "Country Life," 20, Tavistock Street, Covent Garden, W.C.; and by George Newnes, Ltd., 7 to 12, Southampton Street, Strand, W.C. To be completed in 26 weekly parts, price 6d. each.

The illustrations of this book are the first thing to catch the eye of those who look inside the covers. The art of the photographer is here displayed to great perfection by the excellency of the paper and printing. In the first number are illustrations of the formal garden at Longford, the Rose garden at Downside, the famous clipped Yews at Elvaston Castle, the terrace garden at Heckfield Place, the Monk's Walk at Ashridge, the grass walk at Bulwick, an old Walnut tree at Ven House, St. Catherine's Court, Bath, and other well known scenes.

The introduction is followed by a chapter on shrub borders and hardy flowers by Mrs. Earle, in which is recommended the planting of a great variety of flowering subjects, exclusive of Lilacs, Laburnums, Rhododendrons, and Laurels. More favoured are such things as Pyrus, Almonds, Peaches, sundry species and varieties of Prunus, single and double, Kerrias, Spiraeas, Genistas, Cistus or Rock Roses in variety, the Snowdrop tree, Guelder Roses, Sea Buckthorn, Strawberry tree, Yuccas, Eucalyptus Gunni, New Zealand Flax, and even the common Seakale. No Roses are to be permitted in such a border, and only a few of more rampant growth on neighbouring walls. In the way of climbers for the latter, the writer of the chapter advises the use of Figs, Vines, American Vines, Clematises, Wistarias, Laburnum, Judas tree, the pink False Acacia, the Fiery Thorn, the Japanese Hawthorn, Honeysuckle, Austrian Copper Briers, &c.

At the end of Part I. and the beginning of Part II. is a chapter on hardy annuals, in which short descriptions are given of all the more useful and popular species and varieties brought under notice. A short chapter is devoted to everlasting flowers, and these again are followed by half-hardy annuals, such as China Asters, Nemesis, Portulaca, Tobaccos, Zinnias, &c. Biennials are not overlooked. Wall plants and pergolas are treated under climbers, short descriptions being given of Ampelopsis, Aristolochia Siphon, many species of Clematis, Crataegus, Pyracantha, Honeysuckles, and others.

The subject of tender plants for the summer garden is tackled by Mr. F. W. Burbidge, M.A., of the

Trinity Botanic Gardens, Dublin, who discourses pleasantly on a great variety of subjects, that may be and are used in the summer flower garden to give sub-tropical effects. Some of the species effectively employed are hardy, others only so in favoured localities. Others mentioned by name require the protection of a greenhouse in winter, and so on till we come to those that require the aid of a stove heat in winter to insure their well-being. Very much of the modern sub-tropical gardening, so called, can be effected by means of subjects that are hardy, or nearly so, and only require the aid of a skilled gardener, who has tact and initiative to produce effects, at once novel and attractive, even when carried out with the most common materials or occupants of parks and gardens.

Hardy flowers are of great importance in modern gardens, the subject being here treated at great length, running through the greater portion of Part IV., and only reaching scarlet Lobelias at the end of Part V. Under the generic names in the margin the showiest and most useful of the hardy herbaceous subjects are recorded, with a brief description of their most prominent features. These subjects are, indeed, so numerous that they would usefully fill a very large book. The Fritillarias, for instance, number something like fifty species, yet the more important of them are dealt with in one paragraph, our native species being prominently brought to notice by a vase of cut flowers. Gentians occupy a little more space, but the few kinds recommended for general cultivation are described in a separate paragraph to each species, those enjoying this prominence being *Gentiana acaulis*, *G. Andrewsii*, *G. asclepiadea*, *G. septemfida*, and *G. verna*. Their special cultural requirements, or the conditions under which they succeed best, should prove useful to readers who undertake their cultivation.

THE NURSERIES, ROTHESAY.

VISITORS to Rothesay, if they are in any way horticulturally inclined, sooner or later find their way to the nurseries of Messrs. Dobbie & Co., whose offices are situated about the centre of Rothesay, the Brighton of Scotland, so called from the thousands of visitors who frequent the queen of watering places for North Britain, at all periods of the year, but particularly in summer. The glass houses are situated in the Springfield Nursery, behind the offices, but the bulk of the hardy and other outdoor crops are grown at Bush Hill Farm, about half or three-quarters of a mile away up the hill from the Bay of Rothesay. Bush Hill Farm is mostly upon the slope of the hill, but it also reaches the crown of the same, from where the visitor obtains splendid views of Rothesay Bay, the brown mountains on the shores of Argyll, the entrance to Loch Striven, Port Bannatyne, and up the Straits towards the Kyles of Bute, all on the right hand. In the valley below and in front is the long, inland Loch Fad, lapping the base of the Barone Hill, the highest point in the Island of Bute. The lower reaches are wooded, but away amongst the bare moors on the top is the Dhu Loch, from whence the water that gives the highest pressure in Rothesay is obtained. Away to the left is the sister island of Arran, on which is Goat Fell, with an elevation of 2,866 ft., and appearing quite close to Bute, though the silver streak of water is 12 miles across.

DAHLIAS AT BUSH HILL FARM.

Near the crown of the hill was a collection of some 4,500 Dahlias, covering an acre of ground, and all grown simply for the sake of roots. They consisted of all the new varieties for 1893, and kept flowering till a late period last autumn, in spite of the blustering wind and rain. Conspicuous amongst them was the blackish maroon variety named Night.

Another acre was grown in the lower field, but, being planted 4 ft. by 4 ft. apart, there were only 2,500 plants in all, including the novelties of 1898 and 1899.

CACTUS DAHLIAS were of leading importance here, including Mary Service ('98), a salmon-red and pretty variety, with long, pointed petals. Of Keynes' White 8,000 were distributed last spring and early summer. A huge scarlet flower was John Welch, of a showy character. The maroon-crimson, Harry Stredwick, does well here. Fusilier was scarlet, shaded with salmon, bushy, dwarf, and profusely flowered. The rich crimson Chas. Woodbridge was even finer, the long, straight, and sharply

pointed petals marking out this as one of the finest in the section to which it belongs.

The 1898 varieties were very numerous, and many of them excellent. Amongst them were the salmon-pink Tillie, the rich scarlet and straight-petalled Standard Bearer, the popular and showy scarlet Stella, the free and bushy Ruby, having its scarlet florets tipped with violet; Laverstock Beauty, large, and bright salmon, with curved and pointed florets; and Laverstock Beauty, another variety, belonging to the type having incurved petals, with large and bright salmon flowers. The glowing crimson of Regulus was its redeeming feature, as the florets were rather broad. Night was the darkest and best of its section. The purple and violet shaded flowers of Miss Finch were small but very pretty. The glowing crimson, and the straight, pointed petals of Mrs. John Goddard made this the best of its particular colour. Very pretty likewise was the straight petalled and dark crimson Gipsy. The best of the mauve varieties was Island Queen, with long and straight, delicately coloured petals. A large and showy one was Polka, having rosy-scarlet flowers. Capstan, an orange-salmon sort, added another to the incurved type. The best of the yellows was Daffodil, dwarf in habit, and soft and pleasing in colour. Another popular variety noticed was Britannia, with very large, soft salmon flowers. The florets of the true Arachne were white, edged with orange; but a sport from it had self-coloured orange flowers. The salmon-pink, incurved flowers of Alfred Vasey were very full, globular and handsome.

The 1899 varieties, if less numerous, were generally of a very high standard of merit. Ranji was almost black, but a shy bloomer. Very pretty, however, was Viscountess Sherbrooke, with long, incurved, orange-salmon florets. The orange-salmon Radiance was tipped with scarlet, the florets being like fiery barbs. The Clown is well named, being a large, loose flower of a buff-orange, tipped with white. The salmon-scarlet of Countess of Lonsdale made an exceedingly pretty flower, by reason of its small size, neatness and beautiful colour. Captain Broad might be likened to a miniature Gloriosa, being free, early, bright scarlet, and a really good thing. A perfect hedgehog was Magnificent, the soft orange florets being very long, sharply pointed, and radiating in all directions. Exquisite was another incurved flower, of an orange-salmon, and very pretty. Very choice also was Wm. Cuthbertson, having rich scarlet flowers and incurved petals.

POMPON DAHLIAS.—A very large collection of all the newest and best varieties of pompons were grown in the same field as the Cactus Dahlias. In all the sections Messrs. Dobbie & Co. make a point of securing the best as they are put into commerce. The small and neat forms are the greatest favourites, so that the undermentioned are of the most up-to-date size, unless otherwise stated. Well tried and perfectly reliable are Amber, buff-amber; Hypatia, salmon-red, with yellow centre; Agate, very pale primrose, or nearly white; The Duke, dark maroon; Katie, salmon-pink, and pretty; Nora, bright yellow, small and neat; Nellie Broomhead, purple; Vulcan, bright scarlet; Captain Boyton, maroon; Ceres, beautiful primrose; Clarissa, primrose, and lilac reverse; Douglas, maroon; Dr. Jim, rich carmine tip and rose at the base; Dagmar, maroon, with fluted petals and very pretty. Hilda, red, tipped with white, and pretty; Irene, white, with red edges; Jessica, yellow, edged with red, very small and attractive; Little Dorrit, dark carmine; Nerissa, deep rosy-pink, and quite charming; and Gannymead, soft lilac, tinted with yellow. The latter colour is even more developed in Flora, which might be described as bright yellow, tinted with red in the centre. The best yellow is Emily Hopper. A pleasing development is met with in Sunny Day-break, the florets of which are yellow, edged picotee fashion with orange. A good old yellow variety well worth growing yet is Whisper.

The herbaceous borders still contained a good many flowers late in September, conspicuous amongst which was the Tiger Lily (*Lilium tigrinum*). Early Chrysanthemums were planted out for the sake of cut flowers. Violas were gay in a long, wide border, and the miniature, sweet-scented *Violetta* formed beautiful edgings. *Tropaeolum speciosum* was flowering away, and fruiting upon the wall of an office in the grounds.

Those flowers were on the lower slopes of the

hill, in some of the breaks of which vegetables were grown, including a fine plantation of the International Leek with long, blanched necks. Champion Leek, a thick-necked variety, was in equally fine condition. Celery was vigorous and tall.

SPRINGFIELD NURSERY.

One of the leading features of the outdoor cultures of the home nursery, situated behind the offices in the town, and stretching away up the steep hillside, was a good collection of single Cactus Dahlias, being in fact the largest assortment of this particular type. Pompon Dahlias are largely grown, for the sake of cut flowers, in many gardens, but the single Cactus varieties are even more graceful and capable of producing fine effects in vases and light arrangements of flowers generally. Brenda was a fine yellow, with long, incurved rays; Alice Lee, soft pink; Lady Edith, buff-purple, with a yellow zone and very pretty; Finella, purple-pink, with an orange zone at the base, and prettily fimbriated at the tips; Everand, glowing crimson with twisted florets; Rose Bradwardine, yellow, and bronzy towards the tips, and twisted; Rob Roy, deep purple, tipped with violet, twisted, and one of the oldest of this type; Abbess, white with a yellow zone; Dominie, orange-scarlet, tinted with yellow at the base; and Nigel Oliphant, which is clear yellow and holds its flowers well up. Very distinct, also, is Norne, buff-yellow, incurved at the tips, and erect. The oldest single Cactus now in existence is Ivanhoe, rosy-purple, with a crimson zone; it is still one of the best, and has large flowers. Guy Mannering is white, tinted with yellow on the lower half. Very floriferous is Lady Rowena, yellow, and faintly tinted with buff. Lucy Bertram is soft buff-purple with a yellow zone; Queen Mary, white, with a yellow zone; and Crusader, orange-scarlet and incurved like a huge rayed star. There was a great mass of these single Dahlias, and the variety of colour was pleasing and attractive in September last. There were 1,800 plants in a new garden that had just been added to the nursery.

One of the newer Cactus Dahlias was Mrs. D. Bartram, a dark purple, but not very free. Show and fancy varieties were being grown for stock roots. New Pompon Dahlias on trial were Snowflake, pure white; Madeline, primrose, edged light crimson; Iris, soft buff-salmon and pretty; Distinction, small and deep carmine-crimson; Demon, dark carmine; and Claribel, suffused purple and silvery-white. Altogether, the Dahlias constitute a very important branch of the business of the firm at Rothsay.

Away up at the top of the steeply rising ground was a plantation of 6,000 early flowering Chrysanthemums, including pompons in great variety and in colours to please and suit everybody.

MR. FLEMING'S GROUP AT THE AQUARIUM.

It is not the good luck of everyone to possess such high taste and judgment of proportions as is seen to be an integral part of some men's qualities. Decorators, no less than good artists, or any other members of an artistic profession, are not made, they are born. True it is, we can all be trained, we can all cultivate "taste," judgment, and perception as to the fitness in form and in the harmony or contrast of colours, enough at least, to pass muster; yet behind this, the genius at all times can find it easier to accomplish a design, to adjudicate upon the merits of an experiment, or to introduce befitting novelty.

Those who saw the unique group of greenhouse flowering and stove foliage plants, which Mr. John Fleming, gardener to Sir Charles Pigott, Bart., of Wexham Park, Slough, arranged in the Royal Aquarium, at the N.C.S. show of December 5th, 6th, and 7th, will certainly credit him with the very finest of artistic conception, and perception. For the benefit of those who may care to have a fuller description of the make-up of this, the finest feature of the show, and for the sake of lending hints of guidance to intending exhibitors, these lines are written. The group occupied a central position in the Aquarium. Its back was to the west, being placed against a dividing partition covered with green baize. There were Palms of the graceful *Phoenix tenuissima*, and a brightening element lent by bush-grown Chrysanthemums, of yellow and white flowering varieties, placed slightly below the Palms, but in the same line. Standing distinctly clear, and rising like a rainbow-coloured fountain, from the

bright carpeting of dwarf soft wooded plants, one at either side of the group, inward from the edge—which formed roughly three sides of an oblong—and outward from the back row, were two beautifully balanced Crotons Chelsoni, about 3 ft. in height. A large specimen *Humea elegans*, with its pendant red plumes, rose from a central spot immediately in front of the back row, its feathery sprays twisting and dripping downward through and amid the arching fronds of a fine tall *Cocos weddeliana*. The brilliant fiery scarlet racemes of *Euphorbia jacquinaeflora* had been neatly traced up the *Cocos* stem and looped over the lower fronds at their axils, so as to spout forth and lend their pretty glow to enrich the higher spheres. On each side, and a little in front of these central *Cocos* and *Humea* plants were placed two plants of *Dracaena Sanderi* each exactly the duplicate of the other. These were about 2½ ft. high. Nearly straight with them but again nearer the front, were bushy samples of *Croton Heathii elegans*. Well balanced *Cocoses*, slightly dwarfer than the central specimen, were placed like pillars to guard the outer corners. Now, around each of these prominent plants whose positions have been described, were batches of the following plants, mounded up to form a conical base, and from the basal points they merged off to cover, like a sweetly patterned carpet, the spaces between the standard plants. Thus, white, pink and bright magenta flowered *Cyclamens*, peach coloured *Primula sinensis*, *Erica hyemalis*, *Cypripediums*, *Lily of the Valley*, *Roman Hyacinths*, *Statice profusa*, *Begonia Gloire de Lorraine*, tree *Carnations*, *Fittonia argyrea*, and *Poinsettia pulcherrima* in all sizes, from those whose crimson flower bracts only rose above the *Hyacinths* and *Cyclamens*, to others 1, 2, and 3 ft. high. The manner in which these were used, and the great effect which they produced, was strikingly unique, and from being unique, they lent the group a fund of interest to the visitors. Callas were there too, being well shown toward the back parts; Indian *Azaleas* in full bloom, and long sprays of *Dendrobium* were additional features which, with a dark green edging band got from the use of wall moss, formed an effort of skill in floral art of which anyone might well be proud.

THE ART OF GRAFTING.

THE art of grafting is an old one; and how early it was known to man must ever, we suppose, remain like a good many other things, buried in the mists of antiquity. It appears that the art was known to Theophrastus, a disciple of Aristotle, and who wrote two books on plants, and refers to the subject. How long before his time grafting was practised is not known, but it is certain it must have been known for at least some centuries. Thales, a Greek philosopher, who flourished 300 years earlier, made a tour to Egypt to gain a knowledge of the arts at that time in possession of the Egyptians. There is nothing improbable in the supposition that grafting would be among the arts which the philosopher took home. Indeed it is very probable that it would, as Thales is regarded as the first to enter into phytological investigations, and from all accounts he is supposed to have made considerable progress. The next thing is, did the Egyptians have the art to communicate to Thales? Of this we do not think there can be any doubt. Though Egypt's civilisation was then nearly 2,000 years past its zenith, much of its galaxy undoubtedly would be in evidence, and grafting would not likely be unknown to a people who it may be presumed enjoyed some thousands of years of a civilisation, perhaps not inferior to that which we ourselves now possess.

Of course we have no evidence that any such thing was practised by the Egyptians at all; but still we think the inductions can with safety be deduced from the meagre glints of the dazzling nature of their civilisation that now and anon penetrate through the intervening darkness.

The halcyon days of Greece were waning at Theophrastus's time, and it is not likely that much was done to further phytological research under such disintegrating influences as accompany the decay of nations. At all events little is known of any progress in this direction after the latter philosopher's time.

We next find the subject spring up among the Romans with a zest hitherto unknown among the

Greeks. Cicero, Caesar, Tacitus, Virgil, Dioscorides, Pliny, and others are illustrious names in some way or other associated with the study and history of plants; and as an evidence of the progress made in gardening, over 100 forms of grafting are said to have been known to the Romans.

They, however, appear to have had fearfully crude notions of the laws which determine the relations between scion and stock. From the results which they have put on record, we of to-day are necessitated to think that they invented extraordinary fabrications. We certainly now know that union is an impossible quantity in many of the cases enumerated by them.

Names may have changed, of course, since then, though we can scarce conceive that such as the Vine and Walnut which were asserted to be grafted on each other, could be changed or mistaken by us for some other trees of the Romans. De Candolle, to whom is due the honour of first elucidating the theory of grafting, of course demonstrates the utter impossibility of such instances as recited by the Romans to have occurred. He demonstrates that the thing is physiologically impossible, and this agrees with later experiences. This savant also shows the necessity for confining the operation of grafting to varieties of the same species.

Though he found it possible to graft on different families of the same order, still the further the bonds of relation were asunder the less successful were the operations, and when they did succeed they lived only a short time. The principle upon which grafting is founded is an extremely interesting one. The union of the graft depends on the organic matter which is in process in the circulation. No cohesion ever takes place between the already formed woody parts of stock and scion. This can be easily seen by dissecting a grafted tree at the place of union, after some years' standing. This implies that no circulation of sap occurs in the heart wood, and that it is only in the liber and alburnum that this process to any appreciable form takes place. It rises in the latter, returns in the liber; hence the deposition of callus more above the point of union than under it. We recommend the study of this art both theoretically and practically to our young gardeners, before it becomes one of the lost arts of the profession.—D. Chisholm.

NATIONAL ROSE SOCIETY.

ANNUAL DINNER.

THE twenty-third annual dinner of the National Rose Society was held on Thursday evening, 7th ult., in the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, S.W.

Mr. George Paul, V.M.H., occupied the chair. The company sat down to dinner at 5.30 p.m., the social evening ending about nine o'clock. Amongst those present were:—Mr. J. D. Pawle, vice-president; Mr. E. Mawley and Rev. H. H. D'Ombraïn (the two hon. secretaries); Rev. J. H. Pemberton, Mr. Geo. Bunyard, Mr. Cecil Cant, Mr. Robt. Harkness, Mr. W. D. Prior, Mr. Edward Cant, Rev. F. R. Burnside, Mr. G. Prince, Mr. A. Turner, Capt. Christy, Mr. Geo. Gordon, and others.

The chairman proposed as the opening toast, "The Queen." He referred to the war now progressing in the Transvaal, remarking that the Queen must feel the losses there sustained. He prayed peace may soon come. The company drank the toast up standing, all joining in the National Anthem. The toast of "The Prince and Princess of Wales," coupling those of the other royal members was next moved. The Princess is the society's patroness, and a great lover of Roses. The toast was cordially received. The part song, "Sweet and Low," was given by the Venetian Part Singers, who sang with great clearness, sweetness, and grand tune. The humorous element was introduced in the song, "An Angling Episode."

The chairman thereafter opened up into a great speech, full of life, joke, serious suggestion, and apt quotations, proposing at the same time "The National Rose Society," coupling with it the names of the two hon. secretaries. Briefly he described the progress of the society during the twenty-three or twenty-four years of existence. At the present time they had £150 to rely upon, though from this amount the publication of the society's catalogue was yet to come. He asked for increased enthusiasm among the rank and file of the society's members.

Rev. H. Honeywood D'Ombraïn made a concise and very pleasant speech, citing his own and Mr. Mawley's case as like unto two soldiers, the one strong, fresh, and eager, the other tattered and torn, past active service, even though still willing. He had done much work, and done what he could during his twenty-three years of connection with the society. Mr. Mawley must now bear the brunt of the battle. The latter gentleman, in his reply, spoke of the affairs of the society, the amounts realised by subscriptions, the need there was for unity and liberality in this and other directions, also about their affiliated societies, and the desire which northern growers expressed about having an annual show in one of their centres; yet they would not sufficiently come to the aid of the N.R.S. to allow of anything worthy being undertaken. The great labour which the compilation of the Rose catalogue entailed was referred to. On one occasion the committee sat from 11 a.m. till after 5 in the evening, going over the descriptions of varieties alone—this merely by way of proof. More experienced growers were wanted for the championship prizes at their shows. The memorial to the late Mr. Girdlestone was put before the members, the fund being yet in need of subscriptions. And lastly, Mr. Mawley wound up by expressing the wish that more might be written of strict interest to the Rosarian. He asked where were those who should now be filling Dean Hole's place, or that of the late Mr. Girdlestone, Mr. Graham and Rev. J. B. M. Camm, who used to write under the *nom de plume* of George Savage, or the other great Rosarians, who were now past active work.

A solo then followed, being succeeded by the Swedish Folk song, "Spin, Spin." The madrigal, "Come, let us join the Roundelay," was also well rendered by the company of Venetian singers.

"Our Affiliated Societies" came from Mr. Geo. Bunyard, and was responded to by Mr. Foly Hobbs.

"The Absent-minded Beggar" was sung in rattling style as a solo by one of the part singers, after which a collection was made and £1 15s. 4d. realised towards the War Fund.

"The Horticultural Press" was proposed by Rev. J. H. Pemberton, who, in the course of his remarks, lamented the fact that in our gardening papers there was a conspicuous lack of elementary teaching on matters concerning the culture, &c., of the "Queen of Flowers." He advocated chatty articles which would put the rudimentary facts for successful management before those who are not "graduated Rosarians," but who would become enthusiastic, he felt sure, if simple facts were dished up for their guidance. Mr. Gordon, of the *Gardener's Magazine*, answering the toast, made the observation that one of the things which had helped to whiten his hair in no small measure, was the difficulty he, as an Editor, experienced in getting expert writers to join him and give their experience on various phases of Rose lore. He had great hopes still, and appealed to those present to stir up a fire of enthusiasm by their own co-operation, and to endeavour to secure others to help. Mr. G. Bunyard called upon Mr. J. H. Dick, of THE GARDENING WORLD, who, in a sentence or two, referred to the necessary work of reporting their shows and their meetings, and by comparisons and descriptive writings of different men's work, aid in the work of uniting and sustaining the enthusiasm.

It now fell to Rev. H. H. D'Ombraïn to propose the final toast of the evening, "The Chairman," a gentleman, whom he was sure did his work from pure love for it, and so long as he was connected with the society they would have one of their strongest pillars to rely upon. Mr. Paul's response was one full of thanks for the honour conferred on him that evening, and sincere in its hopes for the future. He had been connected with the society since its inception, and so long as strength was given him he hoped still to take an active part in its good work. A humorous part song, "The Patent Medicine Jest," followed upon this, and the programme having been exhausted the members quietly dispersed.

New Pelargonium "Amerloa."—From descriptions and a handsome photograph in *The Weekly Florists' Review*, it would appear that indeed a very fine rosy hued variety has been raised by Mr. Eichholz.

STORIES CONCERNING PLANTS.

ON Tuesday, December 5th, at the R.H.S. meeting in the Drill Hall, Westminster, the Rev. Prof. Geo. Henslow gave one of his lectures on "Some of the Plants Exhibited." Prof. Henslow's stories on the inner beauty and on interesting facts about plant life, structure, and propagation always bring together a large audience. On this occasion the ground to work on was not very varied.

The Juniper and the Retinospora were compared, showing in a concise form that neither in branch, leaf, flower, or fruit of these two shrubs could one find much difference, and the foliage was certainly not of a constant character in the Juniper. One reason for so much of our present day change and further change in the classification of plants, may be found in the fact that botanists, fifty or more years ago, were content to study external differences and to apply names, perhaps prematurely, to their plants. Botanists, to-day, however, are not content with the study of names and outer characters, they fathom the histology of their plants. The Veronicas of New Zealand were in like manner inferred along with the Conifers just named. In the lower regions of their native habitats they expand freely, having also free, full-sized leaves. As the New Zealand Alps are climbed, higher and higher as one goes, the Veronicas alter in character, the leaves become more crowded, become much smaller, until in the highest elevations, after having passed the *V. buxifolia* type, one finds species not unlike, in their habits and morphology, some of our Conifers.

The various forms of leaf arrangement for purposes adapted to circumstances, were briefly explained in connection with the habit of the Irish Yew and others of the Yews, whose leaf and stem structure is quite unlike that of the *Taxus baccata fastigiata*.

The peculiar cap which fits upon the stamens of *Catasetum tridentatum*, and which shoots forth on to the top of the Humble Bee's back, with its other peculiarities for holding itself there when in position, and the manner in which the *Catasetum*, the bee, and the *Monachanthus* (*Catasetum*) *viridis* of the old botanists, work and contrive together for the purpose of fertilisation, were all demonstrated. The story about Darwin's prophesy that though *Angraecum sesquipedale* had too long a tube for any moth known in his own time ever to be able to fathom it, and by so doing promote cross-fertilisation, but that there certainly must be a moth provided by nature for the purpose, and that such a moth would some time or other be found, was recounted to the audience with the information that reports of good standing were current verifying the great naturalist's prophesy.

A big hit was made when the lecturer compared a small single flowered variety of *Chrysanthemum* with a large white Japanese bloom, announcing, while holding the two at arm's length upward, that these forms, and all others in the hall, originated from one species, *C. indicum*, which was brought from China to Chelsea sometime last century.

Bouvardias belong to the great order Rubiaceae to which also belong our native plants the Woodruff and Galium. Our own land furnishes small types of the great order, but go to Africa, said Professor Henslow, and there you will find the Gardenia, and the Coffee plant, great members, giants even, compared with the little *Asperula odorata*, or the Galium. Lady's Bedstraw is the popular name for the Galium, it having received this homely epithet long ago from the fact that its little yellow flower spikes were cut and used to stuff pillows with. A Galium ferment is used by the cheesemakers of Devonshire in place of rennet.

The Scorzonera and Salsify, two vegetables, natives of Portugal, and with tap roots almost alike, have very distinct inflorescences, so that, from a botanical standpoint, these are quite decided.

Professor Henslow devoted his peroration to a notice of Rhododendrons in the Javanico-jasminiflorum section. Some forty years ago Mr. J. Veitch, senior, received Rhododendron jasminiflorum from the East Indies. It was a small and beautiful species quite unlike others then in commerce. It crossed readily with true Rhododendrons. Mr. Veitch got hold of another species of the same type as the first one. This one was a deep orange; the first one was white. By crossing these, the result was a pink species. No parent was prepotent, but the white had the beautiful effect of nullifying or decomposing the orange tint on the seedbearer, and so produced the pink hybrid mentioned. On crossing the same two

original parent species once more, the result this time was a deep crimson, showing that reciprocal and mutual effect had gone further. Then with a basis of such colours to work from, it was an easy matter to increase the hues to all the variety which the Messrs Veitch's Rhododendrons now possess.

C. E. Shea, Esq., occupied the chair, tendering his own and the thanks of the audience to Professor Henslow. This is the last lecture of the session.

GARDENING MISCELLANY.

BEGONIA, JOHN HEAL.

THE number of winter flowering Begonias is now so large, and is so persistently added to, that we soon shall have winter rivalling the glow of summer beauty. Mr. John Heal, of Messrs. Veitch's, Chelsea, is the raiser of the Begonia to which, in this instance, he has given his name. The habit of the plant is bushy and free-flowering, the flowers being of a pretty, rosy-pink, and considerably larger than a Gloire de Lorraine. The stems require the support of a stake.

ZONAL PELARGONIUM, IAN MCLAREN.

THE fame with which the author of "Beside the Bonnie Brier Bush" was crowned seems to have fallen in corresponding ratio on the lovely and valuable salmon-pink Zonal Pelargonium, which has been christened after him, with the tender and beautiful thoughts. This lovely plant, perfectly studded with blooms, is the envy and delight of all who visit my own houses, where I have a lovely specimen in one of the rooms. It might be said of the Ian McLaren Pelargonium that here we have the highest of idealistic conceptions realised.—H.F.F.

CYPRIPEDIUM INSIGNE VAR. SANDERAE.

IN this variety of *C. insigne*, we have a flower at once nobly handsome, graceful, because of its curving petals and sepals, and beautiful from the soft lemon tinge of the large lip and the pure paper white upper sepal. Some lovely samples were shown by Messrs. J. Veitch and Sons at the Drill Hall on November 21st. This is a variety which anyone can admire, but for the greater portion of *Cypripediums* I see no beauty in them. They are simply dull stiff curiosities. May the hybridists continue in the laudable endeavour to introduce life, grace and loveliness into the forms and colours of *Cypripediums*.

DRACAENA SANDERIANA.

THOUGH not like the usual run of *Dracaena* this gray or white variegated variety hailing like many other good things from the renowned firm of plantmen and orchidists at St. Albans, is one which will be seen in every garden where serviceable plants are in vogue. It is not entirely new, but is of recent introduction. The internodes or spaces between the leaves are lengthened, the leaves themselves being short and about 1 in. broad. The plant is suitable for tray arrangements in dwellings.

ARBUTUS UNEDO.

WHEN really well-flowered branches of this, the Strawberry tree are seen, the usefulness, or rather the adaptability, most opportune, too, of the plant strikes one. Do not the leathery, dark, shining green leaves, slightly serrated and elliptical, with the loads of bead-like whitish flowers strewn along the young shoots, just seem altogether in keeping with the bells, the jingling bells, which Father Christmas sends? How altogether fairly-like to see the *Arbutus* bushes coated softly with the hoary spears which John Frost spreads abroad, and to imagine these little head-flowers jingling through or amid them all. Rosy-red faces and gray breaths which we puff forth in the clear, crisp mornings just now, are not more in keeping with the season than the beautiful boughs of the Strawberry tree; then plant it.

ASPLENIUM FONTANUM.

IN this Fern we have a pretty little rockery species. It likes an open soil, gritty, as some would describe it, and its rooting area need not be great. It is said to be a native species, and one thing is clear, it is perfectly hardy. The fronds vary according as their environs are adverse or suitable to growth, but from

4 in. to 7 in. or 8 in. is the general run of them. It is well worth looking up.

CAMPANULA MAYI.

THIS new form, which is quite distinct from *C. isophylla*, nevertheless, has come from this species on one side or another, either as the paternal or mother parent. The foliage leaves are perhaps the most marked in difference, these being somewhat hirsute. This hairiness of the leaves can hardly be regarded as an improvement; for without a deep green background or undergrowth the lively blue of the campanulate flowers is not so fittingly thrown forth. However, the introduction is very worthy of a place, because of its freer flowering qualities and fine habit for basket culture. Good plants for decoration can be grown in ten weeks from the cutting stage.—J.

SAXIFRAGA PELTATA.

THIS large leaved *Saxifraga* has a peculiar place of its own in garden decoration, because among hardy plants few have the form of leaf which it possesses, and its size and suitability for damp places are also qualities in its favour. That it enjoys dampness goes without saying, for the richer, and to a degree the damper the station it grows upon, the stronger and greater are its leaves. Where anyone is on the look out for a semi-bog plant of large proportions (rising to 4 ft.) this *Saxifraga* ought to be considered.

A BEAUTIFULLY DESIGNED HEART.

ONE of the sweetest floral arrangements which I have recently seen was that of a heart made from white Madame Desgranges Chrysanthemum blooms as a ground work. Then on the left hand top bend or curve of the arrangement deep pink Roses were loosely bunched together with spikes of Lily of the Valley. Around the right bottom curve Violets of the Monte Carlo varieties were studded, being raised on long stems.—D.

SOPHORA JAPONICA.

HERE we have a tree very ornamental and perfectly hardy. The genus *Sophora* contains members belonging to tropical and temperate countries, and which we cultivate in our stoves or intermediate and other houses. The above species, however, is one of the hardy members, and forms a fine tree when in flower during late summer or early autumn. To all appearance it resembles the False Acacia, both in the form and colour of the compound leaves, and in form at least of the flowers, it being also a member of the Leguminosae. Of course, where the False Acacia does well there is no real need to add *Sophora japonica* unless for variety. This species has to be grafted on to another variety before it can be guaranteed to establish and continue itself when permanently planted. The tree is worth the looking up for consideration.

A TRIO OF FINE PELARGONIUMS.

PAUL CAMPBELL is one; Bryden is another; and Mark Twain is the third. The former is crimson-scarlet in colour, the trusses being good, and borne on long stalks. Bryden is a clear rose-peach with a tinge of scarlet and a white centre. The habit is good, and the plant is a free-flowerer. Mark Twain has a rosy centre, the edges being deeper; the foliage is rounded and of a clear green colour.

THE SALE OF POISONS.

MESSRS. JACOB WRENCH & SONS (Limited), seed merchants, &c., London Bridge, were summoned at the Guild Hall, on Thursday, November 30th: (1) For selling on the 7th ult. a certain vegetable alkaloid, viz., nicotine, in a bottle which was not labelled with the word "poison"; (2) for selling such poison to a person unknown to them, and without an introduction; and (3) for not making an entry in a book that should be kept for the purpose of the sale of poison.

Mr. Horace Avory, who defended, said his clients would plead not guilty.

Mr. Vaughan Williams prosecuted on behalf of the Pharmaceutical Society, and said the proceedings were instituted under the 17th section of the Pharmacy Act, 1868. Having recited the different poisons and preparations mentioned in the schedule of the Act, Mr. Vaughan Williams said the complaint was made in respect of a preparation called the XL All Vaporising Fumigator,

which was used, amongst other things, for destroying blight in greenhouses. A bottle purchased of the defendants was analysed, and found to contain a large proportion of nicotine, an exceedingly dangerous poison. On the label there was a warning that the bottle should be kept corked and out of the reach of children, as it was "somewhat poisonous."

Mr. Avory said the facts were admitted, and the whole question was whether it was a poison within the meaning of the Act.

Dr. Stephenson, scientific analyst to the Home Office, said the fumigator consisted of a solution of nicotine and camphor. In the bottle sold by the defendants there was enough nicotine to kill a thousand people. In answer to the Lord Mayor, the witness said that possibly from three to five drops of the fumigator would be fatal to human life.

Mr. Avory called scientific witnesses to express the opinion that the preparation did not come within the Act. He was prepared to admit, he said, that nicotine itself was a poisonous alkaloid, and that a person who sold pure nicotine would bring himself within the terms of the Act. The evidence, however, clearly showed that what the defendants had sold was not the poisonous alkaloid itself, but a preparation of it, and that was not included in the schedule.

The Lord Mayor said he was satisfied that it was a poison within the meaning of the schedule. He was prepared, however, to state a case for the superior court.

Mr. Avory remarked that at any rate his clients were ignorant of having committed a breach of the law. For years they had sold the fumigator without any warning from the Pharmaceutical Society.

The Lord Mayor on the first summons imposed a fine of £5, and £10 10s. costs, and on each of the other two a fine of 10s., with the bare costs. Mr. Avory intimated that he should take the case further.—From the *City Press*.

CHRYSANTHEMUM SHOWS.

CORBRIDGE.—November 18th.

THE second annual Chrysanthemum show of the Corbridge Gardeners' Horticultural Society, in aid of the District Nurses' Association, was held on Saturday, November 18th, in the Town Hall. Everyone interested, and this practically represented the neighbourhood, made a point of visiting the show. The show was opened by Mrs. Barnett, of Bywell House. During the afternoon and evening Mr. Hamilton's Quadrille Band rendered choice musical selections. Messrs. Corbett, of Prudhoe Hall, and Bolam, of Axwell Park, were the judges, and these gave their awards as under:—

For a group of plants, Mr. J. Cameron, gardener to H. S. Edwards, Esq., Byethorne, was the first prize-winner; Mr. James Winder, of Howden Dene, came second; while Mr. J. Charlton, of Farnley Hill, was an able third. The vases of Chrysanthemum competition was well entered for, Mr. J. Cameron being first with an exceptionally fine exhibit; Mr. W. Hay, of Farnley Grange, followed; with Mr. W. C. Fraser, Dilston Hall, third. For twelve Japanese blooms, Mr. J. Cameron again proved the stronger grower, beating Messrs. W. C. Fraser and Wm. Hay, in this order.

Mr. Cameron also had the satisfaction of winning the prize for the best bloom in the show. He was the winner for six incurved blooms; Messrs. Fraser and Hay follow in so.

Mr. James Winder won for three vases of single Chrysanthemums; while for a lady's spray and buttonhole, Mr. W. C. Fraser was the leader. Mr. W. Hay won for the hand bouquet. Messrs. Fraser, Winder, and Hay were awarded prizes in this order for a basket arrangement of Chrysanthemums.

Mr. J. Mathieson, Piper Close, was placed first for six pots of Primulas. For a collection of vegetables, Mr. J. Waugh, of Wheel Birks, was first; Mr. W. Herdman, second; and Mr. W. E. Clapham, third. Mr. J. Waugh won for a collection of hardy fruits. The arrangements were carried out in a thoroughly efficient manner by a painstaking committee, consisting of Messrs. J. Charlton, who is secretary, W. C. Fraser, J. Cameron, W. Hay, T. Thompson, W. Clapham, J. Waugh, and J. Mathieson.

The society's Certificate was awarded to Mr. John

Downie, nurseryman and seedsman, Edinburgh, for a splendid collection of stove and greenhouse plants. The total receipts of Saturday and donations by patrons are £70 os. 8d., after paying the expenses and prizes. The society has handed over £34 to charity, the District Nurses' Association.

OBITUARY.

MR. ALFRED OUTRAM.

It is with very much regret that we announce the death of Mr. Alfred Outram, at his residence, 7, Moore Park Road, Fulham, London, S.W., on the night of Friday, the 8th inst., at the age of 52. He has been ailing for some time past, in fact since September last, but the end came rather suddenly, owing to a complication of diseases. He was up on



MR. ALFRED OUTRAM.

Friday, but died on retiring upstairs for the night, the immediate cause of death being heart disease.

Mr. Outram was borne at Tooting, in Surrey, where his father still lives in good health. At the early age of thirteen he was engaged in the then famous nurseries of Messrs. Rollison & Sons, going through all the operations which an apprentice is supposed to, such as the washing and crocking of pots. He soon found himself in the propagating department, where, owing to his diligence and usefulness, he received every encouragement from his employers. Mr. George Rollison was fond of hybridising *Ericas*, and put many of them into commerce, as most gardeners of that period knew. It was part of Mr. Outram's work to assist in the labelling of the crosses, and from all accounts he did his work well, for he rose a step higher, getting into the order office, under the late Mr. William Buckley, one of the best plantmen of his day, who gave young Outram a good drilling in the correct naming and labelling of plants. Besides Heaths, the Tooting nursery was famous for seedling *Rhododendrons* and fine-foliaged *Begonias*.

Mr. Outram went from Tooting to the late Mr. William Cole, who, with his sons, carried on a prosperous business at the Fog Lane Nurseries, Wokington, near Manchester, where he accumulated much knowledge in the art of propagation, and the growing of specimen plants, for which the nursery was famous in those days. All this meant hard work and long hours, for the Coles were reckoned amongst the most extensive exhibitors of their day. From here the next move was to Manley Hall, Manchester, the residence of Sam. Mendell, Esq., whose famous gardens were then under the management of Mr. Sharman. Life in a private establishment proved too monotonous for Mr. Outram, and after two years he made a move to get into the trade again.

Somewhere about the latter end of the sixties or early in the seventies he went into the nurseries of Messrs. J. Veitch & Sons, Chelsea, where he took charge of the stove department, and kept it for a period of three or four years. Here he added im-

mensely to his knowledge of plant life, which aided him greatly in his after career.

About twenty-five years ago an opening occurred as traveller in the establishment of the late Mr. B. S. Williams, of Holloway, and though Mr. Outram was rather young for such an occupation, he nevertheless accepted it. The wise counsel and liberal encouragement offered him by his employer enabled him to pull through the more difficult task of that calling. He travelled in all parts of Great Britain, Ireland, United States of America, and Canada for his firm. In 1876 he, in company with Mr. Henry Williams, the head of the business to-day, took a valuable collection of plants to the Philadelphia exhibition, where the highest award, a Gold Medal, was awarded them. This was the means of opening up a lucrative business with America, and Mr. Outram paid an annual visit for many years, going to all quarters of the United States.

After leaving Messrs. B. S. Williams & Son about three years ago, he received an appointment with Messrs. Sutton & Sons, Reading, for whom he travelled regularly till more recently.

Besides his ordinary occupation Mr. Outram was connected with various bodies and societies. He was one of the founders of the Hortus Lodge of Free Masons, and remained a member till the time of his death. He was also a sub warden of the Gardeners' Charity Guild. He was one of the first helpers that Mr. John Burn had in organising the Leicester show, and has acted as judge there every year since. The same may be said of the Hanley show, in conjunction with Mr. Kent, the superintendent of parks for the borough. At the time of his death Mr. Outram was a member of the committee of the Royal Gardeners' Orphan Fund; of the committee of the National Chrysanthemum Society; and of the Orchid Committee of the Royal Horticultural Society.

His brother is one of the famous detectives of Scotland Yard. His son is a clerk in the office of Baron Schroder, in the City of London. His daughter has accomplished the clerical work in connection with the Moore Park Road business. He also leaves a widow, a genial lady, in good health, though now prostrated with grief. We were under a wrong impression when we mentioned his name as a judge at the recent N.C.S. show, as we expected he would be well enough to act in that capacity. He has made a great many friends all over the country, who, as well as his own family, have now to deplore his loss. His funeral takes place at the Fulham Cemetery, at 12 noon, on Wednesday, as we go to press.

QUESTIONS AND ANSWERS.

Potting Bulbs to flower in April.—*Beginner*: The best time to pot bulbs to flower in the beginning of April is during the month of October. Indeed, for flowering during March, April and May, they should all have been potted during October last. You may pot them at once, if you have not already done so; but they would have given you more satisfaction if potted at the time stated, because they get time to form roots and get well established long before they are required to throw up flower spikes. The great object should be to bring them on as slowly as possible under cool treatment, because then the roots have time to collect food from the soil, and the foliage and flower spikes grow up sturdily and short. Your best plan now is to pot them up and plunge them in a hes; or better still, cocoanut fibre, in cold frames. Then cover them to the depth of 2 in. with the same material, and leave them there till the spikes begin to push through the fibre, when they should be uncovered and gradually accustomed to light. If they appear backward about the end of February you must put them in a moderately warm greenhouse, on shelves or close to the light. As the time approaches when they will be required, gradually raise the temperature to hurry them on. Much depends on the state of the weather; but you may hasten them by heat, or retard them in a cool, well lighted place accordingly. Weak liquid manure will be a safe stimulant for them while throwing up their spikes or flowers.

Cultivation and Treatment of *Begonia met-allica*.—*R. A.*: This species may often be seen doing well in a greenhouse temperature, whether grown in pots or planted out. It also does well in an intermediate house, that is in a temperature between that of a stove and a greenhouse. Some fairly good plants have been grown in the windows of dwelling houses. It will succeed then under a fairly wide range of temperature. We should give it greenhouse temperature in summer, after the

weather gets fairly warm, and though the plant will grow more slowly it will be more sturdy and last longer in good condition. Use a compost of three parts of good, fibrous loam to one part of good leaf mould, and one part of well decayed cow manure, with sufficient sand to make the whole porous and open. Supposing you begin with small plants, give them a small shift from time to time as the roots get well through the fresh soil. In the early stages pinch off the tops to lay the foundation of a bushy plant, if you want it of large size. Another way is to let the few shoots grow till they reach the flowering stage, then allow the plants to become dry after flowering is finished. Then cut the shoots well back and repot into a larger size as growth commences in spring. During winter the plants should be kept rather dry after being cut back, and in a temperature of 45° or thereabout.

Name and Soil for Orchid.—*W. A., Newcastle-on-Tyne*: The proper name of the Orchid you send is *Cypripedium insigne*. The soil, or rather the compost in which you should grow this species is good turfy or fibrous peat, mostly fibre, the loose stuff being shaken out, with a little fibrous loam, and a good proportion of charcoal and broken pots-herds. They should be potted moderately firmly in this, not pressed hard nor rammed. The surface should be covered with live sphagnum, pressed down now and again if it should grow too rank, threatening to bury the crowns. Pots may be used up to 5 in. or 6 in. in size, but for large plants you had better use pans so as to avoid too great depth, which would have to be filled up with crocks. You ask whether it should be grown in a stove, but 160° is the right temperature you give, it is already in a stove for all practical purposes. It is a cool house Orchid, and should not have a higher night temperature from November till March than 45°, rising to 50° or 55° from sun heat by day. It should be resting at the present time. As the outside temperature rises in March and the light is better, you may then increase the temperature to encourage growth. Increased supplies of water should also be given in proportion to growth. Your object in summer should be to keep down the temperature by shading and a little ventilation, increasing the latter as growth gets completed so as to induce the plants to rest and firm up the foliage. Towards autumn the flower spikes will begin to push up. A temperature of 50° will be quite sufficient during the flowering period, keeping the atmosphere fairly dry.

R.H.S. Examination in Horticulture.—*Wm. Marsden*: You can make enquiries amongst well informed people in your town, so as to ascertain whether anyone superintends an examination for your district. The schoolmaster and clergyman are amongst those most likely to know. Should you ascertain that no such examination is held, you might induce some responsible party, such as those named, or any other important person, to oblige you, and possibly others in the neighbourhood, by superintending a room in which the examination papers are to be written. Write to the Rev. W. Wilks, Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W., and he will send you papers giving particulars of what is required. You will then know how to set about the matter, and prepare for the examination.

Names of Plants.—*R. W.*: The shrub you sent is *Euonymus europaeus fructu albo*, a beautiful and rare variety.—*R. M.*: 1, *Asplenium flabellifolium*; 2, *Adiantum caudatum*; 3, *Fuchsia procumbens*; 4, *Jasminum nudiflorum*.—*G. S.*: 1, *Nepeta Glechoma variegata*; 2, *Othonna crassifolia*, with the yellow flowers.—*Sigma*: *Cotoneaster Simonsii* (it makes a good hedge).—*W. P.*: 1, *Miltonia vexillaria*; 2, *Oncidium varicosum Rogersii*; *Cypripedium Sedeni*.—*J. R.*: 1, *Petasites fragrans*; 2, *Salvia rutilans*; 3, *Senecio grandifolius*; 4, *Daphne indica*; 5, *Eupatorium weinmannianum*.—*J. Gates Hardham*: *Cotoneaster Simonsii*.

Fruits to Name.—*R. Greig*: Apples, 1, Annie Elizabeth; 2, Nonsuch; 3, Rymer. Pears, 4, Josephine de Maline; 5, Easter Beurré; 6, Marie Louise d'Uccle.

Communications Received.—*J. G.—Grower*.—*F. C. T.—Osman & Co.—Toogood & Sons.—G. B.—W. A.—M. Temple.—T. B.—A. C.—A. G.—H. J.—Western.—J. O'S.—R. W.—C. D.*

TRADE CATALOGUES RECEIVED.

F. VALLIS & SON, Bromham Fruit Farm, Chippenham.—Select list of New and Choice Chrysanthemums.

SUTTON & SONS, Reading.—Sutton's Amateur's Guide in Horticulture for 1900.

THEODORE TURNER, Begonia Nurseries, Great Sutton, Chester.—Roses, Begonias, Gladioli, Paeonies, Cannas, Lilies, Fruit Trees, &c.

JAMES VEITCH & SONS, LTD., Royal Exotic Nursery, 544, King's Road, Chelsea, S.W.—Catalogue of Seeds, &c., 1900; also Catalogue of Hardy Trees, Shrubs, Coniferae, American Plants, Hardy Bamboos, Nymphaeas; The Chelsea Horticultural Manure; New Dessert Apple, Langley Pippla.

VEITCH'S GENUINE SEEDS.



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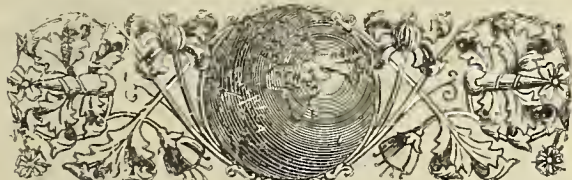
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 23rd, 1899.

POSSIBILITY OF NATURALISING MARLIAC'S HYBRID WATER LILIES.—In the vicinity of London at least the Water Lilies in the Thames and its tributaries, so far as they are exposed to the public, have been undergoing a process of extermination. If they were to ripen seeds freely one would expect that the flowers which escape being gathered, would soon replenish the annual loss that occurs. This does not seem to be the case; and possibly, the young seedlings, if any, have a difficulty in establishing themselves at the depth where the old plants grow. The Yellow Water Lily is more persistent than the White one, probably owing to the fact that when once it has obtained a footing in the bed of the rivers, it can live entirely under water, as the green leaves can be seen in abundance when the water is clear. Flowers frequently rise above the water on long stalks, and

possibly a fair percentage of seeds is ripened. Even in the absence of seeds, however, the parent stools could spread and multiply fairly rapidly by means of their stout, fleshy, creeping rhizomes anchored in the mud and gravel.

It may not be possible to establish or naturalise Marliac's hybrid Water Lilies in places to which the public is freely admitted, and without restraint at all times; but in public parks and gardens, looked after by the custodians of order and the interests of communities, there seems no reason why these Water Lilies should not be the commonest of aquatic plants in all the ornamental sheets of water not overrun with swans and other large birds, nor frequented by pleasure boats. This has been suggested to us by the presence of hundreds, possibly thousands, of seedlings in various stages of development in a small pond in the open air near the glasshouses in the Botanic Gardens, Glasgow, where they were pointed out to us by Mr. D. Dewar, the curator. The circular pond is of no great depth, while the water becomes more shallow as it approaches the grassy banks. Many varieties of Marliac's hybrid Water Lilies have been planted, including *Nymphaea Laydekeri rosea*, &c. Judging from the number of seeds and seedlings produced they are perfectly at home in a pond of this kind. The seedlings have been strewn thickly upon the sloping margins where the water is shallow, yet of sufficient depth to cover the leaves. No assistance has been given them, all being self sown. Other aquatics do well in the same pond; and the Water Thyme (*Anacharis canadensis*), having come of its own accord, defies extermination. It is everywhere except under the broad leaves of the Water Lilies and where the grassy banks dip into the water. As the seedlings of the Lilies gain strength, they will no doubt extend more and more deeply into the water, if left to their own resources. A wiser plan, however, would be to thin them out and plant the super-numerary roots elsewhere in the ponds of parks and gardens, possibly also on the margin of the River Kelvin where the banks and the river will permit of its being done. The proprietors of private domains might also stock their ponds, and also try the naturalisation of these Lilies in the natural streams and brooks running through their grounds. The opinion is gaining ground that M. Marliac manages to rapidly increase his stock of new varieties by means of seedlings.

AMERICA, A LAND OF FRUITS.—In Bulletin 153, of the Cornell University Agricultural Experiment Station, Ithaca, New York, Professor L. H. Bailey, in discussing "Impressions of our Fruit-growing In-

dustries," says that America is a land of fruits. He explains why this is so, giving five reasons for the same, dilating upon them seriatim. The first reason advanced is that the agriculture of America is so recent that it is not fettered by old prejudices, so that the farmer feels free to discard old and unprofitable enterprises for relatively new and profitable ones. Fruit-growing has asserted itself over ancient agriculture on account of the depression which has prevailed for some time past in that industry. The rise of fruit-growing has relieved the old-time farming, thus benefiting those who left the latter and those who remained in it. The new industry has been the means of diffusing new knowledge amongst and educating the people. The author does not think that this new business will continue to be the more lucrative of the two.

The second reason advanced is that large areas are available for fruit-culture, which means that everything is done in a wholesale fashion, and can therefore be done cheaply; while the quantity and uniformity of the finished article are sufficient to attract the market. An instance of this is that California is able to drive the fruits of the eastern side of America from their own markets owing to the greater quantity and more uniform supply from the west, and thus to control the market. The essentially uniform political and social conditions that favour the free interchange of ideals and methods make the third reason. The author states that in Europe the various small fruit-growing centres are the outcome of local effort and tradition. Different races, languages, political systems, and physiographies all tend to hamper a great extent of fruit-culture on this side of the Atlantic. Uniformity of methods is impossible. To us these barriers would seem to be more visionary than real. The question of language is also advanced as against Europeans. Except in the small acreage of the territories available for the extensive cultivation of fruits on the Continent, all the other barriers mentioned break down. All the countries of Europe who have got anything to sell are anxious to do business with us, neither politics nor language presenting any difficulty on that score, while their methods are often admirable compared with ours. Education on the Continent also enables business people to speak several languages, if it is worth the while acquiring them from a business point of view. The fourth reason for the heading of these notes is that the climate of North America is congenial to fruits; and the fifth is that the American farmer gets more help from teachers and experimenters than his brother in trade in any other country. With the two latter reasons we are in entire agreement.

Azaleas, which are being forced, should have a light syringing daily.

Weather in London.—The truth of the Americanism that we have not a climate, but rather only samples of weather, may be said to have been justified during the last three weeks, particularly the hindmost of the three. Snow followed frost, then frost again appeared, to be suddenly replaced with a heavy rain-fall on Monday morning. A thick heavy fog is more or less constantly hovering over and around London, which, with greasy, mud-lined streets, makes pedestrianism, &c., very uncomfortable.

National Auricula and Primula Society (Southern Section).—The annual general meeting of the above society took place on Wednesday, December 13th, in the Horticultural Club Room, Hotel Windsor, Victoria Street, London, S.W. The statement of the hon. secretary disclosed a most satisfactory state of affairs, sixteen new members having joined during the year as against the loss of six by death and otherwise. The amount received in subscriptions during the year was £75 7s. 6d. The amount paid in prizes at the late exhibition, held in conjunction with the Royal Horticultural Society, at the Drill Hall, Westminster, in April last, was £56 17s. 0d. The balance carried forward to 1900 is £20 18s. 9d. It was decided to hold the exhibition for 1900 on Tuesday, April 24th, at the Drill Hall, Westminster, under the auspices of the Royal Horticultural Society, a very liberal list of prizes being offered for show Auriculas, Alpine Auriculas, Primulas, Polyanthus, and Primroses. The hon. secretary is Mr. T. E. Henwood, 16, Hamilton Road, Reading.

Christmas in Scotland.—Though New Year time is the gayest part of the festive season in Scotland, still, as in Germany, preparations and celebrations are on foot for some time previously. The juveniles herald the advance of the season by going around the neighbouring villages or streets in disguise ('guisers') not for carol singing, but to perform crude, one act plays inside the houses. The music there rendered is voluble if not refined! On Christmas morning, all the village urchins collect, generally in a central part of the village, and long before daybreak they may be heard singing all sorts of songs, being in circles around blazing fires, the coals for which they have previously plundered. Christmas Day on the borders is Cake day, and as soon as the morning light allows them, the troops start off on a long circuit visiting all the large houses for cakes, Oranges, and sweets. These are about the only two customs which are joined in popularity. Private parties and other festivals are numerous enough and of course their indulgence depends on the social standing of families.

Messrs. Veitch's Catalogues.—The catalogues of our foremost firms are essentials as reference in the offices or desks of gardeners over the length and breadth of the land. The catalogues which Messrs. James Veitch & Sons, Ltd., of Chelsea, produce are numerous, and each may be cited as authoritative on what it deals with. Probably more teaching of practical gardening goes abroad at this, the seed ordering season, than at any other time. The nights in the quiet country seem long; but with the seed catalogues to hand, the pages are one by one investigated. Such publications as Messrs. Veitch's contain illustrations on every page, sometimes even five on a sheet, and these being presented to the "order" compiler, he has the most vivid likenesses of all manner of plants, implements, and sundries placed on view. Probably he has previously read in his gardening paper a reference, a real example of which is now seen in the catalogue. Then comes the time of "arbitration!" Shall he or shall he not secure a stock? And so contrasts and comparisons are made, descriptions and the qualities of flowers, plants, and vegetables perused, because they are compactly arranged and easily understood, the whole being an education and a pleasure which gardeners should not like to be without. The clearness, accuracy, and complete character, both of the Messrs. Veitch's seed catalogue and that on the Coniferae, hardy trees, and shrubs, &c. (of which they possess a very full collection), have already gained a standard reputation, and to add that this year's issues are even superior to that of former times is but to forestall the expressions of all who are fortunate to receive copies.

Spores on Asplenium.—Some dead and withered fronds of *Asplenium felix-foemina* Victorice, according to a computation by Charles T. Drury, Esq., yielded him 80,000,000 spores.

Death of Lord Penzance.—The death is announced of Lord Penzance at his residence, Eashing Park, Godalming. The deceased was 83 years of age. The Penzance Sweet Briers were the outcome of much interest and experiment by the late Judge. These very sweet Briers are among the happiest additions to our modern gardens.

"The Garden."—This well-known gardening paper changes hands early in the New Year. Messrs. Hudson and Kerch, the proprietors of *Country Life*, have become the owners. *The Garden* was well known from its weekly distribution of a handsome, coloured plate. Wm. Robinson, Esq., was its founder. Miss Jekyll and Mr. E. T. Cook are the joint editors. Mr. Cook commenced his career as a student in the gardens of the Royal Horticultural Society, at Chiswick, after which he spent some years on the editorial staff of *Amateur Gardening*, and latterly on *Gardening Illustrated*, at the office of *The Garden*. He has, therefore, had a good schooling for the new duties he is called upon to perform.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting was held at St. John's Parish Room, Redland, on Thursday, the 14th inst. A large attendance was presided over by Mr. G. Brooks. Mr. J. H. Davis, of Redland, was responsible for the paper, which was on the "Cultivation of the Bouvardia, Geranium, Begonia, Primula, and Cineraria." He urged the cultivation of flowering plants as one of the most important branches of the gardener's work, and claimed that someone or other of the plants forming the subject of his paper, could be had in bloom all the year round. In a very careful manner he dealt with the culture of each variety, giving his opinion as to the time suitable for sowing seeds, or striking cuttings; soils in which they were likely to succeed, and hints as to potting, watering, and ventilating. Concluding a paper, which was much appreciated, he said that this, as well as all branches of horticulture, could only be excelled in by earnest efforts, and whilst gardening was a great teacher, the gardener should never say "I know," but by ever aiming at the highest point in his profession, achieve the success, which patience and trust alone can secure. A good discussion followed, and Mr. Davis was voted by acclamation the thanks of the meeting for his effort. Prizes for four stocks of Celery were awarded:—First, Mr. Benfield; second, Mr. Ross; and a Certificate of Merit to Mr. Thoday for a *Primula sinensis*.

"The Art of Advertising."—Such is the title, or rather part of the title of a book, the full name being: "The Art of Advertising; its Theory and Practice fully Described," by William Stead, Junr. The work, in its detailed manner of treatment, plus the embellishment of three full page plates, forms a respectable volume of over 150 pages. Mr. Stead divides his subject into three primary considerations—(1) The Theory of Advertising; (2) The Practice of Advertising; and (3) The Growth of Press Advertising. Under the headings various items are given careful attention to, in chapters by themselves, such as the function of advertising, and a discussion upon the merits of various styles and means for securing publicity. The "Hints by Experts" form one of the most valuable chapters in the book. The truth is candidly told, that "advertising which simply secures an occasional customer who will pay once or twice is not remunerative. To pay it must make regular customers, and this is impossible unless the article advertised is good in itself." Much more that is fact, and matter which is to the point, is to be found in the little volume. Valuable summaries of populations, and the prevailing industries of various parts of the country, show to intending advertisers those parts in which his goods would be most likely to find acceptance. The advertising works and offices of Messrs. T. B. Brown, Ltd., Queen Victoria Street, London, are fully illustrated and described, and full explanations are given upon the business system of this powerful firm. The book is well arranged and nicely printed on good paper. The price is 3s. 6d., the publishers being Messrs. T. B. Brown, Ltd., Queen Victoria Street, E.C.

Lilacs are sometimes dwarfed by a process of constant shifting about, which operation checks growth and causes the setting of flower buds.

Syndical Chamber of Belgian Horticulturists.—At the last meeting of this body in the Casino, Ghent, Belgium, Certificates of Merit were accorded to *Cattleya Mendelii* var., presented by M. Th. Pauwels; to an undescribed variety of *Cattleya*, *C. schilleriana* gaskelliana, exhibited by M. Ed. Pynaert-Van Geert; to *Odontoglossum crispum*, shown by M. M. Verdonck; to *Vanda caerulea tessellata*, presented by M. le Marquis de Wavrin (with unanimity); to *Cymbidium giganteum*, presented by M. Desmet-Duvivier; and to *Cattleya hardiana*, shown by M. G. Vincke-Dujardin (by acclamation). A Certificate for Culture and Flowering was accorded to *Epiphyllum truncatum*, presented by M. E. Bedinghaus. Honourable Mention was awarded to cut flowers of *Cattleya labiata*, shown by M. G. Vincke-Dujardin. The jury wished to see again a hybrid *Odontoglossum*, exhibited by M. Th. Pauwels.

A Hamely Bill o' Fare.—A glance at the menu card of the Edinburgh Seed Trade Assistants' Dinner, on the 8th inst., is sufficient to convince the most sceptic that it was made neither in Germany nor in France. Under the heading of Kail there were sheep's head kail and Cockie Leekie (frae Musselburgh). Then followed fish (frae Newhaven), including biled haddies and egg sauce, wi' champit Tatties; and fresh herrin' and mustard sauce. Rare bits consisted of haggis and Glenleevis, concerning which Burns wrote:—

"Fair ia' your honest sonsie face,
Great chieftain o' the puddin'-race!"

Then came shouthers, geegots, and heids, under this heading being roastit ribs o' beef, horse radish sauce, biled brisket o' beef, and curly kail (untested), roastit hubblyjock, braised plg, sheep's head and vegetables (a' strains mixed). Sweets consisted of plum duff and Aipple tairt. Ma'r rare bits were toastit sodgers (nae Boers), and toastit kebbuck. Dessert included Aipples, &c. On the right hand of the card was a figure of the Scotch Thistle, and on the left Sandy is seen trudging down the brae from his castle on the rock. Sandy's hand was as big as if he had eaten the whole of the haggis himself. The haggis and the bubblyjock we consider the crowning pieces of the feast. All the items on the menu, and likewise the toasts, were followed by very appropriate mottoes. Such a bill of fare is rarely seen out of the United States or Johannesburg, except in the Scottish capital.

National Carnation and Picotee Society (Southern Section).—The annual general meeting of the above society took place on Wednesday, December 13th, in the Horticultural Club Room, Hotel Windsor, Victoria Street, S.W., the president of the society (Martin R. Smith, Esq.), and a large muster of members being present. The hon. secretary and treasurer reported a very satisfactory state of affairs. Forty-five new members have joined the society during the year, a number considerably in excess of those lost to the society by death and otherwise. Subscriptions received during the year amounted to £301 3s. 6d. Prize money paid at the late exhibition of the society held at the Crystal Palace in July last amounted to £228 0s. 6d., in addition to three Silver Cups presented by the president. A balance of £229 11s. 10d. was carried forward to the year 1900. The society now numbers nearly 400 members. It was decided to hold the annual exhibition for 1900 at the Crystal Palace in July next. Several new classes were added to the schedule, and it was also decided to offer a Silver Cup to the exhibitor gaining most points in the undressed classes, as a further encouragement to the amateur members. The sum now offered in prize money amounts to close upon £300 and a Silver Cup presented by the president. It was also decided to publish in the forthcoming report a list of flowers that can be shown as yellow ground Picotees, and another list for yellow ground fancies, much doubt having been felt hitherto as to which class some of the varieties should be shown in. A packet of choice Carnation seed is sent to all subscribers of 10s. annually and upwards. This seed is saved from the unique collection of the president, and generously presented by him to the society. The hon. secretary of the society is Mr. T. E. Henwood, 16, Hamilton Road, Reading.

The American Peach Crop was heavy this year and new plantings are now likely to be heavy for a time.

Dwarf Lilacs are those budded on the Privet. Such a stock dwarfs them, and causes them to bloom earlier than they would do if they were on their own roots.

Wood Hyacinths at Christmas.—The wild Wood Hyacinth or English Bluebell (*Scilla nutans*) may be seen in buttonholes at this time. The question arises, Are these forced or not? where do they come from?

Shirley Gardeners' Mutual Improvement Association.—The monthly meeting of the above society was held at the Parish Room, Shirley, Southampton, on the 18th inst., there being a very good attendance of the members presided over by Mr. B. Ladhams, F.R.H.S. Mr. H. J. Jones, F.R.H.S., Ryecroft Nursery, London, gave a lecture on "Raising and Producing the most useful Chrysanthemums," the lecture being a splendid selection of the most useful hints for the successful culture of the most popular, useful, and interesting flower. Space forbids much more than this brief epitome of one of the most useful and interesting lectures of the season, and a hearty vote of thanks is due to Mr. Jones for having spent so much valuable effort in crowding into so small a space of time such valuable information.

An Example Worth Imitating.—At a local Chrysanthemum show in the suburbs, where a prize was offered for two bunches of black Grapes, the gardener, who exhibited them at the request of his employer, met with a pleasant surprise, arising from the action of the gentleman, who at the close of the show put them up for sale by mock auction, the proceeds to be devoted to the Widows and Orphans Fund for the benefit of those who through the war have been deprived of their natural protectors. The first bid was some twenty odd shillings for the two bunches, about 4 lbs. weight in all. The purchaser at that price generously devoted them to the same purpose, and so on, till with the prize money over £6 was handed over to the fund in question, a record price as things go at the present time. I think this worthy of record, as showing the patriotism and sympathy for the suffering ones this national calamity has aroused, and at the same time as an example that might well be copied in other directions. I may be permitted to add that the gardener was no loser through his employer's generosity in other directions.—W. B. G.

National Dahlia Society.—A committee meeting of this society was held (by kind permission of the Horticultural Club), in the Horticultural Club Rooms, Hotel Windsor, Victoria Street, Westminster, S. W., on Tuesday, December 19th. The business discussed was that of the report of the shows held during the year, and the items connected with them, such as the number of blooms certificated with one or two suggestions in passing. One of these hints was that the adaptation of the Dahlia to purposes of decoration was not half realised yet. Both in the press and in their shows, more might be, and more ought to be, done. A reference was made as to what form the memorial to the late Mr. Girdlestone's memory should take. It was agreed to strike a die for silver and bronze medals. Medals of the size of a halfcrown were recommended. The die for the medal will cost £15, the medals themselves being 11s. for the silver medals, and 5s. each for the bronze medals. Mr. Mawley is open to receive subscriptions toward this fund. The treasurer's report was favourable seeing that there was a balance of £6 less to start the present year with. The donations during the year were also £9 less; while prizes were increased £7 more. The Aquarium show, however, really brought back £6; advertisements had been £1 more. However, there is a balance of £5 still, and the society is satisfied. Officers were nominated and elected, these of course to be confirmed at the annual general meeting by the members. A code of by-laws was fixed upon. These are in all respects similar to those of the National Rose Society. Mr. Mawley occupied the chair. The following gentlemen were present:—Messrs. H. A. Needs, Maxwell T. Masters, M.D., F.R.S., C. E. Wilkins, J. R. Tranter, S. Mortimer, J. Walker, T. W. Scale, C. S. Wyatt, J. T. West, W. T. Frost, R. Dean, and J. F. Hudson, Hon. Sec.

"The San Jose scale is not dead," says *The American Florist*, "it will still bear watching."

Messrs. Hurst & Son's Annual Dinner.—Messrs. Hurst & Son, 152, Houndsditch, again invited their employees and friends to dinner at the Holborn Restaurant on Saturday, the 16th inst., under the chairmanship of N. N. Sherwood, Esq. Mr. Hugh Aiton occupied the vice-chair, while Messrs. F. W. Locke, T. N. Cox, J. Bray, and V. F. Cummings acted as croupiers. Amongst the visitors were: Messrs. Longhurst, F. Wood, W. G. Innes, N. Van Lessen, G. D. Hadler, J. H. Veitch, G. J. Ingram, J. Scruby, C. H. Inglis, A. Wolton, G. Fagg, G. Townsend, G. Waugh, W. Titt, C. Carter Page, R. Dean, W. B. Parkyn, B. Wynne, W. Loudon, R. Cuthbert, Geo. Gordon, Huggett, and J. Fraser. Independently of the visitors, about 100 of the employees sat down to dinner in the capacious King's Hall. After dinner the chairman proposed the usual loyal toasts which were most heartily responded to by the assembled guests. Mr. W. G. Innes proposed "Success to the firm of Hurst & Son," saying that he could carry his mind back for two generations, to a small room in Leadenhall Street, where the business was then carried on by the late Mr. Hurst. Competition was as keen then as now, but the business had made a remarkable growth since then. By analogy he reasoned that Britain was at the head of the nations because of her integrity, and that some such principle animated the breast of Mr. Sherwood, the head of the firm to-day. He had dealt with the house for 18 years and nothing unfair had happened all that time. To be honest, he said, was to earn the gratitude of one's fellow men, and he took everything emanating from Mr. Sherwood as gospel. The energy and activity of Mr. Sherwood was also known to all in the house. He concluded by wishing the head of the house long life and, the best of all prosperity. Mr. Sherwood, in replying, said he could remember going to the room at 6, Leadenhall Street, about 40 years ago; that his father-in-law was respected throughout the land; that he was the finest example of a good old English gentleman, and to him the success of Hurst & Son was due. The staff then numbered only 20 to 25. In conclusion, he hoped to meet his employees often on such a festive occasion, pointing out that to be straightforward and honourable was the best way of supporting the house. Competition had always been, and would be, but so long as they did their duty they would succeed. Mr. T. N. Cox then proposed "The Visitors," to which Mr. A. Wolton replied that he was surprised to see the King's Hall so well filled, and hoped that 1900 and every year after would be a record for the firm. Mr. Van Lessen also responded, saying that the gathering was the outcome of the feeling that all were part of one house. Mr. Hugh Aiton proposed "Mr. William and Mr. Edward Sherwood," the sons of the chairman, who were present. Three years ago they met to celebrate the majority of Mr. William Sherwood, and on this occasion Mr. Edward Sherwood had attained to man's estate. In the name of the staff he presented him with a silver mounted ivory baton and two music books. Both the young gentlemen replied, hoping that they would earn the gratitude and friendship of their father's staff, Mr. E. Sherwood assuring them that he would prize the gifts all his life. Other toasts were "The Press," "Representatives, Heads of Departments, and General Staff," and "The Cricket Club and Musical Society." The proceedings were enlivened throughout the evening by songs, solos, recitations, and selections by the orchestra, under the conductorship of Mr. Edward Sherwood. The singing of "Auld Lang Syne" concluded a most enjoyable evening.

SALVIAS.

I THANK Mr. Harris for his kind remarks *re* the above. Another reader of your valuable paper has written to me, saying, he used to grow the above some twenty years since, and is again most anxious to get a fresh start with them, and, of course, I hope to come to the rescue with a batch of cuttings for him later on.

Your correspondent is fortunate to be able to flower *S. patens* during winter. As for myself, I cannot chronicle any good results with this variety after the middle of October. No pruning of any note is practised on *S. splendens* and *S. rutilans* after their first bloom is past, merely removing the

old flower spike, when new growths at once start ahead, and soon come into flower again when more light and sun are with us, *S. splendens* behaving by far the best in this respect. There is one drawback with them which I failed to note in my first remarks, and that is the plants lose a good percentage of their leaves owing to the red spider attacking them rather badly when one, of course, cannot ply the syringe among them. Especially is this case with *S. splendens*; but we tide over part of this difficulty by using them as back row plants, placing in front such as *Marguerites*, *Deutzias*, *Genistas*, and such-like plants with good foliage. I may add, the cooler the plants are kept after their first flowers are over the better the display at the date given in the first article (p. 197).—J. Mayne.

FORCING ASPARAGUS BEDS AT SYON.

A CORRESPONDENT has written to ask me whether there must not be some error in your note on p. 249 respecting the forcing beds of Asparagus, outdoors, at Syon House, as being original or of recent origin. He writes that those beds, or at least others identical, were there very many years ago, when as a youth he first went to Syon as a garden learner, under the late John Woodbridge. Of course, the writer of the note in question must have misinterpreted the information given him. I saw those beds in Mr. Woodbridge's time also, and no doubt were his old friend, Mr. Barron, appealed to he could tell pretty well whether they were of Mr. Woodbridge's making or of one of his predecessors. The writer to me mentions that he knew of similar beds at Isleworth thirty years ago, certainly a long time, that is, replanned by the late Mr. James; but which of these beds were the original ones few now living possibly can tell. I am sure Mr. Wythes would be the last man to take to himself credit that was not his, and could not be held responsible for a statement that is incorrect. I can say with assured certainty that I saw those beds at Syon Gardens more than twenty years ago, and I have often wondered since that, seeing how successful they seemed to be there, that such sunken or pit beds were not found in all high class gardens; whilst almost any leafy matter [?] is suitable. Ed.] especially when mixed with long manure packed into the trenches formed between the beds. I think the brick walls are pigeon-holed. A nice heat is formed which is greatly retained when shutters are placed over these fermenting linings. Of course, beds have to be renewed from time to time.—D.

AN APPRECIATION OF ALFRED OUTRAM.

As an old friend of the late Mr. Alfred Outram, in fact, a friend of nearly thirty years' standing, I should be glad if you would allow me a small space in your valuable columns to write one or two remarks about this gentleman.

Having made acquaintance with our late friend while I was connected with the firm of Messrs. B. S. Williams & Son, Upper Holloway, London, his geniality of character and many other good qualities soon endeared him to me, as, indeed, they must have done to all who came in contact with him.

It was in a great measure owing to his advice that the Abbey Park Flower Show, Leicester, was started, and he has always taken a great interest in this show, which he invariably attended as a judge. There was no gentleman more popular at this gathering, and he will be greatly missed by all who exhibit there.

Mr. Outram was always willing to give his valuable advice to amateurs, or, indeed, to further horticultural pursuits generally.

No doubt he will be missed by a large circle of horticultural friends and others, and by none more than by his sincere friend of many years' standing.—John Burn, Abbey Park, Leicester, December 18th, 1899.

THE GARDEN OF GETHSEMANE.

At the base of the Mount of Olives there is a small enclosure surrounded by a white-washed wall. It is the reputed Garden of Gethsemane. The Franciscan Monks possess it, and admit all visitors to it with courtesy. There are now seven venerable Olive

trees in the enclosure, whose gnarled and aged trunks give proof of their great antiquity. They are, indeed, said to be the very ones under which Jesus knelt in spiritual anguish. This can hardly be the case, for the Romans are said to have cut down all the trees about Jerusalem. Nevertheless, since it is a fact that an Olive tree will spring repeatedly from the same root, there is a possibility that these trees are descendants of those which sheltered the Man of sorrows. Round the garden are several shrines for prayer, and the actual places are pointed out where Jesus was arrested, where Judas gave to his Master the final kiss, and where Peter, James, and John slept, while their Saviour prayed. The earliest account of this garden dates from the fourth century. There is no doubt that the situation corresponds closely to that which the nature of the ground makes confidently necessary, but whether it be the precise locality is questionable. The Greeks have their Garden of Gethsemane at a little distance from that which we have noted, and they maintain that theirs is the genuine garden. Certain it is, however, that somewhere in a very limited area here, the scenes of the agony, betrayal, and arrest must have been.

PEOPLE WE HAVE MET.

JAMES GIBSON.

MR. GIBSON was born in Dundonald, Ayrshire, N.B., and at an early age acquired a love for gardening. In 1882 he began his apprenticeship at Sundrum, near Ayr, under Mr. Wilkie, and during a three years' stay there had an excellent opportunity of obtaining a thorough grounding in good gardening. It was while there that he early saw the necessity of becoming a first-class fruit and vegetable grower; and, as Mr. Wilkie combined science with practice in all gardening matters, and always taking a keen interest in the training and welfare of those under him, a profitable beginning was made, such as falls to the fortune of few.

He then went to Bargany, now the residence of Major the Hon. North Dalrymple Hamilton, as journeyman, and in his first year there was promoted foreman. He remained for three years there, under the late Mr. Smith, and as Bargany was then, as it is now, famous for its Grapes, Peaches, and other fruits, an excellent insight was obtained there. After this he removed to Kilkerran, the seat of Sir James Fergusson, Bart., M.P., as foreman, and remained there two years under Mr. Gallaher, who is one of the most successful all-round gardeners in the West of Scotland. Much indoor decoration had to be done there, and Mr. Gallaher being quite an expert in this line, and especially in the arranging and grouping of flowers for artistic effect, Mr. Gibson learned much there that fitted him to compete very successfully with bouquets, &c., in many a stiff contest with other under gardeners, where classes are liberally catered for at exhibitions in the West of Scotland.

In 1889 he was offered and accepted the situation as head gardener to John McMaster, Esq., the Holt, Harbledown, Canterbury, where, for two years, he undertook the landscape alterations that were carried out there with great success. Although little time could be spared to grow large quantities of fruit and vegetables for exhibition, through the alterations going on, he nevertheless was enabled to win the Mayor of Canterbury's Silver Cup offered for the finest collection of vegetables in the Canterbury Society's exhibition; and that being his first exhibit he prizes the Cup still. Mr. Gibson has many happy recollections of the historical old city of Canterbury, and its Gardeners' Mutual Improvement Society, where he spent many a pleasant and instructive evening.

He was next appointed to the Oaks, Carshalton, in Surrey, the residence of the late H. Berkeley James, Esq., where he remained until the owner died, when he had reluctantly to sever his connection with the estate. The grounds and kitchen garden there were on the chalk and the top soil very shallow, but by carefully adapting himself to the requirements of these conditions fine produce was grown and enabled Mr. Gibson to win quite a collection of medals, cups, and other prizes, some of them at the International Exhibition at Earl's Court.

His next move was to Devonhurst, Chiswick, the late residence of E. H. Watts, Esq., where he remained five years. The grounds there were not

extensive nor yet the atmosphere of a very encouraging nature; but he soon set himself the task of trying to compete with those who had better opportunities, and in this he was very successful. We have frequently seen magnificent crops of hardy fruits and vegetables there. Mr. Gibson renovated the



MR. JAMES GIBSON.

glass department while there, devoting most of the space to fruit trees in pots, &c.; and soon had the Vines, Peaches, &c., in fine condition.

Those who know the neighbourhood of Chiswick at the present day will recognise the difficulty with which the gardener has to contend, who endeavours to grow first-class fruit, flowers and vegetables, under the adverse circumstances. The place is now closely invested with dwelling houses, and is practically a populous suburb of London. Several very high buildings, constituting a paper manufactory, overshadow the glass houses and the northern part of the garden. Even at midsummer we have seen the glass, the shrubs, vegetables, and everything else covered with a dense coating of filth from the chimney stalks. One can but admire the courage of a gardener who would attempt to take prizes with produce grown under these conditions. Yet Mr. Gibson was able to take prizes at the Royal Aquarium for Chrysanthemums; at Richmond for vegetables; and at the Crystal Palace for bulbs. In 1897, he went to the September show of the Royal Caledonian Horticultural Society, and easily won the Victoria Diamond Jubilee prize for a collection of vegetables; and at the same time the first prizes for a collection of Apples, and for eleven dishes of Apples in as many classes, or thirteen first prizes in all. The papers he read and the part he took in the discussions at the meetings of the Chiswick Gardeners' Mutual Improvement Association were always much appreciated.

On the 1st August, 1898, Mr. Gibson commenced his duties as gardener to W. R. Hudson, Esq., Danesfield, Great Marlow, Bucks. He was the successful candidate out of some 300 to 400 applicants for the situation. The estate has an ancient reputation, with Medmenham Abbey upon it, and runs to 3,000 acres. Vast improvements have already been effected all over the estate, including the garden, while others are in progress. The proprietor is a most enthusiastic gentleman, and spares no expense in improving the place and making his men comfortable and happy on the farms and in the bothies. Mr. Gibson has accomplished much hard work, and at present is busy planting. Notwithstanding the short time he has been at Danesfield he has got the garden in good order, and found time to take prizes at Shrewsbury, Birmingham, and the Royal Aquarium for vegetables. So close was the competition in an important class for a collection of vegetables at Birmingham on November 7th last, that Mr. Gibson was awarded equal first prize with another gardener, as our pages show.

So satisfactory has his work in the garden been to

his employer, as well as his management of the men, that Mr. Hudson appointed him forester as well as gardener, in April last. There is much wood upon the place, and planting in that department is proceeding with great vigour. We wish him all success, and a long and prosperous career, which he well deserves.

FLOWERS FOR CHRISTMAS.

QUANTITIES of these are expected for the festive season from those in charge of small, as well as that of larger places, but convenience, labour, and last, though not least, finance, has to be the ruling power in a good many establishments; but where it is ignored so long as plenty of flowers are available, and the other two things at command, there ought to be no lack of floral wealth at the date mentioned above.

The bulk of 'Mums will have passed over, but some good whites and yellows will be still with us, such as Ethel, Niveus, Lady Canning, Boule de Neige, Gloire du Rocher (whites); W. H. Lincoln, Grandiflora, and W. H. Cannell (yellows), which help to swell the basket when cut flowers are required, or for conservatory work, as well as for trays, windows, &c., in the mansion. Azaleas Deutsche Perle and Narcissiflora are fast opening their buds now (December 7th), and will be just right for use in a fortnight's time, and what useful varieties these two are for early work, requiring little or no forcing to bring them into flower in December after being forced a couple of years. They make grand vase plants, especially Deutsche Perle, the growth of this being much more symmetrical than the other named, and the flowers keep in good condition for such a length of time, and I consider it is one of, if not the most serviceable varieties we have. A few plants of this arranged with a like number of Poinsettia pulcherrima make a grand display wherever staged, and one cannot well have too many of the latter to brighten the two dull months of December and January, but I find these last better in a slightly warmer position than the greenhouse. Ours, or the majority of them, are placed with Ferns, Calanthes, Begonia Gloire de Lorraine, and B. Gloire de Sceaux, two splendid varieties to flower during winter and spring, while the foliage of the latter is so pretty.

But let us turn to the greenhouse where we shall find the greater bulk of flowering plants so serviceable at this date. There should be many spathes of that noble Richardia africana, than which no flower is more valuable just now, either in a cut state or on the plant, whose deep green foliage is always admired. Out of a batch of one hundred pots I counted to-day nine open spathes with twenty-four pushing up, and several already cut, part of which are just unfolding, and will be most acceptable. All these could by a little extra heat, say 65°, be quickly got into bloom.

Then there is Cyclamen persicum of various colours, perhaps not so useful for cutting as many other things, but which none despise as dot plants mixed alternately with that good old free-flowering double Chinese Primula (alba plena) or the singles, Primula sinensis and P. s. stellata, not forgetting P. obconica, a perpetual one, I might say, for it is certainly in flower with us every month of the year under glass, or outside in a warm, sunny corner.

Then there are the Bouvardias, single and double, white, scarlet, and pink, all most serviceable for cut bloom, in small vases for buttonhole making, &c. The pure white, sweet-scented Roman Hyacinth and Paper White Narcissus should be in plenty by the third week in December. Spikes of Clivia miniata, and Amaryllis of sorts should be forthcoming at this date, mixing well with Richardias. Then there are the Christmas Roses easily brought forward, and so useful for church decoration at this time. So is the ever bright Poinsettia, of which a good batch should be saved. These are standing among Ferns in a house that falls to 45° on a cold night, taking no harm and far more lasting from here when cut than if from stove heat. Camellias, too, in various colours are to be had, but dislike much fire heat. These with us have a house to themselves, and up to now have had no fire heat, though we have cut many dozen flowers.

Mention was made earlier in these notes of Calanthes, and I cannot lay too much stress on them as being among the very best of flowering plants for

Christmas where the required heat can be maintained during the growing season. We have hundreds of spikes of *C. Veitchii*, carrying on an average thirty flowers, all expanded except four, one of their features being so lasting when cut and placed in water. There is also *C. vestita* and *C. v. oculata*, both very nice, but not so useful as the beautiful soft pink of the former. *Euphorbias*, too, are useful for indoor decorating, but, like the *Poinsettia*, better left on the plant, on account of their bleeding so freely which is greatly against their keeping qualities.

White *Marguerites*, zonal *Pelargoniums*, and Tea Roses all come to the florists' hand, providing suitable houses are found to grow and flower them in. Lily of the Valley, too, will be getting plentiful by this time, as well as *Freeseas*. Mentioning the latter reminds me that your writer of "The Plant Houses" in your issue of the 9th inst., mentions that they will have begun to flower thus early. I think it would be a valuable contribution were he to give cultural details in THE GARDENING WORLD, and stating if home grown bulbs or imported, as I have found the latter flower a trifle earlier than the former. I have always considered it good work to get *Freeseas* in bloom by Christmas, but shall be only too pleased if I can get them the first week in December.

Tea Roses, too, will be plentiful where a house can be set apart for them; while the lovely *Eucharis amazonica* and other varieties will adorn many a stove; and here I must admit that I am not over successful in getting them to flower at this date, the plants not doing at all well the past two years. I am giving them fresh quarters early in the new year when I hope to have better results. Various Orchids beside *Calanthes* are to be had in bloom, but it is not everybody's flower, and, to be done well, houses must be set apart for their wellbeing, but enough has been said to show that heaps of flowers can be and are got together to brighten the festive season of Christmas.—*Grower*.

THE PLANT HOUSES.

The Stove.

TILLANDSIAS.—The curious vase-shaped arrangement of the *Tillandsia* leaves, help to recommend them to lovers of quaint stove plants. They are also beautifully marked, and from being symmetrical, they form a contrasting element to the other and more graceful stove members. Propagated by suckers, or seeds, they should enjoy a compost which is at once sweet, free, and moisture-holding. It may be taken as an infallible point in the routine of their culture, that they never care to be stinted in the water supply. A moist atmosphere, and warm temperature of 70° or so, must be maintained. Cool, dry conditions they will not admit. Such a compost as the following is to their liking:—Equal parts of fibrous peat and loam, about a quarter of potsherds, charcoal and sand, well mixed. The "feel" of the mixture, of course, as a rule, determines its fitness to the experienced plantsman. Spring-time may be determined as the most fitting period to take the suckers, each of which should be strong. Having prepared and inserted them in 4 in. pots, place them in a propagating house, only this difference may have been observed, that they object to what other plants more or less care for, that is, a close atmosphere. They are apt to rot if so confined; therefore place them in a cosy corner but not in a close case. We do most of our winter and early spring propagating in a pit sunk in the ground, well heated with hot water pipes and used for Melon growing in summer. Such a pit also answers for *Eucharis* and *Begonias*.

PROPAGATING CASES.—It may be as well to review a few examples of the means whereby plants are housed for propagation. In the smallest of gardens some kind of specially made case, or pit, by which the "cosy" conditions which are known as essential for unrooted slips, cuttings or seeds of plants, may be obtained, and maintained. One of the simplest means adopted is that of placing a small sized frame in a suitable part of a warm house. Having formed a loose base, permeable by the heat from pipes below it, cocoa-nut fibre refuse, or sawdust, which also answers fairly, must then be filled within the frame. This is made somewhat firm and should be slightly moist. When heated, the propagating case is ready

for the pots which are plunged in the warm fibre or sawdust. Sawdust is apt to rot and turn mouldy. The better plan is to mix it with the fibre. Many soft-wooded cuttings root readily if they are inserted in the fibre, and afterwards very carefully potted up. The thick fleshy roots of most *Dracaenas* we always use for propagation and these are simply cut transversely into sizes and inserted deeply in the fibre. If a specially close case be necessary for certain cuttings, a hand light should be placed within the small frame. Then of course, in larger gardens, there are, or most certainly ought always to be, a properly constructed propagating pit having cases, shelves, and stages. The pit should have a central path and should be divided by a glass partition, one-half, the cosy end, being devoted to the cases, while the other should be given up for the staging of rooted plants just taken from the cases and which are being grown on, preparatory to being used in the plant houses. Ordinary cold frames may be turned to good account during the heavy part of the propagation of summer hedding-stuff, by being placed above a hot-bed. It is scarcely necessary to remind you that to propagate soft-wooded plants, such as *Lobelia*, *Ageratum*, *Alyssum*, or to raise vegetable seeds sown in boxes, in a steamy hot-bed frame, amid escaping ammonia too, is not a task for the thoughtless or forgetful person to tackle, and the use of hot beds and frames in this capacity must only be accepted as a necessity, and one to be free from if circumstances permit it.

STOKING.—So much has been said before that a summary of points requiring thought and attention need only be given. During the hard weather keep clear fires, a steady glow to be maintained, and this by small additions rather than heavy feeding. Feed from the front. Keep the live fire all on the bars, not upon the dead plate. Clear the fires, give full draught but do not make up, at the first start in the mornings. There should always be body enough of fire to run for half an hour without an addition of fuel when first seen to in the morning. Regulate the damper so as to keep a steady fire going and to retain the heat in the furnace, not up the chimney. This is an operation easier to refer to than to do, but practice, of course, makes perfect. The flues must be thoroughly clear. Water below the furnace bars in the ash bed has a wonderful power in creating a good draught. The bottom doors can be used almost with as fine effect as the damper. Do not slack the fires much at any time. It is easy to maintain a warm temperature once it is reached, but it is very hard to raise it against a falling temperature with perhaps wind with it. Mats may be placed on heated pits, &c., and so conserve much of the heat.—*J. H. D.*

Kitchen Garden Calendar.

SINCE writing the last instructions the frost has put a stop to many outdoor operations, but those who took the precaution to have work well in hand in the way of digging and protecting the crops will have no cause to regret, as there are always plenty of things requiring to be done in frosty weather. It was formerly thought that wheeling on manure and shifting soil heaps should be deferred till such times, but the kitchen gardener who thoroughly understands his business gets such work done if possible while the ground is dry in the autumn that all may be turned up in readiness for the frost when it sets in.

The work in this department at this time of the year lies chiefly in preparing and forcing vegetables. We must therefore in a great measure turn our attention to those crops that are being brought forward under glass. Still there are many outdoor operations that can be done quite as well in frosty weather as in any other, such for example as clipping hedges, cleaning out water tanks, looking to drains, collecting leaves, sharpening pea sticks and preparing soil for pits and frames. Where such work is deferred till later on, it often happens that something turns up to prevent its being accomplished. In the case of sharpening Pea sticks if these are tied in convenient bundles after being sharpened they will be ready for putting to the early rows as soon as planted out and will thus afford the plants some protection.

Water tanks that are cleaned out now will stand a chance of getting refilled again before the hot weather sets in, and drains that are made to work freely will carry the water off better should there be a rush. The store rooms should also be looked over to see if any roots have started to decay, and if any such are found these should at once be removed. As the old saying goes one "scabby sheep infects a flock" so one had root causes others to decay. Where Potatoes are earthed up in clumps short litter of some description should be put over the soil to exclude the frost. Three or four years ago when we experienced such severe weather many tubers were spoiled owing to neglect in protecting them. It should always be borne in mind that anything elevated the same as a Potato clump is more exposed than if flat, so that the frost penetrates much further into it. Onions in open sheds should not be handled when frozen as this causes them to rot. We have never experienced any harm to bulbs thus exposed provided they are kept dry and not handled till the frost has left them, and ours have often been exposed to the most severe weather.

Potatoes for planting ought to be spread out thinly and kept as cool as possible, so long as they do not get frosted the place in which they are stored cannot be too cold. Those who have space at their command would do well to stand all the early varieties on their ends in order that the growths made may be even and robust.

The time for ordering seeds is at hand. One is forcibly reminded of this by the reception of next year's catalogues. Before ordering it is well to take a review of the past year, and see if there is any improvement that can be made by way of introducing fresh varieties. All gardeners for the information of themselves should keep a special record of the merits of each variety they grow, and at this time of the year when the evenings are long these notes could be looked over and compared with what has been done in previous years. There is no department in the garden that requires so much skill as this, though it may seem so simple. It is certainly easy enough to sow a row of Peas, Beans, Carrots or Turnips, but it is no light task to keep up a good supply of them from a limited piece of ground such as is usually allotted to the kitchen gardener.

To have a regular and an abundant supply should be the aim of all; and those who can do this need not fear being drawn over the coals as the saying goes. Cooks, as a rule, are very extravagant, they have but little idea of the difficulty there is at times in providing the necessary supplies, and if once it becomes known that there is a scarcity of any particular vegetable there is sure to be a run on that special article; for this reason it is well to refer back to what has been required in previous years and see if there can be any alteration made either in the cropping of the ground or the quantity of any particular crop. As this can be done by the fireside these long winter evenings it would be well not to let the opportunity pass by.—*K. G.*

Gleanings from the World of Science.

At the meeting of the Royal Horticultural Society on the 5th inst., the undermentioned subjects were discussed:—

Chinese Cabbage.—Dr. Masters gave some account of this species, *Brassica chinensis*, which is cultivated in China and also in the tropics, where the common Cabbage does not succeed. It has a taller stem, but does not appear to form so sound a "heart" as in our Cabbages. It is the custom to protect the heads in pits, frequently turning them over; they thus provide an excellent supply for winter use. The communication was received from Mr. Carles, Consul at Foochoo.

Kermes Fagi.—This destructive but too common pest of Beech trees was received, with inquiries as to the best means of destroying or preventing it. If the trees are but slightly attacked, spraying with petroleum and soapsuds in water should be persevered with, repeating the process from time to time. If, however, the trees are too badly attacked, nothing but cutting them down and burning at least the bark can prevent it spreading to other trees.

HINTS FOR AMATEURS.

Planting up Odd Corners.—The suggestion came to me that now at this season, when alterations to grounds and new plantings of hardy plants, trees and shrubs are being made everywhere, a few hints on what has been termed "wild gardening" may fittingly be given. The term may seem a paradox to some, because if gardening is to be synonymous with culture the adjective before the noun would really make the term ludicrous. But without further mounting of words upon words, be it known that the term implies the use of hardy exotic plants, the best of hardy plants, from all other temperate lands, for planting as adornment to copses, woodland belts, looser shrubberies, and the outer parts of the pleasure grounds. Around the larger villa gardens, no less than the environs of a large mansion, one may find sometimes a half, sometimes a whole or much more than a whole, acre of ground on which grows some of our hardy weeds enjoying a fat existence. In place thereof I write to advocate a method of planting which will raise the value of your garden, both in your own and other people's eyes, and which from its increased beauties will furnish you with a tenfold greater interest and love for the pleasures which it will return.

The Selection.—Necessarily the finest of hardy border plants will still be confined to parts where more exact treatment can be given to them, and when the delicacy or purity of colour or form can be conveniently enjoyed. For these we must still have well disposed beds and borders. But there are a large number of plants which prove too coarse, and, in fact, are ugly when confined to 8 ft. or 10 ft. borders. Some of the Michaelmas Daisies, *Telekia speciosa*, Golden Rods, *Eryngiums*, and others which might be mentioned are those I refer to. When these are well arranged in great massive borders, which have likewise massive surroundings in the shape of tall, old walls, well disposed fruit trees, &c., they are not inharmonious, not in the least, yet very, very often tall, even monstrous, plants of the sorts named are placed in quite restricted surroundings to their own detraction and the detriment of neighbouring plants. Far better is it to let these sway their tall stems unencompassed in great breadths where the truest of their beauty may be shown, and themselves perfectly developed. For wild gardening we have such plants as Day Lilies, Columbines, Crane's-bills, herbaceous Asters, Honeysuckles, Bindweeds, Brambles, and other innumerable host of dwarf, but very showy plants, such as Wood Hyacinths, Muscari, Forget-me-Nots, all sorts of Primroses, Snowdrops, Crocuses, Daffodils, especially the Poet's, Evening Primroses, Violets, Saxifragas, &c.

Acanthus or Bear's Brush.—I wish just to call attention to this peculiar, if not pretty, genus of hardy plants. Their botanical peculiarities need not be referred to here; suffice it only to mention that they have an interest within them. Their handsome, dark, and much cut-up foliage, surmounted by tall, stiff flower spikes, which bear hood-like stiff scales, give them a considerable dignity of appearance. I should not recommend them for the flower border, but to be planted rather in bold, irregular groups close by massive rockwork, or not far from the shade of broad-leaved trees adjoining ornamental water. Any deep and open soil will answer the plants' needs. *A. spinosus*, *A. longifolia*, and *A. mollis* are all worthy.

Incarvillea Delavayi.—Of this plant it may be remembered that a sketch appeared in THE GARDENING WORLD early last summer. It is really a splendid border herbaceous plant, which should be absent from no garden. It prefers a deep rich sandy loam, and a sunny position with about 2 in. of soil over its crowns. The planting may now be left over till February or March, unless suitably mild weather takes the place of the present wintery conditions.

Planting Roses.—It is well-known that liberal plantings of Roses are made during the early spring months, or say till about the middle of April, and though for various reasons I prefer autumn planting, still the fact remains. I have not hitherto made the suggestion, but do we not err in planting Roses so widely as we do? Well, perhaps not, not in these present times of high culture, because the plants send out strong growths, and it would be utterly impossible to work among them get at those in the

centre of a bed, say, if they were planted closely. Then Mildews and other contagious diseases would certainly be encouraged by the practice.

Tea and Noisettes are often to be seen 4 ft. or more apart, but this is presumably for the sake of getting some bedding plants between them.

Climbing Roses, and Roses attached, or intended to be trained around the basal trunks of trees, should always be planted in firm and rich soil. A yard or a yard and half of good unctuous loam is not too much to allow to every bush which you plant. It is also advocated by very old and experienced Rosarians, that in planting Roses at the base of grown trees, the north side should always be chosen as a rooting area. The idea for this practice is because that the roots of the trees are in much greater abundance on the south side, drawn there by the summer conditions. So the roots of Roses get the soil on the north side more fully to themselves. Upon the eye and no of this matter I will leave the reader to judge individually. Any suggestions upon the subject would be gladly received by me, and would certainly create an interest in this branch of the subject.

Vases.—Here again the object in mentioning these is just to draw attention to an item or items of decoration which are overlooked at this period of year, which one finds afterwards would have been the most convenient in which to make the plan and arrangements. Vases are of various forms, sizes, and quality. The ordinary plaster vases which one sees surmounting parapets are objects of beauty when skilfully filled. These are then instances of the right articles in the proper place. Vases are also convenient and tasteful additions to parts of the flower garden. Perhaps their proper position is as ornamental accessories in those cases where the plan of the flower garden shows too lengthy a stretch of level surface and beds. These examples are not uncommon. Instances might be cited where there are long, central reserved plots, wherein are beds laid out in grass with walks on either side. In such places as these, various sizes and various heights of vases dotted at suitable distances between the beds, are the most proper things that one could employ.

Yuccas in Groups.—*Yucca gloriosa*, *Y. g. superba*, and *Y. g. recurvata* only need be referred to in order to call up features which, wherever found in gardens, especially with an Ivy and rough stone formation around the group, are the simplest and most charming which the designer ever adopts.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Selection of Berry-bearing Hardy Plants.—*"Arborist"*: An article which we hope will be of service to you and others will shortly appear. The following may be taken as suitable berry-bearing shrubs or plants:—The common Holly, Mistletoe (*Viscum album*), Privet and the shrubby Ivy (*Hedera Helix arborescens*), which each bear black trusses of berries, *Symphoricarpos racemosus*, or Snowberry bush, *Crataegus Pyracantha*, *Cotoneasters* in variety, *Iris foetidissima*, Rowan tree or Mountain Ash (*Pyrus Aucuparia*), *Berberis vulgaris*, and *Gaultheria procumbens* are among a number which arise, to our mind, as being suitable for decorations at this time.

Permanent Evergreen for Walls.—*J. Sumlow*: We would go no further than the Ivies for climbing plants suitable as wall coverings. They furnish a beautiful selection. Endeavour to consult any well known grower.

A Primrose Garden.—*"Modesty"*: Primrose borders are frequent enough, but not so whole gardens of Primroses. Like many of our correspondents, your details are scanty, but never mind. You know what area you have to spare; plan this to your own taste and the work of doing all by yourself will give you an undying interest in the plot. Choose a moderately-shaded place, work and enrich the soil well, have small, well-made paths (an article appears soon) and introduce here and there a suitable group of dwarf shrubs, vase with column, etc., but leave plenty of space for irregular beds or long sweeping borders. Lastly, in planting, secure only decided colours and "mass" plants all of one shade. Do

this tastefully and your Primrose garden will be successfully accomplished.

A Reserve Garden.—*S. Errol*: A capital thought, and one which in larger-sized places is an accomplished fact from necessity. A walled-off portion in a sunny position and where the soil is warm, well drained and light should alone be selected. Much of the home stuff can be reared here.

Easily Grown Orchids.—*J. J., Bath*: With some gardeners anything seems to be easily grown, while others have much to complain of. Try *Odontoglossum grande*, *O. crispum*, *O. Pescatorei*, *Oncidium recurvum*, *O. concolor*, *Dendrobium nobile*, *D. thyrsiflorum*, *D. densiflorum*, *Sophranitis grandiflora*, *Coelogyne cristata*, *Cypripedium insigne*, and a few other *Cypripediums*.

Geraniums as Standards.—*Huntly*: From cuttings taken now you can have plants of 2 ft. or 2½ ft. high by this time twelvemonth. Confine them to a leading shoot, rubbing off any buds along the stem. Five or six-inch pots are large enough for the first year. After having rested the plants for a short time pot them into a larger size, at the same time pinching the top off, care having been taken to leave some top buds for forming a head from. Some of the out growing shoots should be kept nearly horizontal.

Cherry-pie or Heliotropium.—*H. J. J.*: The winter blooming plants are now yielding their sweetly fragrant flowers, and afford a capital contrast to the equally pleasant Roman Hyacinths. They are nice decorators all through the dull season. Wait now till the end of March before taking cuttings.

Solanum jasminoides.—*Greenhouse*: A pretty plant. It produces large trusses of pure white flowers during summer and early autumn. The plant is half hardy, and can be propagated by cuttings of the firm wood or by layering. As a climber or as a trained specimen few plants surpass it. Now is the time to plant it, allowing the roots some liberality, and according it a cheery position on the sunniest position of your lean-to house.

Ixoras.—*R. J., Earlston*: It requires some skill and close attention to do Ixoras well. Old plants cannot be pruned hard back in any haphazard fashion. Evidently your samples would be the better for practice in this respect, and if you care we will forward you the address of one of our able subscribers near to you who would be pleased to advise. Top-dress or re-pot them, keeping a warm, moist temperature.

Nephrolepis exaltata.—*E. Sowerby*: Baskets will answer. Use a compost as follows:—Two and a half parts turfy loam, half part first-class lumpy peat, one-sixth part dry manure with sand and some charcoal to keep the mixture sweet. Make this firm, and water with tepid water. The temperature should be maintained at 63° to 68° during winter.

Crimson Rambler Rose.—*J. L.*: Your idea is good, and has been often accomplished. Spread out the long shoots, peg them hard down, having notched them a little at the bend, and from these shoots others will grow upward. Prepare a rich deep bed before you begin to peg down the shoots.

Cytisus andreanus.—*A. J. M.*: May be grafted on to the common Broom, and it will form a feature of interest to have a portion of the Broom all yellow-flowered, and another portion chocolate and yellow. Wait till April.

Hardy Perennials for East Yorkshire.—*F. Ganton*: Wood Lily (*Trillium grandiflorum*), Christmas Roses (*Helleborus niger*), Primroses, Polyanthus, *Papaver orientale*, *P. bracteatum*, *Tritoma grandiflora*, *T. uvaria*, and vars., Asters or Michaelmas Daisies, Sunflowers, Day Lilies, German and Siberian Irises, *Iberis sempervirens*, *Adonis vernalis*, *Acanthus mollis*, *Achillea* in variety, *Lychnis chalcidonica*, Lupines, *Doronicums*, *Centranthus ruber*, *Chelone barbatum*, *Epilobium angustifolium*, *Echinops*, *Eremurus*, *Pyrethrums*, besides many other taller plants. *Ranunculus*, *Geraniums*, *Polemonium*, *Saxifragas*, *Phloxes* (dwarf), *Sedums*, &c., may be included.

Cypripedium bellatulum.—*E. G. Sheppard*: You bloom is a good variety of the above. The method of culture proves to be correct. The spotting of the petals and lip was very distinct and fine, though the dorsal or upper sepal was more a suffused colouring. It was introduced in 1888 by Messrs. Low & Co. A short note upon your procedure would be of interest to other amateur orchidists.

ORNAMENTAL GRASSES, &c.

NOTWITHSTANDING the great wealth of flowers at

covering them with bell glasses, to insure their lasting for a number of years in pristine condition. The low prices at which they are obtainable renders such protection quite unnecessary, so that they may be kept uncovered by such cumbrous protection, greatly to their ornamental value and decorative effect. Apart from those annual grasses which are grown in almost every garden to a greater or less extent, and for different purposes, a few may be mentioned here that are less common in this country, though many of them are hardy in the southern counties at least.

ERIANTHUS RAVENNAE.—The plumes (see illustration)

tinction is quite evident to the mere casual observer. The female inflorescence (see illustration) is upright, silky, plummy, and white. The male panicle of flowers, on the contrary, having longer branches, assume more of a drooping character at the tips



ERIANTHUS.



UNIOLA.



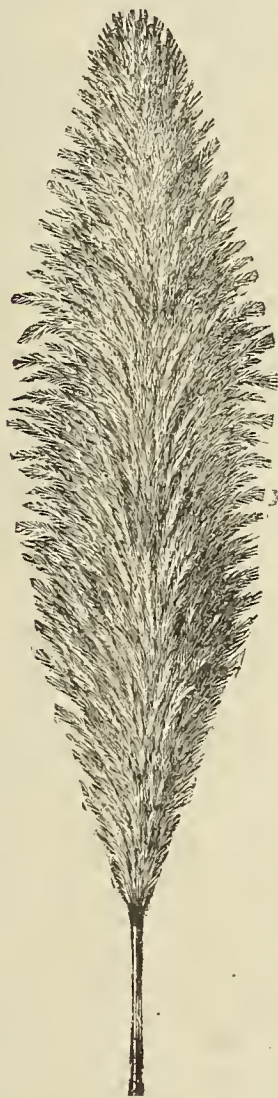
MELICA

the hand of the gardener and house decorator at Christmastide, and that, too, in a live condition, there is yet room and a more or less desire for dried grasses and other things of a kindred nature to mix with the live flowers, berries, and greenery generally. Many collect and dry their own grasses, which may have flowered with them in summer, and were not actually required for the manifold decorations, exhibitions, &c., in summer. The quantities of dried

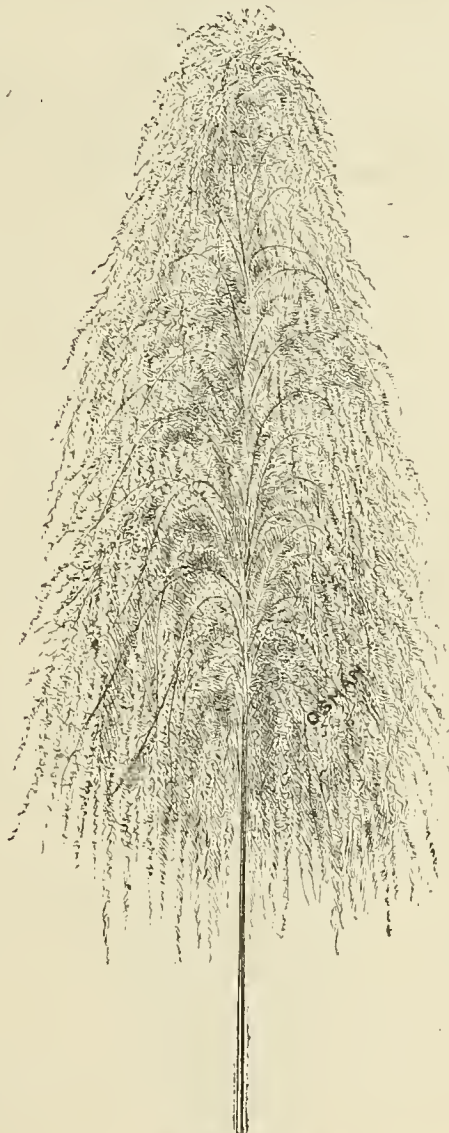
tion) of this grass are only produced in very warm summers in this country, but as the plant is of robust and strong growth, attaining a height of 5 ft. to 6½ ft. under favourable conditions, it is highly suitable for culture in the sub-tropical garden, where it produces dense tufts of very graceful leaves. It is a native of South Europe, the Orient, and the East Indies, which would account for the necessity of a warm summer to flower it here. The flower

They are also of a more brownish or pale reddish tint in the natural state, though it is possible to bleach them.

SPIKE GRASS (UNIOLA LATIFOLIA).—There are something like four species of Uniola, sometimes termed Oat Grass, natives of North America, one of them extending to Central and South America. *U. latifolia* is hardy here, flowers freely, and is, perhaps the best of its kind. It is a strong growing peren-



PAMPAS



PARADISE PLUME.



UVA-GRASS.

g asses obtainable at Christmas, and for the matter of that at any time of the year, from those who make it their business to procure and keep them in stock, render it unnecessary for those who have neither time nor space to grow them.

The graceful character of many of the grasses is sufficient plea for the use of them, quite independently of their practically everlasting nature when properly dried at the proper season. The only necessity is to keep them dry and dust proof by

panicles are woolly, as the generic name would imply, and plummy in character, so that they are very handsome in the dried state.

PAMPAS GRASS (GYNERIUM ARGENTEUM).—The Pampas is a native of the vast plains of Brazil, and is so named from its habitat on these plains or pampas. It thrives so well in the southern and all the warmer parts of Britain and Ireland, that most gardeners are familiar with it. The male and female flowers are produced on different plants, and the dis-

nial, forming dense tufts of leaves, from amongst which it sends up its panicles of flowers to a height of 2 ft. to 4 ft. These inflorescences (see illustration) may be compared to those of the stronger growing species of *Briza* and *Bromus*, but are quite distinct from either, owing to the flattened and sharp edged character of its spikelets. They are bold and suitable for decorative work in the dried state.

PARADISE PLUME (see illustration) is a

natural production of a highly ornamental character, the graceful sprays of the panicle drooping freely on all sides in a most elegant way, so that, when used for decorations, in vases or otherwise, the plumes should be placed perfectly upright, so as to show them off to the best advantage. The plumes are oftendyed in various colours, as well as being stocked in the natural colour as dried.

MELIC GRASS (MELICA).—Our native species of Melic are interesting, but by no means ornamental grasses. The accompanying illustration (p. 265) would correspond to such species as *M. ciliata*, a native of continental Europe, and *C. altissima*, from South Europe. Both are hardy, and may be seen in collections where hardy grasses receive due attention. The spike-like plumes are narrow, and of silvery gray, but *M. altissima atropurpurea* is more ornamental, in the fresh state, at least, owing to the purple colour of the glumes. The margins of the flowering glumes are densely ciliate with long hairs which impart a more or less plummy and ornamental effect to the flower spikes. From this circumstance, these two grasses are well worth adding to bouquets or vases of dried grasses for the sake of the variety they afford.

UVA GRASS (GYNERIUM SACCHAROIDES).—The plumes of the South American grass (see p. 265) resemble to some extent those of the Pampas, but the sprays of the panicle are much longer and droop gracefully on one side. When fresh they are of a greyish-white hue, but when dried for decorative purposes they are also dyed in various colours, like those of other grasses and everlasting (immortelles). The plant is not hardy in this country, though it may be grown and flowered in a moist stove. The stems or culms, however, attain a great height, and consequently take up a deal of space, so that the cultivation of the plant for its plumes is impracticable in this country. It is one of the boldest of the dried grasses, owing to the great length of the panicle, the plume alone being several feet in length, with proportionate effect when used for decorative purposes.

EULALIA.—Such is the name given to *Miscanthus japonicus*, better known to gardeners as *Eulalia japonica*. There are several varieties in gardens, including the variegated one, which is the most common, and usually grown in pots for decorative work, and the less common *M. j. zebrinus*. All are perfectly hardy, in the south, at least, and should be planted in the open air, where they would surprise gardeners, who have never seen them so treated, on account of their vigour. The stems and leaves of plants grown in the open ground reach a height of 4 ft. to 6 ft. The inflorescence (see p. 267) is of no great length compared with that of several of the above mentioned, but it is very graceful and pretty either in the fresh or dried state. When the plant is grown in pots it never flowers, but planted out it does so regularly.

PHOENIX DACTYLIFERA (DATE PALM).—The leaves of this tree correspond to the "branches of Palm trees" we read of in Scripture. For some years past a considerable growth of trade in them has taken place; and, as they come to us from South Europe and the East, they must necessarily be dried before being packed and shipped to our shores. The accompanying illustration (p. 267) shows the form in which they reach us for decorative purposes about Christmas and other times. They are very effective, and endure for a long time. For the illustrations of all of the above subjects, which are dried and used in house decorations of all sorts, we are obliged to Messrs. Osman & Co., 132, & 134, Commercial Street, London, E.

Tree Violets.—Gardeners and others who are on the out-look for something novel in effect, may experiment with Violets so as to obtain standards or "Trees." In *American Gardening* for December 2nd, a block representing four plants so trained, and which appeared at the recent French horticultural exhibition, is given. The tallest reaches 1½ ft. and is only six months old. The stolon is trained and supported vertically, this soon becoming wiry and comparatively strong. The terminal bud seems to have been secured and to have been made to branch out into a fine flowering head, but as we said above, the work is a matter for individual experiment. Many other plants might be tried as standards.

BOTANIC GARDENS, GLASGOW.

THE old order of things which used to prevail in the Botanic Gardens, has entirely disappeared since the Corporation of Glasgow took over the control and keeping of them. The gates stand open to the general public, entering from the great highway leading in a north-westerly direction out of the city; and visitors give the gardens a lively appearance, especially during the summer and autumn months. There are also more young men in the gardens, six of whom live in the bothies close by the principal range of houses. The bothies are well looked after. The old lecture room has been turned into a dormitory, furnished with baths, hot and cold water, &c. Each gardener has a separate bedroom for his own private use, and these are all comfortably furnished. The gardens run to 21½ acres, and were acquired by the Corporation in 1891 at a cost of £59,531. This area was augmented by 18½ acres when the banks of the Kelvin were acquired in 1892-96, at a cost of £9,360. The banks of the river Kelvin are very steep, richly wooded and add greatly to the natural beauty of the place. Mr. D. Dewar, the curator, is much pleased with this beautiful addition, and we believe he will add considerably to the arboreal features on the banks of the river.

THE HOUSES.

We had a run through the place in September last, but owing to a break down of the previous fine weather we confined our attention chiefly to the houses. Entering the principal range we first visited the fernery where we noted splendid specimens of *Gleichenia rupestris* and *G. flabellata*, Ferns that have mostly retreated to botanic gardens, owing to the changes of fashion with regard to large specimen plants of all kinds. Here also was the interesting *Adiantum reniforme*, well named from the shape of the leaf. There were nice young plants of *Asplenium Hemionitis*, and large ones of *Ceterach aureum*, both very choice in their way. Other special things were *Nepbrodium lepidum*, *Pteris scaberula*, *Athyrium Filix-foemina clarissima* and *Asplenium obtusatum*.

Although it was decidedly the quiet season for Orchids, numbers of them were in bloom, including the ubiquitous and useful *Dendrobium Phalaenopsis*, *Pholidota imbricata*, *Coelogyne massangeana*; *Cypripedium Charlesworthii*, *Odontoglossum harryanum*, *Oncidium incurvum*, and the beautiful *O. jonesianum* having its sepals and petals blotched with brown, and the lip white. A variety of *Cypripedium chamberlainianum* was characterised by the dorsal sepal being green with a paler margin. *Coelogyne speciosa* may also be looked upon as a pet Orchid which flowers almost at any season. A cool house contains the largest specimen of *Witsenia corymbosa* we have seen for many a day.

The succulent house is different from what one usually sees. Rockeries have been made on the benches on either side of the house, and into these the collection of *Cereus*, *Mamillaria* and similar things have been planted. *Cereus rigidissimus* was at once curious and pretty, owing to the tufts of spines being white, tipped with red. A curious gouty-looking chap was *Jatropha podagrica*, having dumpy and swollen stems, and trusses of scarlet flowers. A fruiting stem of *Furcraea cubensis* in fruit stood 12 ft. high. A huge specimen of *Agave americana* in a tub was also noteworthy, and should flower in the course of a few years. There was also a large bush of *Euphorbia splendens*, from the Isle of France; its scarlet flowers are pretty, but the spiny stems formidable and of forbidding aspect. Surely the Hybrid forms and varieties of *Phyllocactus* are becoming popular. Anyway the curator here has got together 215 varieties.

The Palm house contained a fine tree of *Sabal blackburnianum*, carrying large bunches of green and black fruits, according to their stage of maturity. The silvery glaucous leaves of *Astrocaryum argenteum* contrast beautifully with the green ones of *A. mexicanum*. *Hedychium coronarium* was still supporting its sweetly fragrant, white flowers. The long, cord-like red and yellow roots of *Vitis pterophora*, from Brazil, trailed down to the ground from a great height, and they, with the winged stems, had a sub-tropical appearance, reminding one of the lianes such as may be met with in the tangled forests of South America. *Pancratium fragrans* was flowering freely.

Another Fern house contained a high bank of Ferns in great variety on the central stage. Very

fine was a huge mass of *Adiantum decorum*, suspended in a basket. The tree Fern *Alsophila atrovirens* was notable for the dark green and crisped character of its fronds. Arches over the pathways in this house are covered with Ferns, *Ficus repens*, *Begonia Rex*, and other subjects.

Very pretty was the small leaved *Ficus falcata* covering tree Fern stems in the stove. The great elliptic leaves of *Tococa latifolia* were very handsome. Baskets of the red-berried *Rivina humilis* were highly ornamental. A huge basket of the weeping Fern, *Polypodium subauriculatum*, also attracted attention.

The Aroid house contained many well grown, fine foliage plants, including large pieces of *Anthurium crystallinum* and *A. andreanum*. Species of *Calathea* were particularly fine, having large leaves for each respective kind. Those of *C. lindeniana* had a gray midrib, and were bronzy-violet beneath. *C. Sanderi* was lined with rose and pink above, but wholly purple beneath. The silvery and beautifully fine lines of *C. makoyana*, arranged in masses or blotches, showed this species to be quite distinct from the former. The plant, or rather the leaves, were 2 ft. high, indicating first-class cultural treatment. Strikingly distinct were the small, oval peltate leaves of *Caladium jenmani*, marked with wedge-shaped and radiating black blotches. A rare plant also is *Aglaonema acaulis*, with oval leaves, irregularly blotched with yellow. *Cypripedium Sedeni* and *C. longifolium* were also located here, finding suitable associates.

In the Water Lily house the Wax Gourd on the roof was notable for the white powder covering the fruits. *Nymphaea amazonica* was still flowering, being distinguished from allied kinds by the sepals being striped with green. The white and blue fruits of Job's Tears (*Coix Lachryma-Jobi*) were peculiar and interesting. The floating *Eichornia crassipes* grows well in the tank. Some fine Pitcher Plants were suspended from the roof, including *Nepenthes mastersiana* (one of the very best), *N. Morganiæ*, *N. intermedia*, *N. cylindrica*, and *N. dicksoniana*, all of which do well here.

The Economic house generally contains something interesting; and on this occasion *Passiflora quadrangularis* carried a fine crop of large fruits, which are edible. *Vanilla planifolia*, fruited last summer. *V. pompona* was notable for the vigour of its growth and large leaves, the stems being as thick as the thumb.

Just outside this great range of houses we noted a collection of 4,000 *Chrysanthemums* in grand form, with the buds well formed; but, as one of our correspondents has shown, they have already given a good account of themselves, so that we need say no more about them. The Moss house is still kept up, and contained some healthy plants of *Todea*, *Hymenophyllum*, *Trichomanes*, mosses, and other subjects. A houseful of Chinese Primulas, in fine condition, must now have reached the flowering stage.

KIBBLE PALACE.

This imposing building practically corresponds to the temperate house at Kew, though entirely different in form. It is a huge, circular building, with a large dome on the top. One part of it was gay with early flowering *Chrysanthemums*, such as *Marie Masse*, *G. Wermig*, and *Madame C. Desgranges*. One of the wings was gay with a great variety of conservatory stuff, such as zonal *Pelargoniums*, *Lilium speciosum*, *L. Harrisii*, *L. auratum*, *Fuchsias*, *Hydrangea hortensis*, with blue, and *H. paniculata grandiflora* with white flowers. Around the circumferential walk many evergreen subjects are planted out, including huge bushes of *Camellias*, *Pittosporum undulatum*, *Rhododendron argenteum*, *Tibouchina macrantha*, *Acacias*, and many others. Many large plants of *Arundinaria Falconeri* have reached their natural size and term of life, for four plants in succession have developed their flowers, and died. This is rather to be regretted considering the fine effect they produced when hanging over the cross pathways of the house. The central portion of the house under the dome is planted out with a magnificent group of stately Tree Ferns, amongst which *Cyathea dealbata* may be recognised on account of the white or silvery undersurface of the huge fronds.

A heavy downpour of rain at frequent intervals impeded progress and, as we had several other journeys to get over in various parts of the city,

the outdoor garden will have to be inspected on some future occasion.

CHRISTMAS IN GERMANY.

FROM about the beginning of December till New Year's week, it may be said that "Christmas" and its festivities are celebrated in Germany. During this period, in all the cities and the towns, travelling caravans, gipsies, circus folks and dealers, congregate and pitch their tents. Each town has its amusements all of a very mixed kind and which by a British community would be termed a fair, this lasting for the month. On every evening the streets and bazaars are thronged with buyers who make their purchases, the articles being hidden away until the happy eve of Christmas. Each member of a family endeavours some way or other to buy a present for each of the other members, so that where the family is large, the endeavour becomes quite a task to fulfil.

Another piece of information which seems somewhat "drawn" to our British conception, is that every family should be able to indulge in a private Christmas tree. But such is the case. Thousands of Spruce trees (*Picea*) are grown by many of the farmers, who find it a paying crop to grow these on land which is unfit for the growth of cereals. These trees vary in size to suit the requirements and the purses of all classes, and may be seen stacked up in all corners and spaces in the towns, for sale. The richer people buy trees of about 15 ft. or more in height; poorer folks are content with trees about 6 ft. or 8 ft. high. He must be a very poor man indeed, who, in Germany, cannot indulge in a Christmas tree. (The use of Christmas trees was introduced, of course, to the British Isles by the late Prince Consort).

Well, then, having had three weeks of jollity beforehand, on Christmas eve, all is silent out of doors from about seven o'clock. Walk along the streets and look in at the cosy rooms. The glad tones of friends for some time parted having met again, ring out, and the voices of the little ones playing games, with strains of music and all that happy reunion brings, roll out, giving to the listener just a little melancholy touch, because away in his own home in another part too far off to visit, there all his friends are likewise happily gathered, and at these gatherings all thought of outside strife, of contention and bitterness has for the time, vanished, for are not the carol-singers giving the holy hymn, "Peace on earth, goodwill to men," and "Unto you this day is born a Saviour, Christ the Lord."

Yes, Christmas is a season of reunion, of love and peace, throughout all the Fatherland. Within the homes too, it is no uncommon incident for the father, the grandfather it may be, for grown up sons, with their wives and children, and daughters with their husbands, one and all to visit the old home if it is at all possible. The father then, dresses up as "Santa Claus," well disguised, and comes into the room where all are assembled, at which juncture, the presents, so long kept hidden away, are now brought forth and presented. Various questions are asked by the bogus "Santa Claus," as to what the children have learned for him. Verses of hymns and wise quotations are repeated and amid much laughter, good wishes and singing, the visitant passes out. Many of the larger boys and girls—even up to twelve years of age,—believe this to be the genuine Santa Claus of tradition.

Christmas day is one of three really holy days kept in Germany, the other two being that of the first Sunday in Easter, and the first Sunday in Whitsuntide. All other Sundays are just of the ordinary Continental type—free in the early morning and entirely free to go to theatres, &c., after 4 o'clock in the afternoon. Everybody, the master and his servants, rich and poor, great and small unite as one brotherhood on Christmas eve, dining together and spending the evening as one family.

Mistletoe, Holly, and other subjects of this kind, revered in the British Isles, are not specialised in Germany. All sorts of flowers and plants are used, but none more so than others. And lastly, while the living meet face to face exchanging filial greetings and vows, think you that the departed ones are forgotten? No. On very many graves there

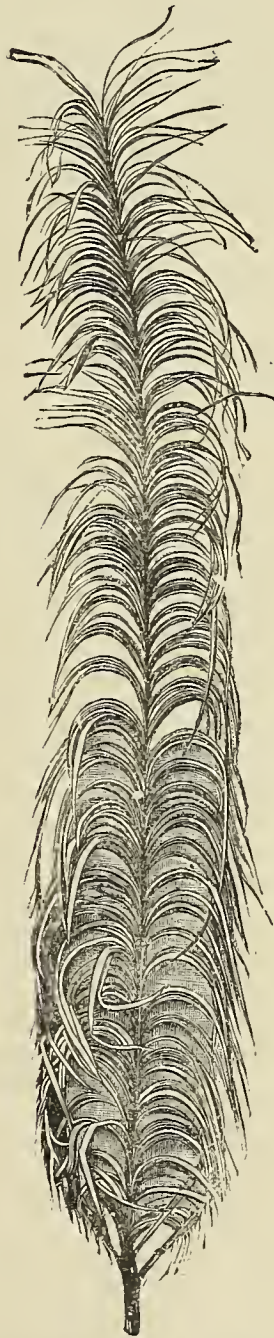
may be seen the Christmas tree and the pretty little fairy lights and other beauties, which remain throughout the night as a renewed mark of respect to those who once were included in the happy band under the parent roof.—*H. Lohrman.*



EULALIA (See p. 266.)

GRAPE NOTES, &c.

THE exhibiting of fruits for the end of this century is drawing to a close, and much has been done to educate the present generation by writers and exhibitors in the art of high-class culture, especially in Grape growing. The question may be asked if there has been much improvement in fruit culture during the last half century. I am not prepared to say



PHOENIX (See p. 266.)

there has during forty years past. Varieties have been increased, useful for all purposes, but some of the finer sorts in their species have not been surpassed. For example, the best Grapes are very old. Black Hamburg, Muscat of Alexandria, and Muscat of Cannon Hall hold the highest positions on

the exhibition tables now, as they did in our earliest recollections, to which I will refer further on.

Among Peaches some fine additions have been made; but are they superior to the good old Noblesse, Royal George, and Belle-garde? The additions of late and extra early varieties have relieved to some extent the cultivator's labours. A Peach which will be ripe weeks earlier than what the good old sorts were, and good sorts which will ripen weeks later than the older ones, are of much moment to those who have to cultivate on open walls and under glass.

Pears have had many acquisitions of much value, but many of the oldest in cultivation are often at the front as prize-takers. The merits of Apples, Plums, Cherries, &c., may be reckoned on the same lines.

In regard to our literature on fruits it has been voluminous, and what is better, it has for many years past mostly come from the pens of those who have given tangible proof of their capabilities as cultivators.

The Grape has always been a subject to engage the attention of writers on fruits. This subject, during the last year, has been greatly in evidence in most of the horticultural papers. Also at associations where gardening matters are discussed. Perhaps some of the ablest utterances have been expressed by Mr. Buchanan, of Forth Vineyard, and who has given such decided proof of his talents as a cultivator, both on exhibition tables, in markets and at the Kippen Vineyard. At that rising establishment one may see that light cropping of Vines for prize bunches is nowhere visible. On the contrary, the crops are remarkably heavy, as well as the quality being of the highest order. Mr. Buchanan's address on Grapes at the Scottish Horticultural Association rooms in Edinburgh was greatly relished by the savants assembled. His experience at Clovenfords and other well known Grape growing establishments has enabled him to manage his vineyard on high-class lines. The Clovenfords manure is in much favour at Kippen. Liberally and judiciously applied it is a great factor in building up the constitution of the Vine.

Reverting to heavy cropping, it is many years since pessimists adduced that it was impossible that the Tweed vineyard could maintain its high reputation. The enormous cropping has continued and we learn on good authority that the excellence and quantity of the fruit is as much in evidence this year as ever.

Much has been said and written of late on the success of Scottish Grape growing. The question is what progress has been made, say, during the last forty years? or take notes from the season of the first International Exhibition inaugurated by the Royal Caledonian Horticultural Society. The Black Hamburgs, tabled by Mr. Meredith in the various classes, have never been surpassed at any northern show; and the best one is accustomed to see are seldom better than third-rate. Then the Muscats, which came from Archerfield (especially in the *Journal of Horticulture's* prize), and at subsequent exhibitions, are rarely equalled. The Lady Downes bunches, 18 in. long, and the immense bunches with sensational berries also, from the late Mr. Fowler, Castle Kennedy, would cause wonderment at the present time.

Take other fruits, Pineapples from Archerfield (Smooth Cayenne variety), and the Grand Queens from Dalkeith, at that great show, were in excellence, far beyond anything we have seen exhibited in the north for many years past. In fact, those tabled of late years are generally poor, both in size and quality. At the second "International" exhibition of the Royal Caledonian Society, the debut of the late Mr. Johnson, of Glamis Castle—who is yet remembered as the most successful competitor at that exhibition which has been known in the century—eleven first prizes and two seconds against very strong competition of leading cultivators from north and south of the Tweed, was enough to turn the heads of some men; but George Johnson appeared as one of the least concerned in the show rooms. His Muscat Grapes, Lady Downes, Alicantes, Hamburgs, and Muscat Hamburgs for colour, size of berry, and weight of bunch combined were said to be, by many of the leading judges present, the finest which ever had been exhibited in Britain. A large company of southern growers went to Glamis to see the Grapes at home, and there were hundreds of bunches to be seen equal to those tabled at Edin-

burgh. Probably his masterpiece in Grape growing was seen at Glasgow International Horticultural Exhibition. The Golden Champions and Muscat of Alexandria in his first prize collection of fruit were of great excellence and much admired. We need not revert further to the great Grape growing in the north; but cannot pass by southern exhibits of fruits.

Pineapples have generally held a higher position in English gardens than in the north. The fine fruits of this class which came to London from Bicton, Bowood, Dowlais and other noted gardens and other noted gardeners have not often been equalled for years past. Then the Grapes, Muscats especially from Blenheim, by Mr. Turnbull; from Stanmore, by Mr. Tillyard; Mr. Sanders, in Wiltshire, who wrote his practice and published it in a small volume; and many others were equal to the best seen at the present time. Probably the finest fruits ever seen at any London exhibition were tabled at the International Exhibition of Fruits in the year 1862 at South Kensington, and it was the only great show which I could call "International" in its true sense. The large surface of tabling covered with Grapes in immense variety gave the exhibition something more than a merely nominal title.

The exhibits of the great fruit salesmen from Covent Garden and elsewhere were truly marvellous in every sense. Such Pears and Apples of size and colour raised the excitement of admirers to the highest pitch.

Perhaps the greatest feature of a cultivator's skill was in the Grape classes. Mr. Drummond brought from Sussex (I do not remember the name of the place), such Muscats as (it was said, as well as written in the gardening papers) never had been seen in London. The deep bronze colour and large berries called forth many enquiries as to how they had been produced. The grand bunches tabled by Mr. Tillyard (about eighteen inches in length) were overshadowed by Mr. Drummond's somewhat smaller bunches, but larger berries of splendid colour. The latter had Black Hamburgs (somewhat oval in form and about $1\frac{1}{2}$ in. in depth), which were on a par with his Muscats. Some other first prize exhibits went to Mr. Drummond for Grapes which would hold their own with any Grapes seen at the present time.

The Apples and Pears which filled the long tables at that great October show would compare favourably with any examples I have seen since then. As to the atmospheric influence on Grapes in the north nothing could be more untenable. In the south many of the finest exhibits have been from the valley of the Thames in close proximity to London, smoke and fogs leaving them uninjured. In Scotland many of the leading exhibitors are closely associated with chimneys and smoke near to their gardens. Mr. Kirk, Alloa; Mr. Leslie, Perth; and Mr. Boyd, Callendar (who has had cups, Veitch Memorial prizes, and other trophies), are each under the smoke nuisance, yet their Grapes are of the highest order. —*M. Temple, Carron, N.B.*

THE JOBBING GARDENER.

WITH so much reliable literature on the art or practice of gardening, and with so many examples to copy from in the labours of the best equipped gardeners everywhere, it comes as a matter for surprise in the first instance and regret in the second case, that the "jobber" should persist in many of his barbarous practices. I do not classify the whole army, because I know well that in their ranks are not a few who are fit to teach good professional men a wrinkle or two.

The practice which I mostly kick against when considering the jobber's work, is that of pruning. Only about a month or so ago imagine my surprise, and disgust, I may add, to see a jobbing gardener calmly, but persistently, shearing off all the gloriously tinted leaves of an Ampelopsis which formed a beautiful covering to the walls of a villa. Probably, he had orders to do so; then if so, alas for the owner's taste! Just after the fullest beauty had been matured, then it was destroyed in one fell hour, and nothing but a host of leaf stalks left. Then how regularly persistent are many jobbers in pruning shrubs and trees into all sorts of stucco, formal, and miserable shapes. Deciduous trees are pollarded after they have grown too high, and receive annual visit, ever after, from the jobber with his saw and

secateurs. There is a medium in all things, and why good taste should be so outraged by persons who will not take the trouble to study, or read, or think before they go forth to deface beauty beats me to tell. If topiary work is to be the aim, let it be attempted in a proper and skilful manner, putting some genius and strength of conception into the work; but away with the pollarded Lime and other deciduous trees. There are plenty of trees which do not require this very unpleasant and unnatural shearing. —*C. S.*

XL ALL VAPORISING COMPOUND AND THE PHARMACEUTICAL SOCIETY.

The *Gardeners' Chronicle*, in its issue of December 9th, dealing with the recent case of the Pharmaceutical Society *versus* Messrs. Jacob Wrench & Sons, Ltd., says:—"There is an impression prevalent that the restrictions we have mentioned are maintained as a monopoly for the benefit of the Pharmaceutical Society or its members. This is altogether a mistaken view, &c."

I beg to submit that in the eyes of thousands of traders this is not a mistaken view at all. It is, in fact, just what they do think, and what they believe to be the fact.

Without imputing mercenary motives to the council of the P.S. in protecting the interests of its members, to say the least, it is strange that the XL All Compound should not have been attacked before now.

How is it that they have left it alone until it has become known to practically every horticulturist in the kingdom, and has become all but indispensable for use in the garden as an insect destroyer?

It has been suggested that had not the trade in this gardeners' requisite developed to its present proportions, the attention of the council of the P.S. would not have been drawn to it by its members.

Why this sudden discovery of the fact that the XL All Compound is a preparation which contains a percentage of nicotine? And why are they so fearful that someone will drink it when it is manufactured and sold expressly for fumigating greenhouses?

Why has it taken six years for them to discover that this is so dangerous, after it has been sold by nurserymen, seedsmen and florists for this length of time without a single accident?

To all unbiassed minds the answer suggests itself.

It appears that neither the Pharmaceutical Society nor its members have any control over the sale of carbolic acid or its preparations, and these can be freely purchased anywhere for domestic use, and seem to stand about some households quite unguarded.

If this and other poisons of a similar character can be, and are sold, without any restrictions, for household purposes, surely the horticultural trade may claim the right to sell a preparation of nicotine for use (quite apart from the dwelling house) in greenhouses, which in nine cases out of ten would be stored in an out-house in the garden.

It is the opinion of many that all interested traders who have suffered from similar jealous and needless interference at the hands of the P.S. should organise a society of their own to watch over their interests, and to bring their grievances before Parliament at the earliest date possible, with a view to getting the Act of 1868 amended so as to enable agents other than Pharmacists to sell poisonous preparations for technical purposes (in the manufacturer's original packages) to the trades and professions, which in the ordinary course of business it should be their legitimate right to supply; of course, under necessary restrictions.

The Pharmacy Act of 1868 as affecting the sale of poisonous preparations for technical purposes, does not appear to be understood by one and all alike.

It must be clear to all but the most nervous people that the skill of a pharmacist is not at all necessary to sell a farmer a tin of "Sheep Dip."

Why, then, should he not be able to get it from the same source of supply as his other farm requirements?

Again, why should a gardener not be able to order his "Fumigator" or "Weed Killer" from his nurseryman or seedsman together with his bulbs or seeds, thus saving the expense and annoyance of having to obtain one requisite from one source and one from another?

Next we shall hear of nurserymen and seedsmen being prosecuted for selling any kind of insecticide, and bulbs and seeds containing poison may not go exempt.

I shall be glad to receive communications and suggestions from anyone who is willing to join such a movement as is above indicated. —*G. H. Richards, 128, Southwark Street, London, S.E.*

SMALL DECORATIVE PLANTS.

EVERY available space in the propagating pits, and places which are not, and never were intended to be propagating pits, but which necessity compels one to fashion out for this purpose, is at this time crammed, and during the next three months very little laxity can be expected. This is just the proper thing; it shows that fresh stock is preferred in these gardens, rather than worn out, bare, and leggy plants. It is a good plan, of course, to get the rooting process through quickly. After this the plants can be grown on in positions near the glass, so as to make short-jointed and stout specimens. Newly divided plants of *Isolepis gracilis* may, for a short period, be plunged in a case, to cause the roots to start without the chance of delay. The small *Ferns* which one finds everywhere between the chinks of the bricks in the wall and along the paths, may well be saved and grown on for future use. Little pockets made from zinc or other material may be arranged like swallows' nests, fastened against all the buttresses and in the convenient parts of the low walls in the house. For this, it would be well for builders, or owners of gardens who propose to build, and who wish to have the greatest return either of pleasure or of profit, to stipulate for much wider pathways. Not only do wide pathways make a conservatory or other plant-house more substantial and luxurious in appearance, but they allow the gardener to add beautiful wall plants, that the additional attractiveness of the wall so covered really verifies the statement, for substantiality and luxuriousness *do* then exist. *Pterises* and *Gymnogrammes*, *Pilea muscosa* (the Artillery Plant), *Panicum variegatum*, now known as *Oplismenus Burmanni variegatus*, *Tradescantias*, *Fittonias*, *Begonias*, and *Ficus repens* are all perfectly adaptable. —*J. Harris.*

MY GARDEN AT CHRISTMAS.

SOME may like to say of themselves "my mind to me a kingdom is," and it is a happy fact for those who are entitled to say so. I shall not go so far, but by coupling my garden with myself I would put it, that gardening is all in all to me, the purest of human pleasures, and the greatest refresher which man's spirits ever received. Though we may roam 'mid pleasures and 'mid palaces, the truth still rings out startlingly clear, that there is no place like one's own home. The emigrant abroad, more especially the true hearted Scottish emigrant, never fails to remember and yearn for the "auld hame" with its severe simplicity and inexperience, but which seems a hallowed spot, a quiet haven of love and peace, compared with the foreign haunts wherein his lot is cast.

Sentiment runs herewith too high, however, but let me tell you of my garden at this, the anniversary season of our Saviour's birth. The greenhouses are filled with all manner of plants, many of them not in frequent occurrence in up-to-date gardens. The golden flower, *Chrysanthemum*, has gone rather quickly past. Till within a week ago I had loads of the Golden George Glenny, Mr. Bunn, Mrs. G. Rundle, and Mary Anderson, which form a quartette of the sweetest varieties of *Chrysanthemum* I have. The cuttings are already being put in. Then the *Cyclamen*, *Cinerarias*, *Primulas*, *Zonal Pelargoniums*, &c., are in full show. The scented "*Geraniums*" are lovely to behold, and great plants have developed from those struck from the cutting and pruned back after the season's growth last year. The *Ericas* and *Epacris* also lend a charm which is not even equalled by the Roman *Hyacinths* or the *Freesias*; the latter plants with me are showing well this year. On the wall, *Tibouchina macrantha* (*Pleroma* or *Lassiandra*), fairly covers one of the walls with its violet-velvety blooms, while on the other side *Lapageria rosea* has a few stray flowers.

The weather is, and has been phenomenally mild, the thermometer, on and off, ranging between 55°

and 60°. The birds are to be heard sweetly singing in the now leafless old Pear trees, and the Primroses, Auriculas, Polyanthus, are still flowering quite freely. Many of the herbaceous plants besides open-air Roses, as Jessamines, are bearing blooms just as though it were in the month of May. The shrubberies are looking very fresh now after they have been cleaned up, many of the specimens indeed are still growing freely, which will not be in their favour should a sharp frost come upon them.

The vegetables have surpassed my expectations after such a long droughty summer, especially on a soil such as mine is. They picked up wonderfully after the rain came, the result is I am now cutting nice heads of late Cauliflower, Broccoli, and Cabbage, which "the Missus" finds very acceptable just now. The Apple trees are well set with fruit buds, even after having yielded a record crop of fruits this year; not a tree in the garden missed bearing. Every place and everything has a freshness and an inner beauty which with such mild weather one almost expects to see developing even before Nature has had her rest. It is with great pleasure that I look around my garden and meditate therein, at this the Christmas season.—D. Mc., *Edinburgh*.

GARDENING MISCELLANY.

GONIOPHLEBIUM SUBAURICULATUM.

THIS lovely and very valuable Fern, like so very many others, is now included under *Polypodium*, but though many of the *Polypodiums* are very rag-tag in appearance this species before us is a great exception. The fronds alone are four or more feet long, and their breadth, colour, and the crimped leaflets of the compound fronds are all items in its favour. In a rough estimate, or to give the stranger a conception of this, one might say that it resembles a broad-fronded pendulous *Nephrolepis*. The rhizomes are small, but they produce a large number of these fronds whose nature is to grow straight down. It makes a handsome basket Fern, only that it requires a goodly height to grow from. It may be increased by division of the rhizomes. A compost to suit its needs must be somewhat heavy, but yet free. Turfy loam, with the addition of charcoal, sand, and some leaf mould will do well. The plant likes a warm house, a moist atmosphere, and a plentiful supply of water.

POLYPODIUM VULGARE.

WE all know how serviceable and how ornamental this *Polypodium* is in outdoor rockeries, especially in the moist, sheltered nooks of the gardens. But it is as a stove basket Fern that I wish to speak of it. Under the influence of a steady heat, with moisture, and every attention from the cultivator, the foliage loses its coarser character, and becomes very highly refined. The leaves are, of course, much larger and paler. The pale colour may not be an advantage, but the increased polish and cleaner structure does seem more acceptable. It may be pointed out that we have basket Ferns with far more merit for a place in the stoves. We have the *Davallias*, the *Nephrolepis*, and others which are so used, but probably only *Cardioclæna scandens* approaches the *Polypodium* in general effect, though very different in outward morphology from that of a stove-grown *Polypodium vulgare*. It is worth the adopting even if only in small baskets.

SOME FINE ERICAS FOR WINTER.

THE *Erica hyemalis*, of course, has long been looked upon as one of the indispensables for winter decorations. It is an ornament to the dinner table quite as much as the flower of a draughty hall, being equally tasteful in both places. *E. melanthera* is a bushy species, tinged with a mauve colour. *Epacris Rose Perfection* is a graceful cerise, while *E. The Bride* is a splendid greenhouse form. These are all for a cool house.

MISTLETO.

DRUIDISM was the early religion of the people of Britain. The priests of this religion were called Druids. A characteristic of the Druids was their reverence for natural objects, such as running streams, trees, serpents, wolves. The tree which

they most honoured was the Oak, and still more than the Oak, the Mistleto which grew on it. Though Mistleto often grows upon Apple trees it is not often found upon Oaks, and whenever a plant of it was found upon an Oak tree there was a grand ceremony. We read that a solemn procession was generally formed, a couple of white bulls sacrificed, and the sacred plant forthwith cut with a golden knife. It was believed to be a curative of disease, and to possess wonderful mysterious powers.

BASKET OF AUTUMN BERRIES AND FOLIAGE.

MISS C. B. COLE, of the Feltham Vineyards, had certainly a very tasty basket in the competition for such a thing arranged with foliage and autumn tinted sprays, fruits, &c., at the N.C.S. Show lately. Holly shoots with scarlet berries were there; Asparagus with its red beads and *Crataegus Pyracantha* on long shoots. The seed capsules of *Iris foetidissima* when burst show a full equipment of red fruits; these, too, were nicely disposed. Then as a tracing up and along the framework of the ornamental basket beautifully clean, cut leaved, dark green, and chocolate brown Ivy shoots were fastened. Purple Barberry, dried Honesty, dark Pampas plumes, Shield-Fern fronds, coloured *Ampelopsis Veitchii*, Vine leaves, *Physalis* of sorts, long slender shoots of the Snowberry bush with the waxy globes at the ends were one and all used in the composition of this the first prize entry.

SOCIETIES.

ROYAL HORTICULTURAL.—December 19th.

THE meeting on Tuesday last was the smallest we have had for a long time. There were a group of *Chrysanthemums*, several small lots of cut flowers, and numerous small lots of Orchids. The collections of Apples were the most conspicuous feature.

Messrs. Jas. Veitch & Sons, Ltd., Chelsea, exhibited *Cypripedium Euryades splendens*, a magnificent hybrid variety, *Laeliocattleya wellsiana ignescens*, equally splendid in its way. A Cultural Commendation was accorded to Messrs. Charlesworth & Co., Bradford, Yorks, for a fine plant of *Cypripedium insigne Sanderæ*, carrying six large flowers. They also showed C. Lord Roberts. C. Goodhart, Esq. (gardener Mr. W. E. Padbury), Langley Park Farm, Kent, staged *Cypripedium Antigone* Padbury's var. G. W. Low-Schofield (gardener, Mr. E. Shill), New-Hall Hay, Rawtenstall, near Manchester, staged *Cypripedium conco-callosum*.

Messrs. F. Sander & Co., St. Albans, Herts, exhibited two plants of *Zygo-colaxamesiana*. Messrs. Hugh Low & Co., Bush Hill Park, Enfield, showed *Cypripedium*, Wm. Lloyd var., giganteum, a very fine thing, and C. Seron. Reginald Young, Esq. (gardener, Mr. Pointz), Linnet Lane, Liverpool, exhibited *Cypripedium Minos*, Young's var., C. Belus, C. callosum, C. Lochesis, and C. Endymion.

J. T. Bennett Poë, Esq. (gardener, Mr. Downes), Holmwood, Cheshunt, exhibited a grand panicle of *Oncidium tigrinum*, and a fine variety of *Laelia anceps*. C. L. N. Ingram, Esq. (gardener, Mr. T. W. Bond), Elstead House, Godalming, exhibited a hybrid *Cattleya* named C. Elatior. J. Gurney, Fowler, Esq. (gardener, Mr. Davis), South Woodford, Essex, exhibited *Cypripedium insigne fowlerianum*.

Major Joicey (gardener, Mr. F. J. Thorne), Sunningdale Park, Sunningdale, Berks., exhibited *Dendrobium spectabile*, the first that has been shown in flower. The blooms are very handsome. He also had *Dendrobium atrovioleaceum* and *D. Macfarlanei*. M. Jules Hye, Ghent, Belgium, exhibited the beautiful *Cypripedium* M. Jules Hye.

W. M. Appleton, Esq., Tyn-y-Code, Western-Super-Mare, was accorded a Silver Banksian Medal for a small group of Orchids, including a *Cypripedium insigne* bearing five flowers, each of which had three perfect lips. It is a case of *peloria* which has been constant since it first flowered in 1894. He also had the beautiful hybrid *Laeliocattleya Golden Gem*, *Cypripedium Morteni*, C. i. *Macfarlanei*, C. i. *Tyn-y-Code* var., and some cut flowers.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, staged a collection of eighty dishes of Apples. To see such fine dishes of serviceable

fruits, highly coloured, and of medium size, at this foggy season was quite refreshing. Good samples of Lane's Prince Albert were shown, Emperor Alexander, Beauty of Kent, Newton Wonder, Annie Elizabeth, Castle Major, together with Fearn's Pippin, Cox's Orange, and others, formed a selection of capital Apples. The new Apple, Paroquet, a white-fleshed crimson-skinned Apple was also shown. This lately received an Award of Merit from the R.H.S. Messrs. J. Cheal & Sons are to send out the stock in 1900. (Silver Gilt Knightian Medal)

Messrs. James Veitch & Sons, Ltd., Royal Exotic Nurseries, Chelsea, S.W., showed their trusses of the *Javanico-jasminiflorum Rhododendrons*, splendid winter flowers.

C. Bayer, Esq. (gardener, Mr. W. Taylor), Tewkesbury Lodge, Forest Hill, S.E., staged fifteen bunches of Grapes in eight varieties. These were one and all excellent bunches, of very fair form, and good size and finish in the berries. The Black Alicante and the Gros Colman were perhaps superior, but Muscats were likewise well-shown, together with Gros Guillaume and Mrs. Prince Muscat. (Silver Gilt Knightian Medal.)

The Earl of Ancester (gardener, Mr. J. Butler), Normanton Gardens, Stamford, also showed a collection of Apples which were equal to any collection which anyone could wish to see. The Queen was shown very freshly, Barnac Beauty, Warner's King, and Peasgood Nonsuch were all shown in perfection. The table was staged with long trails of *Lygodium scandens*. (Silver Gilt Banksian Medal.)

He also showed a collection of Potatoes, a most useful exhibit, showing before the planting or seed-order season, a comparison of varieties of varied kinds.

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, showed a group of the late-flowering decorative *Chrysanthemum Letrier*, a free-flowering introduction taking after Canning. Other varieties were shown in the cut state, including Cheveux d'Or, Mr. C. Brown, Sunset (new), Mrs. W. Butters, Alice Castor, Bouquetier, &c. (Silver Banksian Medal.)

OBITUARY.

MR. THOMAS SORELY, FALKIRK, N.B.

WE deeply regret to record the death of the veteran gardener, Mr. Thos. Sorely, on December 2nd, who was one of the best known men in the craft for many years by reason of his distinguished success as a cultivator of Orchids, stove and greenhouse plants. He was head gardener to the late Provost Russell, of Mayfield—a Falkirk proprietor, widely known for his love of horticulture—and one who was a liberal supporter of all matters associated with gardening.

Mr. Sorely was looked upon by his compeers as a decided authority on Orchid culture. Many gardeners sought his friendship (and some nurserymen too) to receive tuition from him on the management of that popular class of plant which was so much in evidence at Mayfield. Mr. Sorely's exhibit of stove and greenhouse plants at the International Show, held at Glasgow nearly 30 years ago, was considered to be one of the finest displays of a plantsman's skill ever seen in Scotland. My own recollections of that exhibit are very distinct, so are the laudations of the judges at that great exhibition.

Mr. Sorely was 78 years of age. All his faculties (except that of hearing) were keen to the last. The love of gardening and humour were in strong evidence. A few weeks ago we saw him busily engaged arranging fruit and floral stalls at a bazaar held in Falkirk. He knowingly remarked that "Orchids had left him a legacy"—tapping his ears, which meant deafness. The deceased leaves a widow to mourn his loss. Of late years he managed the garden of the Misses Gair, Kilns, Falkirk.—M. Temple, *Carron House, Falkirk, N.B.*

Preserving Fencing Posts.—Lime is a very handy and reliable preservative of wood in any case. An experiment, which proved satisfactory, was once made with quicklime. A pit was dug and 4 in. or 5 in. of quicklime put in. Posts were then placed fairly close together in the pit, and more lime filled into the interstices, after which the lime was slaked and the posts were allowed to "season" for a time.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargonium, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Soil and Shelter for Fruit Trees.—*Jas. Taylor*: Hardy fruit trees, such as Apples and Pears, are grown in a great variety of soils in Britain, and do well where the soils are a good holding or retentive loam, or of good depth, and in all cases well drained. We have seen them in heavy soils inclined to clay, in sandy loam of considerable depth, and on chalky soils when well tilled and well fed as they get fairly old, yet not past bearing freely under favourable conditions. We reckon British Apples, when well grown, superior to any other; but it does not follow that they would succeed with you in Tasmania. You would have to rely mainly upon those that do well in your part of the colony, until you can test others by degrees by giving them a trial. In any case always select the best in your neighbourhood till you can find better varieties. Concerning shelter, it would be necessary in the first place to bind the shifting sands by planting the running roots of those grasses which form hents on seashores. In this country and on the shores of Continental Europe there are such grasses as *Psamma arenaria* (Marrem-grass) and *Elymus arenarius* (Lyme-grass), both of which are seaside grasses with long, creeping, underground root-stocks, generally called roots, which bind the sands together, and prevent their being shifted about by the wind. If you could get hold of some of those grasses or similar ones from the seaside, you should set about planting them in tufts all over the loose sands. This should be done in your rainy season; and if you roll the sand both before and after planting the grasses, the latter are the more likely to get successfully established. If they do take hold, then you might set about planting some of the Pine tribe, such as *Pinus sylvestris* (Scotch Fir), *P. insignis*, and possibly also *P. austriaca*, these three being here placed in the order to which you should give preference. *Tamarix gallica* (Tamarisk), *Hippophae rhamnoides*, *Ulex europaea* (Gorse or Furze), *Atriplex halimus*, and various others that might be named, are dwarfier subjects that succeed in poor and sandy soils on the shores of this country. The Scotch Rose (*Rosa spinosissima*) and the Dewberry (*Rubus caesius*) also bind the shifting sands. You might be able to obtain seeds of them which you could raise in nursery ground and then plant in the sands.

Eucryphia pinnatifolia.—*E. G.*: This is hardy as far north as London, or nearly so, having pulled through fairly severe weather for some years, at least where slightly protected with branches or a covering formed of a mat. As time goes on and it becomes more common it may even prove hardier than it is reputed to be. Of course sheltered positions and well drained soils should receive primary consideration when selecting a site or sites for planting it. Some planters prepare a sandy, peaty compost for its reception.

Half a Dozen Kitchen Herbs.—*J. R.*: Twice as many might be mentioned; but your list should include Spear-mint (*Mentha viridis*), or Peppermint (*Mentha piperita*), whichever you prefer; Sage (*Salvia officinalis*); Thyme (*Thymus vulgaris* or *T. citriodorus*); Marjoram (*Origanum vulgare*) or the annual species *Origanum hortense*; Tarragon (*Artemisia dracunculus*), and Savory (*Satureja hortensis*). We suspect you would be able to get seeds of most or all of them. The perennial species could be had in the form of roots; but you would have to get seeds of the annual species of Thyme if you desired it; also *Origanum hortense* and *Satureja hortensis*.

Names of Plants.—*A. R.*: 1, *Iris foetidissima*; 2, *Berberis Aquifolium*; 3, *Pernettya mucronata*.—*W. Hendry*: 1, *Solanum jasminoides*; 2, *Sibthorpia europaea variegata*; 3, *Senecio Kaempferi aureo-maculatus*; 4, *Begonia incarnata insignis*; 5, *Russelia juncea*; 6, *Pteris argyrea*.—*W. D.*: 1, *Ilex Aquifolium ferox*; 2, *Symphoricarpos racemosus*; 3, *Pelargonium Radula*.—*A. G. B.*: 1, *Chimonanthus fragrans grandiflora*; 2, *Viburnum Tinus*.—*R. M.*: 1, *Pieris florihunda*; 2, *Gaultheria Shallon*.—*G. S.*: 1, *Tacsonia Van Volxemli*; 2, *Holboellia latifolia*; 3, *Hahrothamnus elegans*.

Communications Received.—*F. C. T.*—*A. W.*—*J. M.*—*A. C.*—*J. McD.*—*Webb & Sons.*—*A. Hope* (many thanks).—*A. J. B.*—*T. M.*—*W.*

TRADE CATALOGUES RECEIVED.

SAMUEL DOBIE & SON, Heathfield Gardens, near Chester.—The best Vegetables and Flowers in Commerce.

DICKSON, BROWN & TAIT, 43 and 45, Corporation Street, Manchester.—Catalogue of Vegetable and Flower Seeds.

MESSRS. JOHN PEED & SONS, Roupell Park Nurseries, West Norwood, London, S.E.—Catalogue of new and choice Begonias and Chrysanthemums.

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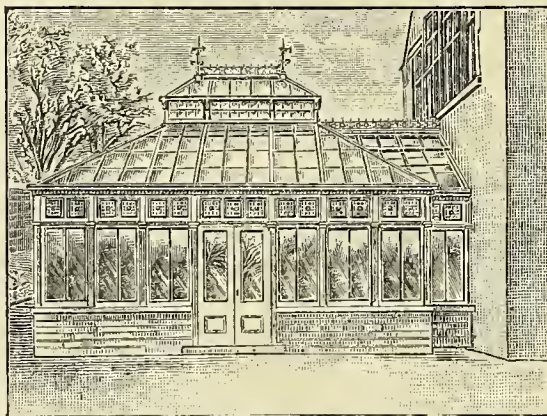
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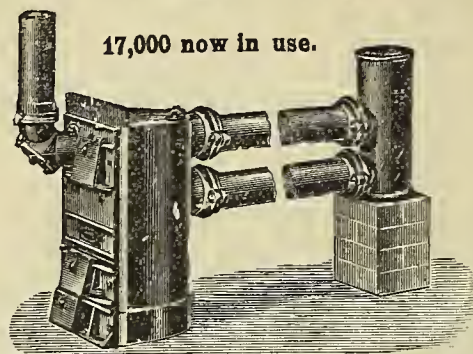
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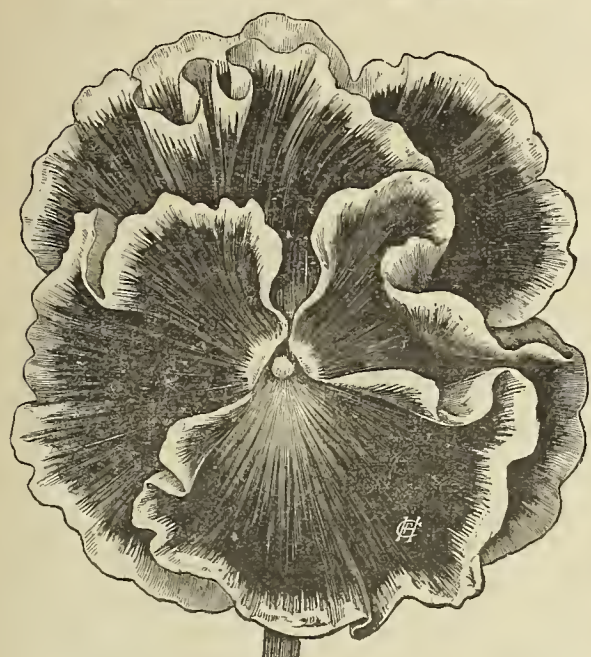
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 30th, 1899.

USE AND MISUSE OF THE PRUNING KNIFE.

—It would be interesting to know what idea actuates the mind of many of the great army that wields the shears, the hedge-bill, the saw, the secateurs and the pruning knife. It may be, and no doubt is, the case that many of them are victims of mistaken notions, like the apprentice who was set to grind the tools in his master's absence one day; and, when asked at night whether he had ground all the tools, replied in the affirmative, except that he had not been able to grind down all the teeth of the big saw. To make a guess at the intentions of some pruners of deciduous trees whose handiworks we have witnessed, one would imagine that they had been sent to give the trees a good hacking; and if so, they carried out their orders to the letter. The jobbing gardener is often blamed for his accomplishments, but he is no doubt a victim of the order to tidy up the place, and give the inmates room to perambulate in the narrow confines of their gardens. Many owners desire to have gardens, yet from lack of knowledge and intimacy with the varying laws of Nature in each individual case of the trees or shrubs, they proceed to work or give orders in such a way as to show an utter lack of sympathy with the subjects in hand.

We have seen a large Pear tree on the walls of a house, and one who was supposed to be an experienced hand was set to prune it. Not only was the breast-wood hard cut back but the spurs were cut back too, quite irrespective of whether there were fruit buds below the cut or not. This as a matter of course precluded the possibility of fruit the following season. Quite recently we heard of the good wife of a house taking a fit of gardening in her lord's absence, and pruning the side shoots of the Vines hard back to the main rods, and that too while they were yet far from mature. Possibly she had been reading about the installation of the new Adam in the gentle art of gardening, and had felt justified in coming to the support of the new profession. There are those whose conception of pruning is to shear in the

bushes equally on all sides, whether evergreen or deciduous, so as to make them as uniform as possible. There is another kind of uniformity that is equally offensive to the eye, and altogether objectionable. This is the practice of pruning large trees all to one uniform shape, not merely that straggling branches may be headed back, to make the trees more compact and symmetrical according to their kind, but to fashion them according to one preconceived ideal. When such trees are leafless they are often strongly suggestive of scarecrows. The system of pollarding trees, especially Willows, in wet meadows is so common in the south that many have come to look upon such artificial creations as the right and proper thing. Naturally grown trees are, however, infinitely superior in every way, more graceful, more umbrageous, and more handsome, whether seen from near or from far in the landscape.

There should always be some object in pruning, though we fear that every wielder of the knife would be ready to affirm that he was guided by that aim. If the object is that of utility or ornament, the hand must be guided both by reason and taste in the latter case, and at least by reason in the former; otherwise there can be no intelligent pruning. In the case of fruit trees a considerable amount of skill and judgment are necessary to treat each variety of tree according to its natural inclination to produce fruit buds at particular places of the previous year's growth or otherwise. There is a considerable amount of variation even in this respect amongst Apples. Trees belonging to other species and genera also require sympathetic treatment, and he cannot be considered a skilled or expert fruit grower who has not carefully studied all these peculiarities.

Flowering trees and shrubs require equally skilled treatment to secure the best effects they are capable of producing. It may be as well to remember here that sub-tropical effects from foliage are sometimes desired, and that in this case pruning consists chiefly in cutting the branches hard back so as to encourage the development of rampant growth, for upon such the size of the leaves depends. Large leaves, each according to its kind, can only be obtained upon strong young wood, and the pruner is guided accordingly. When he is sent with his ladder, hammer, nails and shreds to prune flowering shrubs upon walls, a task has been set him that is not easily accomplished, if he is to acquit himself properly of the task, unless he has previously been a keen observer of the habits of each respective species. Unless accompanied and closely superintended by a skilled hand, he is apt to overlook the fact that one tree may flower from the wood of the previous season, it may be in the spring, while another may flower on the young wood produced in summer. Should the present time be adopted for the pruning of walls, the wielder of the knife must not prune away the young shoots of *Chimonanthus fragrans*, *Jasminum nudiflorum*, *Forsythia suspensa*, *Prunus triloba*, nor *Ribes speciosum*, as all these flower on the wood made the previous summer. The first two mentioned would have been in flower by this time but for the ungenial weather. In the warmer and more favoured portions of the country this may have taken place. Their pruning must be deferred till flowering is over, after which they may be hard cut back if strong and vigorous. They can then be reduced within proper bounds. In the case of weakly specimens of *Chimonanthus* it is better to leave a sufficiency of wood to cover the nakedness of the walls. The pruning of *Loisera sempervirens* and many *Roses* may be accomplished at once

if they are perfectly hardy, making allowances for those Roses which flower all along the wood of last year on the side shoots of the same. *Jasminum officinale* and *J. revolution* may be well trimmed in at the present time as they flower upon the wood made in summer. Lilacs, Guelder Roses and Mock Oranges should receive the necessary pruning after they have finished flowering in summer. The above are only a few examples.

Christmas is a Hardy Evergreen, fruiting once a year, but its red and white berries take a deal of moisture to bring them to perfection.—*Snaggs*.

Dishonest Florist's Men.—From the numbers of warnings which one constantly sees in American trade papers it would seem that in the nursery and florist trade there is a large number of "sharpers" and rogues who do much embezzling and swindling.

Blackberries.—According to accounts, it would seem that this year's Blackberry crop has been heavy, and larger quantities of this fruit have come to market than in any previous season. At one place a middleman reports that he has forwarded to market fruit collected by his neighbours to the value of £400. This appreciation of the Blackberry by people in towns has led to the suggestion that on many north-country farms there are patches of land on which it would pay well to cultivate this fruit.

A New Vegetable.—The use of the leaves of Rhubarb, cooked and served as a vegetable is by no means new, yet our contemporary *Sempervirens*, discusses it from that point of view. Leaves for this purpose should be gathered while yet young and tender, when they will answer the same purpose as Spinach. Under the name of Rhubarb the same journal discusses the use of the flowers of Rhubarb, which should be cut while the stem is yet tender and succulent. These heads are served on the best tables amongst some of our Continental neighbours in the same way as Cauliflowers. The roots only of Rhubarb are said to be purgative.

Rose Gruss an Teplitz.—This is a Rose obtained from *Rosa rugosa* by Herr R. Geschwind, of Karpfen. A coloured plate of it is given in *Rosen Zeitung* for October. It was put into commerce by Herr P. Lambert, Trier, Germany, in 1897, and judging from the plate and description it is destined to become better known as a garden Rose, that is, for purposes of garden decoration. The flowers are of medium size, quite double, and dark scarlet or cinnabar-red. Besides being useful for park and garden decoration it is highly suitable for cut flower purposes, as the blooms are freely produced on long stalks, so that they can be arranged without crowding.

Uses of Tobacco juice in France.—The tobacco shops in France are all compelled to keep a stock of what is called "Tobacco juice, rich in nicotine and guaranteed." This is manufactured by a Tobacco monopoly in Paris. The following advantages are claimed for the article:—It does not ferment and it can be kept for an indefinite period in closed glasses. It contains no resinous matter, and is almost transparent, therefore it does not injure or clog the spraying machines and does not stain plants or flowers, or the wool of sheep. It has a Government guarantee as to the proportion of nicotine it contains and never varies. It is also claimed that this product contains from five to six times as much nicotine as ordinary tobacco juice, and that one-fifth or one-sixth of the quantity will accomplish the object to which it is applied. For spraying purposes the product is employed in the proportion of one part of juice to one hundred parts of water. It is stated that the spraying of plants should be done after sunset, and that they should be syringed with clean water on the following day. For fumigating hot-houses the proportion is one part of juice to one of water, and the method of fumigation is that of spraying the mixture upon heated bricks or sheets of iron which cause rapid evaporation. Has anyone tried this French nicotine solution in our land?

The Meteorological Office gives it that the past has been the driest summer experienced for thirty years.

To attach Glass to Metal.—Boil together in a closed vessel 1 oz. spirits of turpentine, 2 oz. linseed oil varnish, and 4 ozs. of thick glue. Apply this and fasten the parts together, after which finish off and let it remain.

Protective Tariff.—We gather from an American contemporary that 1,000 Seedsmen and fruit growers in Germany have petitioned their government for a protective tariff against American horticultural products.

Devon and Exeter Gardeners' Association.—This society is doing good work gardening down on the south coast of Devonshire. Their winter session was to have closed on the 20th, but owing to the illness of many of its members it was agreed to postpone the lecture. Mr. Shrivell, of Tunbridge Wells, who already has lectured before the society on his manurial experiments and his researches on this subject which he has been making, was to have again lectured. The next meeting will be held in January, whence we hope to hear of a good turn out of hale and hearty members.

The Christmas Catalogue, 1899.—This publication is issued from the offices of the *Newsagent and Booksellers' Review* as a complete guide to the book of the Christmas season and to the periodicals, Christmas numbers, stationery and fancy goods. In the publishing section notices of all important new books are included, prominence being given to literature of a seasonable character. These selections are accompanied by crowds of the best illustrations from the books, magazines, &c., dealt with. Thus the publication, which is clear and altogether beautiful, will form a serviceable work to which purchasers of Christmas books, &c., might be recommended to turn for reference. The price is 1s., copies being on sale at the booksellers' and stationers' shops.

The Blue Rose.—Hitherto, says the *Nord-Horticole*, science has not admitted that a blue Rose can ever exist. The daily papers reported that an exhibitor showed a true blue Rose at the May exhibition of the Paris Horticultural Society. That novelty had no foundation. It turns out to be simply an old variety belonging to a group of climbing Roses, not hybrid perpetual, of a purple-violet colour, assuming sometimes, with age, under the influence of heat and a bright light, a bluish reflection or tint, but absolutely nothing of true blue. Several other varieties of Roses, remarks M. H. Dauthenay in the *Revue Horticole* of June 16th, are subject to a variation of colours of the same kind, such as John Hopper, Reine des Violettes, and Bijou de Conanon. Similar changes may be met with in other classes of plants, such, for instance, as the flowers of certain varieties of Cyclamen, when fading with age.

Gardeners' Royal Benevolent Institution.—The sixty-first annual general meeting of the members and subscribers of this institution will be held at "Simpson's," 101, Strand, London, W.C., on Friday, January 12th, 1900, at 3 p.m., for the purpose of receiving the report of the committee and the accounts of the institution (as audited) for the year 1899; electing officers for the year 1900, and for the purpose of placing sixteen pensioners on the funds. There are thirty-eight candidates, of whom twenty have contributed to the institution (some of these candidates are the widows really of the said contributors), and eighteen have not contributed to the institution. Ten of the candidates are in distress and having in every way complied with the rules and regulations, the committee will recommend that these ten applicants be placed on the pension list without the trouble or expense of an election, in accordance with Rule III., 5. An election will take place for the remaining six vacancies from the candidates named on the voting paper, whose cases have been examined and approved by the committee. The chair will be taken by Harry J. Veitch, Esq., treasurer and chairman of committee, at three o'clock. The poll will be open at 3.15 o'clock and close at 4.30 o'clock precisely, after which hour no voting papers can be received. The secretary is Mr. George J. Ingram, 175, Victoria Street, London, S.W.

The Jobbing Gardener Again.—Mr. Subbubs (just home from the City): "Emily, who's that very seedy-looking man in our front garden?" Mrs. Subbubs: "Why, the jobbing gardener, of course."—*Scrapps*.

Practical Instructions for Procuring Shelter.—Mr. James Dobbie (founder of the firm of Dobbie & Co., Rothesay), has issued to the world his experiences, experiments and conclusions upon the subject of shelter for plants and animals. The means of shelter, too, are not such as harbour insects; they are rather intended to afford protection only to the plants and to kill the insect pests. In view of our having more to say on the matter contained in this instructive pamphlet, we need say no more at present.

Messrs. Webbs' Spring Catalogue for 1900.—One by one the spring seed order catalogues reach us from the nursery houses over the length and breadth of Britain and Ireland. We have just had a glance through that of Messrs. Webb & Son, the Royal Seedsmen, of Wordsley, Stourbridge. This is one of the "fat" catalogues, "fat" in more ways than one; but to discover these we would rather direct readers to see for themselves. The composition has been well planned, and the illustrations, which should always be found, are both better and more numerous than heretofore. To readers of THE GARDENING WORLD who may recall a descriptive article on Messrs. Webbs' nurseries at Kinver, the illustrations showing views in the same, will be all the more interesting. The novelties are well shown, particularly good being a field view of Webbs' new Potato "Motor." But we need say no more. Flowers and vegetable in all classes and for all purposes are liberally tabulated, and the Stourbridge or Wordsley firm to be accurate, are too well known to require detailed reference.

Entertainment to the Ryecroft Employees.—Horticulture and militarism, such a comparison! The thought ushered itself upon me as I sat at the dinner which Mr. H. J. Jones, of Ryecroft Nurseries, Lewisham, S.E., provided for his employees and bosom friends on Thursday, December 21st, in a reserved saloon within the Royal Aquarium. There sat the genial master presiding, and all-efficient, with fifteen of his departmental foremen and assistants enjoying themselves to the fullest with the good things provided in an eight course dinner. On his right hand sat Mrs. Jones, and variously placed were Messrs. D. B. Crane, T. G. Swales, T. White, Ingamells, F. A. Cobbold, King, H. Lohrman, W. Logan, C. H. Curtis, Kellaway, Crouse, Humphreys, McKenzie, and others, to the number of thirty. Having such a chairman, and each in his fellow-worker's company, the restraint which so mars many meetings of a similar nature was unobservable here. Toasts and speeches followed the dinner, and the usual loyal toasts were given and received in the manner which all true Britons make a custom of. The toasts to Mr. and Mrs. Jones, to the foremen of the nursery departments, to the horticultural and local Press, and other toasts of a kindred nature, were proposed and very cordially received. Throughout the whole proceedings there was a genuine ring of fidelity in the hopes for the future enterprises of the Jonesian House, and no one who participated in the dinner would say that the most perfect regard for each other's well-being is not one of the most evident points between master and men of the Ryecroft Nursery. Mrs. Jones' response to her own special toast was simplicity itself, but so graciously sincere that the company burst forth in prolonged applause. "She thanked them very kindly for their loyalty, and though this party was their first, she hoped it would by no means be their last, but rather that it would be established as an annual function." Cigars and cigarettes having been furnished all round, some of which had been kindly sent by Mr. A. E. Stubbs, an adjournment was made to the front reserved seats before the stage, whence the company greatly appreciated the clever exhibitions of the variety entertainment. The show by expert swimmers in the annexe was also witnessed, each of the company having a pass to these privileges. Too much praise cannot be given to such men as Mr. Jones, and certainly shall never be stinted in this country to the masters who prove that self is not their only interest.—D.

Weather in London.—The last week has been almost a repetition of that immediately preceding it. Saturday evening a very cold and dense fog fell, which greatly interfered with business and deliveries. Sunday was fine. Monday (Christmas Day) likewise was fair; Tuesday (Boxing Day) was damp, raining slightly; but cleared to five degrees of frost during the night. It is dul and damp as we go to press on Wednesday.

Cordon trained Fruits.—The simplicity of fruit trees or plants trained in this manner ought of itself to be a great stimulus and excuse for the increased adoption of the system. It seems as though any sort of fruiting plant or tree can be literally roped with fruits by careful culture and patience, when grown as cordons. Little space is needed, indeed odd corners can, by using cordon plants, be utilised to the best advantage. Pears, Plums, Cherries, Gooseberries, and Currants are amenable to this form of training.

Edinburgh Botanical Society.—At a meeting of this body, held recently—Rev. Dr. Paul presiding—Mr. Rutherford Hill showed specimens of betulin or Birch camphor, from the outer bark of the common Birch tree, *Betula alba*. Mr. Hill pointed out its use, which is that of creating a film on glass and on metals for etching processes, also as an antiseptic surgical dressing. A film of pyro-betulin on lint was found to be fatal to all forms of pathogenic organisms, and a highly putrescible fluid had been effectually preserved by adding 50 minims of a 2 per cent. solution of pyro-betulin in 4 fluid ounces. Eggs coated with the film remained fresh.

Lectures on "A Cottage Garden."—The first of a course of four lectures on the above subject, in connection with the Bucklebury and Marlston Horticultural Society, was held on the 1st inst. at Bucklebury, Woolhampton, Reading. The lecturer was Mr. A. Wright, gardener to A. W. Sutton, Esq., who took as his text "What to Grow and How to Grow It." The second lecture was held in the Club Room at Bucklebury Place, on the 19th inst., Mr. Wright on this occasion taking as his subject, "Vegetables their Selection and Culture." The third lecture will deal with "Fruits for the Cottage Garden," and the fourth, "Flowers for the Cottage Garden." A concert was held at the Club Room, Bucklebury Place, on the 15th inst., when the sum of £13 6s. was obtained for the widows and orphans of the "Absent-minded Beggar."

Death of the Duke of Westminster.—As all the world now knows, the illustrious Duke of Westminster departed this life late on Friday evening, December 22nd. As though we, the British people, had not grief enough from minor deaths, this person of so much distinction, one with so brilliant a career, is likewise removed from our sphere, his personality to be exercised no more. Such gentlemen as the late Duke become connected with every sort of charity and progressive institution. In horticultural charities, he was the head-piece to our Gardener's Royal Benevolent Institution, having occupied the presidential chair for many years, and a subscriber since 1879. His features may be remembered from a sketch of himself and the other officers which appeared in the GARDENING WORLD of January 21st, 1893. The Duke died at the residence of the Earl of Shaftesbury, St. Giles's, Dorset. "Grave, thou hast a victory; Death, thou hast a sting."

Farming by Formula.—The ideas of the new Board of Agriculture, or at least, of those gentlemen who expatiate in Ireland on the principles laid out by the Board, do not, it would seem, appeal to the conscience of the populace which is supposed to be gainers from the teaching. *The Farmer's Gazette* makes a leader upon the question. Ireland is to be transformed under the scientific guidance of the Board, from one of the most backward to one of the most scientifically-farmed countries in the world. The system of the Board "would have every farm in the country inspected, and a record kept of the class of soil in every field, so that the owner, by applying to the Board, could find out the exact sort of artificial or other manure best suited to it," and so on. We think the Board ought to study subtlety first, before they attempt to lead "backward farmers" to such advanced practice. The same may be given as advice to arbitrators of "intense culture" in gardening. Progress must be gradual.

Pyrus baccata is the hardiest member of the genus, being hardy enough to stand 50° below zero, as proved at Indian Head, Manitoba, Canada.

In America tall growing Tomatos are preferred in the open ground because that the foliage protects the fruits below from the fierce rays of the sun.

Mr. Asquith, speaking recently at the founder's day of Lady Warwick's Hostel, at Reading, said that the scheme of educating ladies as farmers seemed to him, at first, as of Utopian flavour, but having seen and had the work thoroughly explained, he was now convinced that the scheme furnished a proper and remunerative employment for women, and Lady Warwick had assisted to dispose of a great national problem.

Economising Space.—Amateurs, no doubt, eagerly seize upon information which directs them as to how to get the greatest return from a given space. Many of us have only a small area superficially, but we can say, like the old gentleman, "the property's my own to the greatest depth I care to go, and I am free to rise to any height." We may not be able to go to any height, but we can go so many feet any way. Make use of the fact then by training your Vegetable Marrows to stout and tall stakes, as has been so successfully practised by Mr. Paul Laih, of South Kensington, London, and in the Royal Gardens, Kew, where many interesting varieties of Gourds are trained to poles every year in the herbaceous ground. We should think the practice, especially with the smaller fruiting varieties, such as Pen-y-byd, might very well be adopted by anyone curtailed for space.

Weybridge—Concert in aid of the Gardeners' Royal Benevolent Institution.—A most successful concert was given at the Village Hall on Thursday, December 23rd, in aid of the funds of the above, under the auspices of W. A. Bilney, Esq., of Weybridge. The hall, which was tastefully decorated with Palms and Flags, was filled to its utmost capacity with an appreciative audience. Among the various items on the programme which call for special mention were the performances of the orchestra of the "Hurst & Son" Musical Society, formed of members of the staff of the well-known firm of wholesale seed merchants in Houndsditch, who gave their services for the occasion, and whose performance (under the able conductorship of Mr. Edward Sherwood), of the Fantasia "Der Freischütz" at the commencement of the programme gave great satisfaction; their rendering of the "Three Dances" from Henry VIII, and the "Cornelius March," in the second part of the programme showed that considerable care had been bestowed by conductor and performers on this intricate music. Among the vocalists we must not omit to mention the admirable rendering of the "The Swallows," by Miss Osborn-Rayner, "Should he Uphraid," by Madam Kate Cove; also "the Ould Plaid Shawl," by the former, and again with "A Fairy's Lullaby" by the latter, both artistes, being warmly applauded for their efforts, responded with encores. Mr. W. H. Cove was highly amusing in the musical sketch, "A Village Concert," his mimicry being really first rate. The violin solo by Miss Sherwood was most artistically rendered and met with the applause it justly deserved. During the interval, Mr. Bilney, in a few well-chosen words, explained the object of the Institution, and apologised for the absence of Mr. H. J. Veitch, who was prevented, through indisposition, from being present, and urged upon all gardeners in the neighbourhood to join the society; he also thanked his hearers for coming and supporting him, also the ladies and gentlemen who had kindly sung and played, explaining that the members of the orchestra had devoted their own time to the study of the various pieces performed, and the way in which they were given showed that their efforts had not been in vain. Smoking was indulged in after the interval. The second part of the programme was composed chiefly of the humorous element, Mr. Frank Harper, Mr. Joe Sillet and Mr. C. D. Hewitt being well received. Mr. J. Dowding-Powell contributed a very fine banjo solo in addition to a song, "The Burglar's Serenade." The concert, owing to the untiring efforts of Mr. Bilney was an unqualified success, and we hope the Institution will have benefited thereby. A most pleasant evening was brought to a close by the singing of the National Anthem.

Trapping Mice.—Various as are the methods already heard of for the trapping and destroying of field and other mice, which are sometimes troublesome, one always finds the list augmented. The plan of sinking large jars into the soil, half-filling them with water and greasing the upper parts has we are informed been very successful down Newbury way. Anyone very much troubled with these vermin might adopt this plan. The method in some form or other is really a very old one.

"Insect Enemies of Apple and Pear.—On Tuesday evening, December 5th, Mr. J. Fraser, F.L.S. editor of THE GARDENING WORLD, gave a lecture at Ealing before the Ealing and District Gardeners' Association. The "insect enemies of the Apple and Pear" were discussed, the Codlin Moth, Winter Moth, American Blight, &c., were fully treated upon. The general life history of these garden insect pests was given in summary form, diagrams of some lectured upon being shown. Mr. Fraser was well received.

The Country Gentleman's Catalogue.—This now well-known annual publication has again been issued in its up-to-date style, full of information upon those matters which squires and landed gentlemen must needs have knowledge. One of the strong features of this year's publication is that by which the right and wrong methods when out shooting in parties or alone, are explained by letterpress and by etching. Notes upon the treatment which farm stock, horses, fowls, bees, and crops demand, are one and all summarised. The gist of the year's experiments on spraying, manuring, &c., and the newest additions to agricultural or rural implements and machinery receive attention. So that in a moderate-sized catalogue the country gentlemen has a store-house of information upon things which are just those he wishes to know about, and where this and that may be got, or which, from a number of articles, he can secure as being the best. The catalogue is published by The Country Gentleman's Association, Ltd., 49, Bedford Street, Strand. Price one shilling.

THE PRUNING OF FLOWERING SHRUBS.

IT is most essential to bring the knife into play among our hardy flowering plants, such as Abeliæ, Almonds, *Chimonanthus fragrans*, *Cydonias*, *Deutzias*, *Forsythias*, *Hydrangeas*, especially *H. paniculata grandiflora* (cutting the latter hard back), *Kerrias*, *Philadelphus* (Mock Orange), *Prunus*, *Ribes*, *Spiræas*, *Weigelas*, and many others. Generally speaking, the right time to do this is immediately after they have done flowering. Of course, the pruner must use his discretion, for while some of those mentioned are the better for severe cutting in, others of a weaker growth merely require a little thinning out, but the *Weigela*, double *Peach*, *Prunus*, *Forsythias*, *Kerrias*, in fact, most of the strong growers are the better for spurring back, as it were, because it is on the previous year's growths most of the floral display comes. Occasionally some will be all the better for root pruning if growing in rich soils, or they very soon smother their neighbours, which soon means less flower. To give an instance, we have several large, well-established plants of *Deutzia scabra* against an east wall, and each year, when gone out of flower, the old shoots are taken out and the strongest of the bottom shoots are trained in their stead. These in early summer are smothered with bloom, 6 ft. to 10 ft. in length, a striking contrast to a few old spurs here and there had the old wood been retained.—*J. Mayne*.

OUTDOOR GRAPES.

WE often hear and see signs which would lead one to suppose that something like an eruption into outdoor Vine culture was about to be witnessed. We have seen some very fair samples of the *Reine Olga* Grape both at the Crystal Palace show for British grown fruits, and latterly at a meeting of the Royal Horticultural Society in the Drill Hall. If these can be grown as far north as London why not further south in suitable spots? Of course the subject is a very wide one and every man in the south could probably give a very satisfactory excuse for himself against the inauguration, yet the fact remains that we do not try hard enough. Well, but after all would it pay to go in for outdoor Grape culture? Would the fruits fetch any remunerative

price? or could they be made use of in any other way than in making wines? The climate in the early part of the year is even a safer one—speaking from an expert's guidance—than that of France for instance, because while our cold springs would keep back the starting of the Vines and so save them from frost in the bud stage, in France the vineyards suffer a good deal by the late frosts which descend there. Of course the early frosts of autumn would again harm the bunches of certain Grapes; but it also is an aid to the ripening of many varieties.

Enthusiasm is wanted and a better knowledge of the principles of pruning and other items of culture. Essex used to be famous for outdoor Vines, and all round about the Thames and up its great valley were vineyards, said to be productive enough in past days. The close-spur system of pruning is the one best suited to the culture of Grapes in the open. Dry warm borders are to be recommended and mulching is beneficial. The great point is to get the wood firmed and well ripened in the autumn.

BOUVARDIAS.

ONE sometimes wonders why these beautiful winter-flowering plants are not given a little more attention in private gardens than is generally the case. Judging by the specimens one usually sees, they would seem to be difficult subjects to grow; but that they are far from being so is shown by the clean, healthy stuff turned out by the thousand annually from the market nurseries. Where much flower is needed for buttonhole and other purposes during the autumn and early winter months, Bouvardias are most valuable, as, if given a nice genial temperature, every point is almost sure to flower.

Perhaps the method I have followed with success may be useful to some of my fellow gardeners.

Toward the end of the year a portion of stock going out of flower is laid aside and given a short rest until the end of January or beginning of February, when a start is made for the earliest batch of plants. The old soil is shaken from the roots, and the stronger of these are then cut up in lengths from 1 in. to 2 in. long, and laid in shallow pans of light soil or cocoanut fibre, very lightly covering them. This latter particular is important, as if covered deeply the dormant roots rot ere they get a chance to grow. If the pans are placed in a close propagating frame and lightly dewed over two or three times a day, the roots will bristle with shoots in a few days, and in three weeks should be ready for potting into 72's singly, or two or three together if very large plants are wanted, using a light sandy compost at this stage.

Cuttings proper, I find too long about, and do not make sufficiently large plants the first season to please me. Another advantage, too, with root cuttings is, that if not taken off too near the collar, any bug or scale which may have infested the plants is cleared out altogether. After potting, the little plants are returned again to the case for a few days until the young rootlets have obtained hold of the new soil, overhead spraying being done two or three times a day. The plants will appear weak and drawn at this stage, but will soon gather strength and start throwing up suckers when given more air, although plenty of warmth must still be given them. Stopping must be attended to regularly, pinching at every second or third pair of leaves. As soon as the pots are filled with roots they may be again shifted into 54's or 48's, for the strongest using soil well on the light side with sufficient sand to keep the whole open. As soon as established the plants may be removed to a cool pit.

By the middle or end of May the plants will be ready for their final potting, 16's being used for the strongest and 24's and 32's for the rest. The compost may consist of two barrows of good loam to one each of peat and leaf-soil, half a barrow of sand and a little wood ashes; and to each barrow-load of the mixture add a 32-size potful each of soot and bone-meal and pot firmly with good drainage. As soon as established the plants must be given abundance of air, only closing for an hour or so in the afternoon after syringing, until by the end of June the lights may be left off all night, only keeping them on on bright days during the hottest part of the day, to prevent too early maturation of wood and consequent early flowering. The syringe must be used freely until the flowers open. When the pots are filled with roots, weak manure may be given fre-

quently. Only the strongest shoots will need stopping after the end of August. The plants will require opening out and a little support with a few stakes and ties to prevent them getting dense and drawn in the centres.

Toward the end of September the plants must be removed to their winter quarters, where, with a night temperature of 50° to 60°, the flowers will soon open.

Among the best varieties of Bouvardias are Alfred Neuner, President Garfield, President Cleveland, Vreelandii, Priory Beauty, Mrs. Green, and the sweet-scented Humboldtii corymbiflora. The last does not propagate so readily from root cuttings as the others.—*Practical.*

THE HISTORY OF GARDENS.

IN the lecture hall at the Swanley Horticultural College, Hextable, Kent, Mr. A. F. Sieveking, F.S.A., gave a lengthy but highly interesting and very valuable lecture on the above subject, illustrated by slides, on Wednesday, 13th December. Sir John Leonard, London, occupied the chair, the hall being packed to overflowing. The plan of the lecture was in the form more or less of extracts from the highest authorities in ancient classical and modern literature, he also having by ardent pursuit collected photo slides, showing the plans of gardens from the earliest times down to those of our own day. Slides of ancient Egyptian gardens (after Roselline), of Generalife in Granada, of the Villa Muti, Frascati, and a host of others will set the reader before the style of the illustrations used.

The lecture opened early into a description of various famous gardens of the Egyptians, Hebrews, Persians, Syrians, and Romans, coming down to the gardens of the time of the early Christian and late Pagan writers, Mediaeval, Renaissance, and Tudor Gardens preceded the review of those of the Elizabethan and Stuart period.

The formal styles practised by various of our continental neighbours together with the reaction, which arose in the time of Wise, against this style in Great Britain was set before the audience in the words of the best informed writers of the times during which the changes took place.

Gardening, and gardens, no doubt first started in the form of small herb, or vegetable plots around the dwellings of prehistoric humanity. But ever since the art of gardening has been anything more than the mere planting of a few essential herbs, and protective or useful shrubs, gardening may be said to have adopted one or two broadly marked and lastingly distinct styles of arrangement. Such names as formal, architectural, classical, regular, rectangular, symmetrical and geometrical gardens, are simply a multiplication of titles which are one and all meant to denote a formally designed yard or garden as we now call it. This style, as we all know, characterises Italian, French and Dutch gardens.

To show the contempt which one Frenchman at least has for the English mode of garden plan, Mr. Sieveking related the utterance of the Latin descendant "To plan an English garden, you've only to intoxicate your gardener and follow his footsteps!"

The English or Chinese School of laying-out, goes under such synonyms as natural, irregular, romantic, free and landscape-gardening.

The formal style follows architectural guidance or rule, while the latter adheres to nature for conception in design. Mr. Sieveking passed over any very extended reference to the Garden of Eden, from the fact that savants were not agreed upon its site. No one knew what it really was like, and descriptions of an imaginary Eden, to wit, that of Milton, has been so well "hedged" and "trimmed" by him, that the partisans of either school have in turn claimed the great poet as representing its views.

Quotations from Horace Walpole and Walter Bagshot showed the views these two learned men had of Eden, the former only seeing nature in it, while the latter asserts that it could be mapped with a confined limit. But the earliest gardens of which we have any record are those of the Egyptians, from descriptions by Sir J. Gardner Wilkinson.

A figure from an ancient illustration was thrown upon the screen to show the general plan of the gardens at that period, that is, during the 19th Dynasty, 1300 B.C. This showed what was supposed to be the design of the gardener, Nekht for the

Great Temple at Karnak. Its extreme limits formed a square, and within the outer embattled walls, the sub-divisions were either oblong or square, every line being straight and not a curve introduced. Without the wall on one side there was a canal, between which space enough was left to have a shady avenue of various kinds of trees. The side supports to the entrance door of this Egyptian garden were elaborated with hieroglyphics which contained among other notices, the name of the owner. Vines occupied the central part of the garden, and these were leased to trellis work. A wall separated the vineyard from the rest of the garden.

What would be termed villas, in our present times, were pointed out by the lecturer as occupying various parts of the garden, while around these villas green trees waved their arms, casting both shade and breeze upon those who were fortunate enough to enjoy the luxury. Palms were to be found variously planted around the outer parts of the garden, while Lotus pools and geese tanks were shown in other quarters of this interesting illustration.

Mr. Sieveking mentioned the fact that upon the tombs at Thebes and other parts of Egypt, gardens are frequently illustrated. These, together with some slight mention by Herodotus constitute our only authentic records of the gardens of the Egyptians at this period, to wit, fully a thousand years before the Birth of Christ.

Remarking upon the "Hanging Gardens at Babylon," one of the seven wonders of the world at that time, the speaker referred to Dr. Falconer's learned account of historical gardens of antiquity. The description given by Diodorus Siculus, however, was briefly related. The story paralleled with that of our own school-history sketch which taught that the then Prince, Cyrus by name, having wedded a beautiful maid from Persia, was aggrieved to know that his young bride was disquieted over the barrenness of Babylon and its environs. To recompense and console her for the loss of her hitherto accustomed natural beauties, he accomplished the herculean task of building artificial mountains having broad meadows, vales, streams and gardens. As Mr. Sieveking told the story, the hanging gardens would seem to have been built for a certain Persian to imitate the hilly land of their courtesan's birth. These famous gardens are known to have been built upon arches, the walls of which were 22 ft. thick. A series of plateaus were arranged, so that one arch overlapped and rose from the back of one lower. Engines were erected toward the higher levels, and these drew up water from the River Euphrates to supply the gardens with plentiful moisture. Soil was even spread all over, and all manner of trees, shrubs and hanging plants were planted.

(To be continued.)

MARK PROGRESS.

THIS, I think, ought to be our motto at this season of the year. It is a common saying that this is an age of progress, and it is undoubtedly true. It is an injunction that we "go on to perfection." It is, or ought to be, true in all our daily life and work. We should always be aiming at better things. When we look back and contrast the various forms of gardening, say for the past 30 years, we cannot but come to the conclusion that great improvement has taken place, but still there is room for advance.

I can remember while in my apprenticeship geometrical flower gardening was the great rage, and I am sure the time spent in raising many thousands of bedding plants, for the purpose of making a blaze of scarlet and yellow in so many curiously cut out designs in grass or boxwood, did not in any degree pay for the time and labour spent on them. I am glad to think that, in a measure, we have departed from this to the more useful and profitable, and, at the same time, more interesting mixed border. Here, then, we have marked progress. From the one or two isolated exhibits to be seen at big horticultural shows of herbaceous flowering plants but a few years ago, we have now quite a host of exhibitors, which speaks well for the growing taste in these things, and who shall say that, with such an endless variety of good things at our command, our borders are not better than our flower gardens ever could be? Then, again, I know of no plant that has undergone such a revolution in its culture than has

the, at present, much vaunted *Chrysanthemum*. I can remember when, with our older varieties, it was a case of stick four plants in a 10-in. pot, and let all growth come that would come. Here, again, an advance in the right direction has been made; yet, with all our splendid varieties, something is a-wanting, and that, to my mind, is a determined desire on the part of our raisers to secure *dwarf* varieties that shall be really acceptable either for the plant house or for decorative purposes in the house.

What shall I say of the kitchen garden? If one consults the trade seed lists usually published at this time, one would suppose by the list of "novelties" offered that they would "lick creation," and that all the old varieties in present use were worthless.

Yet have we got a Potato finer in quality than our old Fortyfold? A Pea that has kept its place like Veitch's Perfection, or a more useful Strawberry than Vicomtesse Hericart de Thury (Garibaldi)? I grant that many good things have been added to our lists, but we also protest against "new" things being sent out which are new in name only. May I in closing be allowed a word in season to those engaged in the cultivating of all those good things. I once heard a minister remark that gardeners ought to be "good men" living so close to Nature as they did, the grandest school to which we can go; and surely he was right. I believe there is a sincere and growing desire among the young men of our class to make themselves, by earnest study, more proficient in their profession, and surely this is a season when they and we also may reasonably ask ourselves if we intellectually, in generosity, and in all other good graces have marked progress.—*Richard*.

FORCING ASPARAGUS BEDS AT SYON HOUSE.

IN answer to *D.* upon the points he notifies for explanation when writing under the above title, the writer of the article on Syon House regrets the fact of his having been in error in accrediting the present head gardener at Syon House with the "invention" of the system for Asparagus forcing which is practised there. Years ago I read an article from the pen of Mr. Geo. Wythes upon his manner of Asparagus forcing, and from that time to the present moment of having read *D.*'s letter, I have always had the belief that the system (already described) was an "original" of Mr. Wythes'. Till now I have remained undeceived. The mention of it was done in the spirit of giving "honour to whom honour is due," but it would seem "the honour" must be retained till the veteran Mr. Barron, or other person who may know, can find the proper head upon which to place the honour. The system, which is a capital one, has now been more emphatically presented, so that good again follows (evil) wrong.—*Harrison D.*

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 19th inst.;—
Orchid Committee.

DENDROBIUM SPECTABILE.—This formed part of a recent introduction of the species, and is the first that has flowered in this country as far as we know. The lanceolate sepals are triangular at the base, then narrowed to a linear point. The petals are lanceolate and acuminate, and, like the sepals, are beautifully netted with brownish crimson along the veins on a yellow ground. The lip is kneed and three-ridged above the base, narrowly ovate, acuminate, wavy, and heavily netted with branching, brownish-crimson veins. First-class Certificate. Major Joicey (gardener, Mr. F. J. Thorne), Sunningdale, Berks.

CYPRIPEDIUM LORD ROBERTS.—This was obtained from *C. Charlesworthii*, crossed with *C. Creon* (male). The progeny much resembles a very fine form of the former, the dorsal sepal being heavily suffused and netted with rich dark purple. The horizontal petals are similar in hue but shaded with blackish-brown. The lip is dark purple. All parts of the flower are glossy. First-class Certificate. Messrs. Charlesworth & Co., Heaton, Bradford.

CYPRIPEDIUM EURYADES SPLENDENS.—Here we have another grand variety of a hybrid derived from *C. leeanum*, crossed with *C. villosum Boxallii* (male). The dorsal sepal is richly marbled with purple, with

a broad, white margin. The petals are obovate, rich brownish-purple, and blotched on the lower side and at the base. The lip is of a lighter purple First-class Certificate. Messrs. J. Veitch & Sons, Ltd., Chelsea.

LAELIOCATTELEYA WELLSIANA IGNESENS.—The parents of this bigeneric hybrid were *Cattleya Trianaei* and *Laelia purpurata* (male). The sepals and petals are rose, while the lip is crimson and pale yellow in the throat, almost without lines, showing the influence of the pollen bearer. Award of Merit. Messrs. J. Veitch & Sons, Ltd.

CATTELEYA ELATIOR.—The parents in this instance were *C. schilleriana* and *C. Mossiae reineckeara* (male). The oblong sepals and the lanceolate, crisped petals are all blush. The lip has a purple lamina, a yellow throat marbled with crimson, and pink side lobes. Award of Merit. C. L. N. Ingram, Esq. (gardener, Mr. Bond), Elstead House, Godalming.

ZYGOCOLAX AMESIANUS.—The parents were *Zygotalum brachypetalum* and *Colax jugosus* (male). The leaves are lanceolate and grassy. The sepals and petals are oblong, and heavily marked with brownish-purple blotches and lines. The subcordate lip is white, and beautifully lined and marbled with purple. Award of Merit. Messrs. F. Sander & Co., St. Albans.

CYPRIPEDIUM CONCO-CALLOSUM.—As the name indicates this was derived from *C. concolor* and *C. callosum*. The dorsal sepal is white, flushed with rose in the middle and greenish at the base. The petals are white tinted with rose upwards, and with green towards the base, with minute spots all over. The lip is yellowish and flushed with brownish-purple in front. (Award of Merit). Capt. G. W. Law-Schofield (gardener, Mr. Shill), New-Hall-Hey, Rawtenstall, Manchester.

Fruit and Vegetable Committee.

APPLE STANWAY SEEDLING.—The fruit of this variety is conical, above the medium size, very obtusely angled, and, at this season, of a shining yellow. The eye is half open in a slightly plaited cavity. The stalk is short, slender, and seated in a narrow cavity. Award of Merit. T. H. Kettle, Esq., Kingsford, Colchester.

THE PLANT HOUSES.

POTTING.—One of the items in garden routine after the turn of the year is that of potting. Epiphytal Orchids, and, indeed, all whose roots are visible from their habit of creeping over the surface of baskets, pots, or blocks of wood, must be closely watched, and potted or renewed in any way which it may seem advisable, so soon as growth is observed. Nothing, I feel sure, hurts Orchids or plants which root as they do, more than to be disturbed after they have got into vigorous growth. Stove plants will have to be taken in rotation. Where there are only two men engaged the operation takes a good while to be completed. There is not much doing, however, at this season so that it matters little.

CROCKING.—As much attention should be paid to the proper crocking of the pots as to the potting itself, for it follows that good potting will avail nothing where the drainage is faulty.

"Crock that pot, John," said a gardener to a green hand. The pot was a monster one, about 18 in. John looked surprised at first, but not knowing what the purpose was, he obeyed orders—in his own way. Swinging the hammer from right to left he smashed the pot to "smithereens!" thus very effectively crocking the pot. So take a moral from this, and leave nothing to chance, take nothing for granted.

COMPOSTS.—Now I cannot say I care for exact mixtures or compositions of various soil matter for all the different plants which one grows. There is too much of hard and fast rule applied when preparing what is vouched as being a necessary if the plants are to thrive. Of course, certain plants are very fastidious in regard to the soil for the root run, but it will be admitted that when thorough care and skill are given in the watering, training, and other items, with by far the larger percentage of our stove plants the compost which is used is quite a secondary matter. An experienced plantsman never goes by rule of thumb—so much of loam to so much of leaf mould and sand—he knows from inherited and acquired practice what composition should be made

up for this plant or that. The "feel" of the soil tells him whether it is proper for use or no. Then for stove plants all new composts must be warmed. We find it much the handier and better plan to have a portable bench brought in the house wherein are the plants about to be potted. A sufficient quantity of soil can then be benched, and pots, &c., may be prepared in the potting shed to be taken ready for use into the plant house.

PROPAGATING.—Plants which have become too leggy or at fault as regards their symmetry in one way or another, are often cut down and again rooted at the time of the potting operation. Notching or ringing may be done very soon, as this allows of the removal of the rooted plants at an earlier date, and their places opened up for the instalment of newer and fresher young plants. Where plants have been for a long time planted out, to attempt any drastic alterations means a great tax on the skill of the gardener, but it has to be done. Planting out is a capital system in large conservatories, but for gardens where a shift of scene is needed, and batch after batch of plants has to be grown and shown in the same house, it is out of the question. However, where such things as tree Ferns, &c., are planted out and have become too tall, they must just be lowered, that is, sunk deeper into the earth. I do not know how it would suit them to be cut right across at the soil level, but more than likely they could be made to produce new roots. Under such conditions I believe they are successfully shipped home from Australia, Tasmania, and other foreign parts. But this is continuation or propagation on a large scale. Indoor rockeries may well be made at this time. Where they have become bare and in need of renewing this task should now be undertaken.—*J. H. D.*

Gleanings from the World of Science.

At the meeting of the Linnean Society of London, on December 7th, the undermentioned subjects were discussed:—

Malayan and African species of *Kickxia*.—Dr. Otto Stapf, A.L.S., exhibited specimens of Malayan and African species of *Kickxia*, Blume, to show the differences which exist between the two forms. These differences were noticeable in the shape and size of the corolla, the insertion and general relation of the stamens to the tube of the corolla, the placentation, the structure of the fruit, and the general habit of the plants. As the name *Kickxia* would have to be retained for the Malayan species, he proposed the name *Funtumia* for the African species, from *Funtum*, a vernacular name name for *F. elastica*. He further pointed out, by means of flowering and fruiting specimens of *F. africana*, Stapf (*Kickxia africana*, Benth.), and of *F. elastica* (*Kickxia elastica*, Preuss), that the latter, and not the former (as was originally assumed), was the source of the so-called Lagos rubber, thus confirming the conclusion to which Dr. Preuss had come with regard to the origin of this rubber.

Fruit of *Musa Ensete*.—Dr. Stapf also showed, on behalf of the Director of Kew Gardens, a large infrutescence of *Musa Ensete*, Gmel, lately received from the Azores.

India Rubber by a New Process.—Mr. Gilbert Christy, F.L.S., exhibited a preparation of India-rubber by a new process from *Castilleja elastica*, and also specimens of rubber obtained from *Kickxia elastica*.

Mr. A. D. Ferguson exhibited a series of photographic views taken in Demerara.

Vegetable Poisons.—Mr. J. W. Fawcett read a paper on some "Vegetable Poisons" used for the capture of fish by the aborigines of Australia. Mr. B. Daydon Jackson pointed out how widespread was the practice of obtaining fish in this way, and gave a brief review of the literature bearing on the subject. A discussion followed, in which the president, Messrs. E. M. Holmes, Thomas Christy, and J. E. Harting took part.

Lilies for Easter flowering should be placed in the greenhouse to come on steadily in a mild temperature.

HINTS FOR AMATEURS.

Greenhouse and Corridor Climbers.—When one comes to think of it, there is almost as much scope in the upper parts of our houses for furnishing beauty, as there is below. When climbers are well chosen, the gardener can get a very great return of bloom to cut for decorations, or if not for this use, then the floral attractions overhead may be said to be quite as valuable as displayed upon the stages. But say what we may, climbers are valued, and they are used in full measure. For the sake of those amateurs who may desire to have a notice of some of the more popular of this class of plants the following notes have been written. I have only included species or varieties of plants which have long ago been proved as the best we have for the purposes of drapery or for yielding cut blooms.

Clematis indivisa.—To see a fully developed plant of this greenhouse subject in good flowering condition is—well, to see a "sight." But we have not space here to eulogise on all we mention, though they are all worth it. *C. indivisa* can be raised from side shoots struck under a band light any time after the flowering period. Well-made cuttings, firmly inserted, in sandy soil will strike readily. Layers may be successfully rooted if pegged down in September. When once they are rooted and growing, ordinary care will be all they require till they are planted out. A compost of loam, some peat, charcoal and sand will answer them. I have seen two plants cover a space of many hundreds of square feet. The year's flowering shoots come from the older wood, and should more or less be allowed to hang pendently. Pruning resolves itself into a thinning out of the old wood, and a severe shortening of the unripened shoots, which should be done soon after the flowering. The young growths are subject to attack from blackfly.

Habrothamnus Newellii.—The *Habrothamnus* are all more or less pretty, from the habit they possess when flowering. At the same time it has to be admitted that they are very dirty plants, which to the practical gardener means that they are very prone to the attacks of insect pests. Greenflies are their worst enemies, but constant, vigorous syringings with tepid water and soft soap, also a very small addition of paraffin, which must be used with great caution, will be found generally to keep these invaders suppressed. This variety throws out its pretty crimson tassels during August. It flowers on the current year's shoots, so that no pruning should be done until the flowers fade. Cuttings will be found the best means to adopt for propagation. A shady, rather than a sunny corner of the greenhouse, is more to its liking. Strong but friable loam, with an addition of leaf mould and dry cow manure, and plenty of water during summer must be accorded to this *Habrothamnus*. There are other fine varieties which might well be added.

Heliotropium.—Though I rather care to think of *Heliotropes* (Cherry-pie) as dwarf-bedding plants or as pot specimens, yet when they are properly managed and in good health they form very lovely greenhouse climbers, and are at times used in stove corridors, greenhouses, and cool conservatories. The feeding should not be too liberal, though starving will not answer. Under the former regime they go too much to wood growth. Starting from cuttings, which may be taken in spring, summer, or autumn, when well established in 5 in. or 6 in. pots, they may safely be planted out. Cuttings strike with no great loss when cleanly made, and firmly inserted in the same way as for *Chrysanthemums*. When a central axis has been led up about 1 ft. or higher, it may be pinched, and one or two side shoots brought out so as to form a spreading climber. This spreading habit of course, should not be made too much of, else no height and no great symmetry will develop. Plant these prepared plants in a narrow border, the soil of which should be an open, humic loam. Press it firmly, first making sure that the base is not damp, for they do not like a "claggy" rooting base. Pruning may take a variety of phases. A system frequently followed is to cut hard back after the shoots have flowered, thinning out any that are weak. Where *Heliotropes* are grown for the production of winter blooms in stove corridors, it is well to have a goodly stretch of plants. One half, or less, may then be cut back at the time the other half

section of the plants is coming into bloom. This is not meant to apply to the individual plants, but to breadths or sections of them on the wall. By so doing, a succession of blooms are got. Hard pruning must be adopted, besides liberal feeding in these cases, but the roots should be confined to well-drained narrow borders.

Dolichos lignosus.—Here we have a plant of a straggling growth, which flowers naturally as a greenhouse or cool corridor subject in July. As a hanging plant, in an intermediate house, it flowers very much earlier. The growth is not attractive, but the foliage is pretty, both in its depth of green and the manner in which it is divided. The flowers are small, somewhat like a *Swainsonia*, which is another of the leguminous plants. It can be raised from cuttings or seeds. The most proper position is in a cool, wide, and high corridor, otherwise it may be disappointing.

Fuchsias.—At the present time, in nearly every garden, *Fuchsias* are used for training upon pillars, and are grown also as specimens in arching forms. Till a comparatively recent time ago, however, they were not thought of as climbers, or made to grow in this fashion. I remember how much admired was a monster plant which we had 18 years ago, a specimen of the variety named *Favourite*, larger, and as it now seems to me, brighter flowered than the well-known *Fuchsia Mrs. Marshall*. This old plant was scarcely ever out of flower, the system of pruning being such that only for about one month in the year was it bare of foliage or blooms. Planted in an ordinary side border of a span-roofed house, it never seemed to wish for rest. All plants, all *Fuchsias* rather, are not like old "Jumbo," as we preferred to nickname it, so that at this season they should be dormant. They will start away of their own accord in February. Till then they must have no water, at least, only periodical soakings. They usually remain plump enough without any water. *Fuchsias* are propagated from cuttings, pieces of stout shoots with a "heel" being taken off when the new growth has advanced about two or three inches. A rich, light potting soil is recommended. They require abundance of water during the growing season, and some shade in summer, as, of course, do most plants under glass.

Ivy-leaved Pelargoniums.—We need not confine ourselves specially to the Ivy-leaved section, though this is a better class than that of the zonals, which, when carefully chosen, furnish very fine wall plants. Everyone, even those taking up gardening as a new hobby, knows how to strike a *Pelargonium* cutting. Fine plants are also raised on a large scale from seeds. Where either of the above mentioned classes of *Pelargoniums* are grown it is so more for the constant supply of very serviceable blooms which they return than from any merits of the plants as ornamental subjects. Firm, and moderately moist, loamy borders, facing south, should be allowed them. An occasional top-dressing of loam with bone-meal, and feedings with liquid manure when the border is root-bound, will be found to retain plants in constant fertility. Toward the end of summer they may be rested for a lengthened period, as then the winter flowering pot-hatches will supply the cut flowers. Very suitable varieties for the purposes indicated are: *Souv. de Charles Turner*, *Jean d'Arc*, *Achievement*, and *Queen of Roses*, in the double-flowered ivy-leaved section. Suitable zonals are here a crimson flowered favourite; *F. r. Raspail*, and *Raspail improved*, both nearly a truly scarlet; and *Duchess of Portland*, which gives us a fine semi-double pink variety. The variety named here may be somewhat old-fashioned now, and difficult to get, yet it is a grand plant for our present purpose. The back wall of a lean-to vinery is adaptable for the growth of climbing *Pelargoniums*.

Plumbago capensis.—Notes having frequently appeared giving hints on the culture of this lovely greenhouse climber, it needs only a reference at this time. Stubby side shoots properly made and attended to, strike readily enough under a bell-glass. The border in which *P. capensis* is planted should be rich and solid. Pruning should be done after the flowering period, cutting all the shoots well back and thinning out the useless "spray" or weaklings. *P. c. alba* is a white and rather more delicate variety.

Crimson Rambler and other Roses may well be used in high, wide corridors, but their needs, culturally, I must leave for another occasion.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Linum grandiflorum rubrum.—*Simple*: The above is the full name of the plant you desire. We should also suggest the following names of plants as likewise valuable for the border, and which may soon be ordered when making out a list:—*Nemophila insignis*, *Calliopsis*, *Candytuft*, *Celosias*, flowers plume-like for bedding purposes planted out from the pots; *Centaureas* or *Cornflowers*, *Clarkias*, very graceful; *Coreopsis*, *Paris Daisies* (*Marguerites*); *Delphiniums*, *Dianthus* or single *Pinks*; *Foxgloves*, or *Digitalis*; *Eschscholtzias*, lovely *Poppy-like* dwarf annuals; *Forget-me-nots*; *Gaillardias*, *Godetias*, *Golden Feather* or *Pyrethrum*, *Gypsophila paniculata* and *G. elegans*; *Helichrysum* or *Everlasting* flowers; *Lantana hybrida*, *Love-in-a-Mist* (*Nigella*); *Mignonette*, *Nasturtium*, *Nemesia*, *Tobacco plant* (*Nicotiana*); *Nycterinla*, *Petunia*, *Phlox Drummondii*, *Poppy*, *Portulacas*, *Prince's Feather* (*Amaranthus*); *Rhodanthes*, also everlasting in their nature, sweet pink flowered composites; *Salpiglossus*, fine for vase arrangements; *Scabious*, *Schizanthus*, annual *Sunflowers*, *Sweet Rocket*, *Sweet Sultan*, *Verhena*, *Viscaria*, *Wallflower*, *Winter Cherry* (*Physalis*); and *Zinnias*. These represent a bright class of (chiefly) summer flowering plants, but they are not all true annuals. They are easily raised from seeds, however, and are tabulated for the benefit of other amateur readers.

Pot Roses.—*Rosarian*: By pruning your pot *Roses* now and placing them in heat you may have blooms in the early part of March. *Rose* seeds may be sown now in frames. Mulch outdoor *Roses*.

Manure for Half Acre of Land.—*R. J.*: The best system of manuring is that whereby natural and artificial manures are conjointly employed. From 10 to 15 tons of farmyard manure, to dig in now, will be enough; then to stimulate the growing crops nitrate of soda and superphosphate may be given to the crops as a surface dressing during showery weather, using 3 cwt. or so per acre.

Serviceable Window Plants.—*Joe Chaucer*: *Aracaria excelsa*, *Aspidistra lurida*, *Kentias*, *Chamaerops*, and other small *Palms*; *Asplenium bulbiferum*, *Nephrolepis* in variety, *Dracaena australis*, *Pelargoniums*, and others.

Six Pot Herbs for Kitchen Use.—*G. C.*: *Tarragon*, *Mint*, *Sage*, *Marjoram*, *Thymes*, and *Winter Savory*. *Golden Nugget Tomato* you will find as a very serviceable salading variety.

Stephanotis floribunda.—*R. Pollock*: If you have a sufficiently warm house buy a good plant, and by careful treatment you may have winter flowers. It ought to be rested from October to the end of November, pruned then, if need be, and given a fresh start.

Shrubs from Cuttings.—*J. R., Stow*: We are sorry you did not note remarks of ours on this subject made in September. Cuttings put in then are now rooted. Take and make cuttings of the small bushy *Conifers* and the *Yews* which you name, and place them in a frame or other place where a fairly moist bed can be given and outside shelter. They may be dibbled closely into sandy soil.

Winter Protection.—*R. D., Selkirk*: Having followed up the hints, given some time ago, upon the value of being prepared for severe weather, *R. D.* writes to thank us for the contrivance which we figured. By its use he was able to leave out a number of tender subjects during the frost.

Roses for Early Winter.—*Rosarian*: Among *H.T.'s* and *Tea-scented* we find *White La France*, *Vicomtesse Folkestone*, *Anna Oliver*, *Devoniensis*, *Grace Darling*, *Maman Cochet*, *Safrano*, *Madame Falcot*, *The Bride*, the new *Sunrise*, *Madame Hoste*, *Niphetos*, and *Papa Gontier* suitable.



MESSRS. RAMSAY & SON'S GROUP AT BALL'S BRIDGE (See p. 282).

A FINE GROUP OF PLANTS.

SOME fine groups are usually to be seen at the Chrysanthemum show of the Royal Horticultural Society of Ireland, and on the 7th November last, the exhibit of Messrs. Charles Ramsay & Son, Ball's Bridge Nurseries, Dublin, was worthy of special comment. It was a group of stove and greenhouse plants rather than Chrysanthemums, though a few dwarf plants of the latter were dispersed through the fine foliage subjects. The display of skill and artistic taste in the arrangement of the latter produced effects at once harmonious and graceful. The foliage plants were really the feature of the group. The chief of these were Kentias, Cocos, and other Palms, which constituted the staple of the semi-circular mass. Dispersed amongst these were Dracaenas, a few Crotons and plenty of Ferns, particularly around the margins of the group. The whole of these things were brightened with *Lilium Harrisii* in abundance, with a sprinkling of Chrysanthemums, Tuberoses, Orchids, and *Astilbe japonica*, best known under the name of *Spiraea*. The accompanying illustration (p. 282) will give a general conception of the build of the group. A Silver Medal was awarded it by the society, and all who saw the group admitted that the honour was fully deserved.

A VISIT TO THE NURSERIES OF MESSRS. CANNELL & SONS.

ON the last occasion of a visit to Messrs. H. Cannell & Sons, of Swanley, the elements were Utopian. Blue skies favoured the traveller, and from above a smiling sun did shine. All the earth laughed! It was like a summer day of the past boyhood once again repeated. But a marrow-freezing wind whistled, not in sudden gusts, but steadily, evenly, grim, and stubborn. The same outstanding features were seen around the Swanley nurseries, but adown the long valley and up the steep hip of the flanking borders, the bluish-white snow lay piled. So avant! hie me to the houses where "the Palms, the Cycas, and the little Lotus flower grow."

As a matter of fact it was "Geraniums" or zonal Pelargoniums (to suit the learned) that we had in mind, and sure enough these were there in very strong force. All lovers of zonal Pelargoniums, the most useful and most easily grown of winter blooming plants, should keep their eye on Swanley. Visit it, indeed, if you can.

SINGLE PELARGONIUMS.

Confining ourselves in the meantime to a notice of the newest varieties, we find four varieties which stand out conspicuously in the single zonal section. These have been referred to by THE GARDENING WORLD reporter in his account of the N.C.S. show. What was said there I can corroborate here. The Sirdar is one of this year. The flowers are perfect in form, strong in substance, and of a bright and cheery-scarlet, a colour wanted in these dull winter days. As a contrast we have the pure white-flowered Snowstorm. The habit of this is dwarf, sturdy, free flowering, and for various forms of floral decorations the white trusses, which last well, should be valuable, and add a quality to the variety which ought not to be lost sight of. It might be thought that we have already more than enough of good salmon varieties, as, for instance, Hilda, Coleridge, Mrs. Ewing, or Ian Maclaren; but in The Kalifa, the Messrs. Cannell seem to have gone one better. The fine form and substance are the undoubted qualities of The Kalifa. In Ian Maclaren we have one of the most profuse flowering zonals in cultivation, yet the perfect form and large truss of The Kalifa are more favoured by ardent florists.

The Mikado is a novelty of merit, possessing good trusses of soft cerise-coloured blooms. Mrs. Fisher also comes under the section of salmon-coloured introductions, and certainly holds a foremost position. The peculiar shade of The Mikado is very pleasing. Menelik, belonging to the Countess de Morella type, is one of the very finest of our magenta-pink varieties. Other varieties which one may class as in the general collection of singles are Nicolas II., a crimson-scarlet of fine quality in all respects; C. C. Tudway, a clear rich magenta, and a free bloomer of sturdy habit; Chaucer, clear cerise flowers, each of which are of enormous size; Souvenir de W. B. Miller has a white eye and a brilliant crimson body-ground. J. H. Arderne may be classed as the largest and best orange-yellow yet seen; a comparatively new class of purple and

magenta-scarlets is being formed. It is expected that from selection, this class may yield the wished-for "blue Geranium."

Rudyard Kipling and Lord Reay are the two newest, each being all that one need wish for in first-class zonal blooms. Mrs. Simpson forms one of the best winter zonal Pelargoniums we have. It has a strikingly pretty, fiery-scarlet ring around a white eye, the white grounding being particularly pure. Duchess of Marlborough is yet another favourite in the class of blush selfs.

Those who know the variety, Mdme. J. Chretien, with all its attractiveness, will be pleased at the additions which have been made to the class of which it, with Souv. de Mirande, were the parents. Mark Twain holds a foremost rank amongst this, the reticulated, salmon or orange-coloured group. Andrew Lang may also be included; so with Mdme. Coralie Bazac.

Lilacina, to my mind, is one of the prettiest bloomers we have at this period. The name describes the colour, the habit is good, and the blooms are freely borne. Countess of Buckingham produces deep rosy-pink trusses, whose cheery colour is very agreeable and prominent even amid dozens of others. Mary E. Wilkins is a blush-white of a delicate and pretty shade, the blooms being large and well formed.

DOUBLE PELARGONIUMS.

Many lovers of the Pelargoniums prefer to have a double bloomer than a single. One strong point in their favour is the fact that they last longer when cut than do the single varieties. They also bloom equally as freely. Colonel Barré is a magenta, which among semi-doubles is rather a new colour. Gustav Emich with its gigantic trusses and huge individual blooms of a rich clear scarlet is also one in the first-class. Mdme. Charott is meritorious because of its spreading habit, and the manner in which it throws up its large trusses. These are of a mottled salmon shade. Dr. Verneuil has extra large fine cerise-scarlet trusses. In Mdme. de la Rue we have a very rich coloured purple-pink plant of strong constitution and good blooming qualities. Dr. Despres makes another, the pride of the deep crimson class. The habit is good, and the pips of the blooms remarkably well formed. The René Bazin, a medium-coloured scarlet with an orange centre, yield us a very floriferous and much admired variety. Hermine may be classed as really the finest of the double whites, more especially as it would seem as a winter flowering variety. Then of late years, as with the double tuberous Begonias, specialists are turning their attention to varieties which show signs of a narrow-lined edge of some distinct colour, and which they term the Picotee-edged class. So far Fraicheur is the best of this type. The habit is vigorous.

Thus for all practical purposes any grower who wishes to have the best and only the best of these zonal Pelargoniums may very safely make a selection from the list which I have striven to make as complete as possible, while yet confining the number of varieties so as not to make a selection too puzzling. No class of plants, as I have already said, are more to be recommended for winter flowering, and none repay the cultivator more surely. Cuttings of the earliest batches have just begun to be taken.

A mere mention must suffice for the other houses of soft-wooded stuff, stove plants and Cacti which are in so varied assortment at Swanley. Bouvardias make a pretty display; Cyclamens are exceedingly strong, in fact, better plants have not been seen; Cinerarias are on the point of blooming, each plant a model of health and cleanness; Poinsettias are bright and strongly represented in the larger warm houses; all sorts of stove plants, including Palms, Acalyphas, and the varieties of climbers or flowering plants such as Eucharis and warm house Dendrobiums, Oncidiums, &c., are one and all to be seen. Agapanthus umbellatus, the blue African Lily, was in strong array, each sample being strong and good for next season's flowering.

The collection of Cacti, of course, takes everyone's fancy, or at least secures their regard. Some of the most curious, as well as pretty members, such as the Grizzly Bear Cactus, the Prickly Pear, the Mamilarias, Opuntias, Cereus, and many others are really very interesting. Pot Roses of all kinds are in stock at Swanley, and capital stuff they are. Abutilons are handsomely shown, besides which the numbers of bedding stuff stock are boxed or potted up for

supplying cuttings. Dahlias, tuberous Begonias, and Gloxinias with the long list of plants for early summer decorations or planting were to be seen, so that while one great class of plants is in bloom others are being prepared to succeed them.—7.

MICROBES AND FLOWERS.

THE experiments we are about to describe demonstrate that flowers may afford an asylum to numerous pathogenic and saprophytic microbial germs, and thus become a source of contagion and danger.

The carpels and stamens of several cultivated flowers (particular attention being given to stigmas and anthers, which are more liable to retain germs, owing to the more or less viscous secretions of these organs) were taken directly from the plant and placed in tubes containing nutrient mediums previously sterilised. We made our collection by cutting the floral organs with scissors, sterilised in the lamp, and dropping them immediately into the culture tubes.

The garden where the flowers grew is situated at a distance of two leagues from the town of Rio, the altitude above sea-level being fifty metres; consequently there is little likelihood of contamination in such a position. I shall only mention some of my experiments.

I. *HIBISCUS ROSA-SINENSIS* (order of Malvaceae).—The anthers of the flower produced, in the different mediums of culture, solid and liquid, very distinct colonies with characteristics bearing no resemblance to any known microbial species. These colonies were composed of micrococci. Their evolution in tubes of agar-agar gave, from the first week, along the puncture, colonies in form of a quadrangular transparent plate. About the second week the surface of the gelose became covered with an egg-yolk coloured coat, and at the same time another similar plate formed below the first applied at right angles (crosswise) on the lower edge; later a third plate formed in the same way. The microcci of these colonies measured one micron in diameter (μ); they colour well with basic aniline colours, and generally group in diplococci. They slowly liquefy gelatine, in which they produce a cavity like that made with a punch. On plates the colonies obtained are round, smooth, and of an egg-yolk colour. The gelatine becomes acid, and exhales a peculiar sour odour. In Löffler bouillon a turbidity is produced, which soon causes a white deposit to fall on the bottom of the flask. We propose the name of *Micrococcus cruciformis* for this bacterium.

II. *ROSE* (ROTHSCHILD).—The germs collected in the central depression of the corolla of this large, beautiful flower produced in the various solid and liquid mediums, the *Leptothrix ochracea* of Kutzing. On cultures the rust colour was obtained, due to the colouring substance this little being manufactures at the expense of the iron salts requisite for its existence. This *Leptothrix* is also known to inhabit stagnant waters; it is then at least suspicious.

III. *ROSA GALICA*.—This flower gave two different colonies. One (No. 1) had the morphological characteristics peculiar to the *Streptococcus pyogenes* of Rosenbach. These micrococci appear, under the microscope, in a wreath. They measure one micron (μ) in diameter; they took the gram stain. Colonies No. 2 consisted of bacilli two to three microns long (μ), which seemed a new species to us, specially characterised by the coriaceous consistency of the colonies in agar-agar tubes, the almost black tint of the large colonies on plate and the colonies in superposed balls in the gelose tubes (path of puncture). This bacillus does not liquefy gelatine. Löffler bouillon in which the bacillus was cultivated became turbid, and gave a white deposit on the bottom of the flask. We propose the name of *Bacillus gallicus* for this microbe.

IV. *IPOMAEA QUAMOCUIT* (Fleur du Cardinal).—A climbing plant of the order Convolvulaceae. It gave us two species. No. 1, with characteristics of *Micrococcus salivarius pyogenes* of Biondi; No. 2, a *Spirilla*, similar to those found often in marshes, like *Spirilla tenue* and *S. serpens*. But we class it as *Spirillum plicatile*, because in cultures the filaments are divided into long and short rods, some straight. This *Spirillum* seems capable of causing intermittent fevers, according to some authors.

V. In the case of Peach blossom (*Persica vulgaris*, Mill) the *Bacillus pyocyaneus* was obtained.

I shall also mention, with regard to my plate cultures,

the presence of some curved bacilli observed by Abell, Guignard, and Charrin in bouillon cultures, mixed with boric acid and other antiseptics. The colour of pyocyanine appeared with its fine peculiar tint and its chemical reactions which I several times controlled.

The presence of pathogenic bacteria in flowers constitutes a new fact capable of throwing a new light on certain questions of vegetable and animal pathology.

Flowers can in particular retain numerous germs, which may ultimately finish their evolution in more suitable animal or vegetable mediums. We go further, and we consider that there may exist between the coloration of flowers and microbial pigments of microbes sheltering in them some hidden relations. The very light pink tint of the Rothschild Rose, mentioned above, resembles that of plate cultures of the *Leptothrix* orchacea before becoming brick-red. Likewise the egg-yolk colour of the colonies of the *Micrococcus cruciformis* is similar in tint to that of the colouring matter covering the anthers of the *Hibiscus Rosa-sinensis*. A continuation of our researches even seemed to demonstrate that several species of microbes, which we shall call "osmogenic," reproduce similar odours to those exhaled by the essences of the flowers where they live.—*Domingos Freire, in "Cosmos," of May 13th, 1899.*

BUCKLEBURY COMMON.

NOVEMBER is not an ideal month, even from a rural point of view, to visit the country; it is certainly far from being the highest and best conceivable from the standpoint of the dweller or worker in the "great city." To the lover of Nature, however, the country is always beautiful. What wonder then, that an invitation to come and see Bucklebury Common was gratefully accepted! To get away from town or "silly suburb" for a "breath of unadulterate," even in the third week in November, is a wholesome change; for though the trees are leafless, or nearly so, the grass is a tender green; the Holly, perchance, is alive with its crimson fruits, the Pine will be sure to darken the landscape, the Junipers and Yew are sure to rejoice in their sombre coverings, while the Furze bush on the common, or hillside, will doubtless light up, as with a lantern, the other portions of the province over which Dame Nature presides. If the deciduous trees have become defoliated, the same species, notably the Beech in the hedge-rows, still retain their russet-brown leaves.

The woods and coppices are still gay with late autumnal tints, while the rustling of those leaves which have already fallen, the startled cry of the blackbird, the whirring of the pheasant, or the thousand and one other sounds, which go to make up the totality of rural life—all these will add zest to the nature-loving citizen, and "brace his languid frame." Moreover, the newly-turned earth in the fields is redolent of freshness and of the harvest yet to come. The lights and shadows, too, especially if the day be fine, play about the undulating ground and emphasise the valleys and the hills.

Enough. Let us to Bucklebury Common where the Pine trees flourish and the yellow Gorse is still afire with a pyramid of bloom; where the Ling and the Heather, bronzed though they be with age, yet form fine cover to a multitude of birds and small beasts of the rodent order. Bucklebury Common, then, is situated on the Berkshire hills beyond Reading. It is an elevated plateau of large extent, and probably averages between 600 ft. and 700 ft. above sea level. It possesses, not only a variety of soils, and consequently a variety of vegetation, but also a charming diversity of views. Its elevation renders it conspicuous for miles around, in fact, it occupies a sulubrious site about mid-way between the vales of the Thames and the Kennet. It is, therefore, exceptionally well favoured in having on the one hand

"The crystal Thamias wont to glide

In silver channel, down along the lee;"

and on the other

"The Kennet swift, for silver eels renowned."

From one elevation, as a general rule, other elevations do appear, until, as in this instance, the sight line terminates in the loftier range of the celebrated South Downs. It is on such a site and in such a spot that the handsome, fine fronted Elizabethan mansion, known as Bucklebury

Place, has been erected. This beautifully situated and electrically lighted residence is in the possession of A. W. Sutton, Esq., one of the partners of the well known horticultural firm of Sutton & Sons. The slopes, the coppices, the plantations, and other natural features, by which it is surrounded, all tend to make it an ideal residence; while for sulubrious and rural scenery it cannot well be surpassed. Mr. A. Wright, late of Falkland Park, presides over the gardens here, and presides with so much effectiveness that the arboreal character of certain parts of the grounds is already undergoing a transformation. It is not, however, in my province just now to write of gardens—they can well await subsequent description. I will just say, however, that the gardens are in good condition, that Bucklebury Place is in "right" hands, that Bucklebury village is a mile and a half away, and that a glorious stretch of the common lies between.

(To be continued.)

CHRYSANTHEMUMS AT THE N.C.S. DECEMBER SHOW.

THE varieties mentioned below may be taken as indicative of the best for late exhibition use, or of late decorative value. Chrysanthemums on the whole have been quite up to the standard of merit reached in previous years; but beyond that we have not seen evidence which pointed to any great advance. In some of the newer varieties, however, there certainly is a betterance. Until this year, R. Hooper Pearson was not seen. Emily Towers is new; so is Florence Molyneux and others. The three varieties named, when seen at that state of perfection to which they can be developed under the right conditions, seem to stand out clearly as an advance on anything which we have had in the immediate past. Then to the list of large flowered singles, and the decorative varieties which are grown as bush plants, very marked improvements have certainly been attained. The two latter sections will always be in prime favour with the flower-loving and flower-buying public; and it seems to us a wise course for those who are concentrating time and care upon the evolution of these sections, to take and to establish themselves in.

Another point upon which we can claim to have advanced, and in the proper direction too, is in the manner of staging, of exhibiting the best of exhibition-grown blooms to have the best possible effect. Two of the leaders in Chrysanthemum cultivation, for the pains they took in the improved manner of staging, received the highest awards. In these progressive days, if growers, who have to make their living and their reputation largely or entirely from what Chrysanthemum growing and selling brings, do not see fit to follow a laudable lead then—who's at fault? Blooms, we hold, can be better shown in a free artistic fashion than they ever were or ever can be, when stuccoed out in the circumscribed dimensions of an exhibition board. There are years and years of study, experiment and improvement yet required before Chrysanthemums, Chrysanthemum staging, and Chrysanthemum shows are perfected or played out.

But now for a summary of the blooms which were seen in really good condition. These are roughly classified into distinct shades of colour.

JAPANESE REDS.—Etoile de Lyon, still a good old late variety, seen at the Aquarium in beautiful form; Mdme. Lawrence Zede, Chatsworth, Mrs. Barkley, Silver King, Emily Towers, and Mary Molyneux.

JAPANESE WHITES.—Mdme. R. Cadbury, which received an Award of Merit from the R. H. S., on December 5th; Henry Perkins, Little Nell, and Western King.

JAPANESE YELLOWS.—R. Hooper Pearson, G. J. Warren, Watle blossom, Oceana, Mrs. G. Pitcher, C. W. Richardson.

JAPANESE BRONZE.—Charles Davis, Robt. Owen, Mons. Fatzer, General Roberts, Mrs. H. Kloss, Mrs. G. W. Palmer, and Julia Scaramanga.

INCURVED WHITES.—Ma Perfection, and Triomphe d'Eve.

INCURVED YELLOWS.—Bonnie Dundee, King of Orange, Miss Phylis Fowler, Mr. J. Gardiner, M. P. Martignac,

INCURVED PINK.—Mrs. W. Kingston, and Duchess of Fife.

INCURVED REDS.—The Egyptian and C. B. Whitnall.

SPIDERY VARIETIES.—Sam. Caswell, pinky mauve; Mrs. Filkins, yellow; Maggie Matthews, bronze; and Mrs. Butters, a nice white variety. For singles, we must refer those interested to the exhibition reports.—*J. H. D.*

MEADOWBANK NURSERY, ROTHESAY.

SEPTEMBER is not the best time to visit the collections of florists' flowers of Messrs. Alexander Lister and Son, Meadowbank Nursery, Rothesay, N.B.; yet many fine flowers still remain in the mild climate of the West even till the end of that month.

Three houses were devoted to a new and very prolific variety of Tomato named Lister's Prolific, whose history has already been given in our pages, so that we need not revert to it. All were planted out, and had been carrying ripe fruits from the middle of July last. The bunches were of great length, much branched, and the round fruits of moderate size, of good flavour, tender, and produced in great abundance. Those who have seen the variety at its best think very highly of it on account of its prolific character. Excelsior Improved Leek branches well, and is notable for the great length of its neck.

BORDER CARNATIONS are grown in considerable quantity, five long beds of them being at their best in July and August, but still carrying many flowers in September. The grass was vigorous and plentiful. A large number of them were unnamed seedlings, having been raised from Messrs. Lister's own strain, which has been created by intercrossing during the past six or seven years. White ground Picotees were also plentiful, that named C. H. Johnston being a light rose-edged variety, and very pretty. Mrs. W. Brown, a purple, wire-edged variety, was also very choice. J. Fraser was a purple wire-edged sort of a large size, with smooth margins, and the ground, being pure white, also enhanced its value. The calyx being good is not liable to split. The seedlings of yellow ground Picotees were also plentiful. Some of them had received names, including General Campbell. A seedling with a scarlet edge on a buff-salmon ground might be described as a fancy belonging to the same class. Col. Buchanan was a very choice and showy deep salmon-rose self Carnation. Close by was a strain of seedling Pentstemons in full bloom, and raised here. They are very useful autumn flowers.

DAHLIAS.—A large brake was planted with all the leading show, fancy, and pompon Dahlias, with some of the Cactus race, including a dark, salmon-red seedling, with long, pointed florets after the build of Viscountess Sherbrooke. The plants in all cases were very vigorous with flowers of large size, the result, no doubt, of good cultivation. The soil here is very heavy, but has been greatly improved. Amongst the fancy varieties may be noted Polly Sandell, old gold, and tipped with white; Mrs. Saunders, still one of the best lemon-yellows, and white tip; Sailor Prince, lilac, with crimson stripe; Rev. J. B. M. Camm, a fancy light yellow, striped with crimson; John Scott, closely striped with crimson on a yellow ground, and a fine, big flower to boot; Prince Henry, lilac, striped with crimson; Mabel, pink and mottled and striped crimson; and John Cooper, one of the best of the fancy race, frequently striped and mottled with purple on a white ground, but with crimson as well, when in its best form.

Show Dahlias are even better represented, for Messrs. Lister & Son are keen and successful exhibitors at many of the shows where florists' flowers are encouraged. Prince Bismarck is crimson-purple; Majestic, a huge bloom of a soft lilac with a white centre; Nugget, buff gold, but rather wide open in the florets, though otherwise a good show bloom; John Hickling, large, clear yellow, and close in the petal; John Walker, the best and most reliable white; J. T. West, buff yellow, and tipped light crimson; James Cocker, one of the finest purples; Mrs. Gladstone, the best pink; Colonist, bronze and buff; Chieftain, one of the finest dark purple-rose varieties; William Powell, clear yellow and of fine compact build; Daniel Cornish, dark red; and many others of different hues.

The Cactus Dahlias have been so much before the public lately that description is hardly necessary. Among the finest we noted here were Charles Woodbridge, Laverstock Beauty, Britannia, Eileen Palisser, clear yellow; and Captain Broad, a soft scarlet variety in the way of Gloriosa in build.

Pompon Dahlias are largely grown, very fine being Purity, white; Irene, light pink with a dark shading; Sunny Daybreak, golden yellow, shaded with light orange; Lilian, lilac-pink, with a yellow shading in the centre; Madge, red, and tipped white; Tommy Keith, crimson with a white tip; Rosea, deep rose; and Red Indian, bright scarlet. All of the above pompons are small, neat, and useful for cut flowers, and decorative purposes of various kinds.

Eight large beds were occupied with East Lothian Stocks in bloom. A good percentage of them were double and very serviceable for cut flowers or ordinary garden decoration. Purple, white, rose, and red varieties were prominent. Early flowering Chrysanthemums are grown in considerable quantity for the sake of cut flowers. Henry Yvonne is a bright sport from M. Gustave Grunerwald, a silvery-rose variety. Both were flowering for the second time, having bloomed from the beginning of July onwards. A general collection of Violas is kept in stock, including all the best bedding varieties, and a number of promising seedlings, a lemon-yellow one being rather striking amongst those in bloom at that time.

INSECT PESTS OF OUR GARDENS.*

INSECTS in their perfect state are very attractive; but it is when they are in their least attractive state that they concern gardeners most (*i.e.*), as grubs, caterpillars, maggots, &c. We are not inclined nowadays to accept the horticultural knowledge handed down to us by our fathers without question; yet we have evidence of some old beliefs handed down which we are only beginning to ask questions about. For example, in THE GARDENING WORLD of February 4th a question is asked bearing on our subject to-night. This and many other questions we can easily solve if we set our minds to them. Our fathers had not the opportunity of studying questions of this kind that we have with our associations and libraries. With these facilities the suburban gardener has a great advantage over his isolated brother in the country; and is sure to lead the horticultural knowledge of the future.

The classification of the animal kingdom is much the same as the classification of the vegetable kingdom; it is divided into species, genera, orders, classes, and so on. We find the most of our garden pests in the class Insecta, only a few more of our pests of the lower animal life belonging to other classes such as slugs, mites and some of the Julidae.

The most noticeable parts of the body of the insect are first, the head; second, the thorax, connected to the head by a very small stalk; third, the abdomen, united to the thorax in the same slender way. The first of these, the head, is furnished with horns or antennae, large compound eyes almost covering each side of the head, with a mouth differing very much in different insects. The second part, the thorax, has three pairs of legs and normally two pairs of wings, sometimes only one pair, the other pair being converted into hard covers for the hind wings and forming the main distinction of the order Coleoptera or beetles. Sometimes there are no wings, the common flea being a good example of this order. The third part, the abdomen, contains the organs of reproduction and digestion. In the perfect state they are usually of two sexes, male and female.

Soon after they become perfect insects, that is, after they leave the state of pupa, pairing commences; the males then die, the females live on till their eggs are laid before death occurs; others hibernate and reappear the following spring. One of the most striking and interesting of phenomena in nature is the transformations at certain stages in the development of insects.

If we as gardeners knew more about these periodical changes, a good deal of the mysterious and unexplainable would vanish from our minds. These changes are different in different insects, in all there is a growing state in which they eat enormously. This is called the larval state and is the most destructive period of their lives; in this state gardeners know them as grubs, maggots and caterpillars. Then there is a state of change in which the forms of the organs of the perfect insect are

being developed, the wings grow and the body is transformed into a shape convenient for flight. This is called the pupa or chrysalis state—in this state gardeners look on them as harmless, lifeless things, and usually pay no attention to them, although to crush a pupa in the spring is equal to killing a colony in the summer. In this state we find them in soils, sticking to walls, &c. Lastly there is the perfect state in which the insect never grows nor changes, and in which its most serious business seems to be the reproduction of its kind. In this state it is called imago. In some insects the three stages are much alike, the only difference is their being furnished with wings in passing from the pupal state. The earwig is a familiar example of this state of activity all through the three stages; at the last change of its skin, which it changes several times, it gets wings and has then reached the perfect state. When the earwig throws off the old skin it is perfectly white.

Insects lay their eggs on or near what they are to feed upon. If it is on leaves it is generally the under side of the leaves where they are laid in little patches or singly. If conditions are favourable the eggs hatch shortly after being laid; in a few cases the eggs are hatched in the bodies of the insects and produced alive.

The eggs of insects can stand intense cold, but heavy rains often wash them from the positions in which they have been laid, and carry them away from the host plant, thus preventing them from doing any damage. It is pretty generally thought that a hard winter destroys a great many of our insect pests, but it is not correct, for the pupae as well as the eggs can stand the cold, and only some of those in the larval state can be destroyed. But when hard frost comes on they go down in the earth, lie torpid and escape frost; so that a hard winter prevents them from eating, rather than destroys them. That is something, however, to be thankful for. The larvae that continue active during the winter confine their attack to the roots of the plants or the stems at their junction with the soil. There is nothing so conducive to the increase of insect pests as dry, warm weather; while at the same time in shallow or ill-cultivated soils drought sets in, vegetation is stunted, and the insect attack is fiercest when vegetation is least able to stand it.

An abundant water supply and hose to reach every part of the garden would keep down a great many insect pests; for although the larvae can stand a very low temperature, heavy rains or an abundant supply of sap in the host plant is injurious to them. The hosing, while dislodging the larvae, would supply the much needed moisture to vegetation. In using a hose the water should be directed to the under side of the leaves when that is the part attacked, because, as I said before, the eggs are usually laid there. The day after hosing the surface should be stirred to prevent the escape of the moisture, as the ground loses its moisture quicker with a caked surface than a loose one. The stirring, if done with a hoe, also destroys weeds that often act as host plants to injurious insects, till once the cultivated plants come up or are planted out. If you examine the weeds growing under glass, which crop up occasionally on pots or Vine borders, you will sometimes find them infested with Aphis or red spider, and these weeds are often the beginning of an infestation. For instance, a gardener might pull up a few of these weeds at the time he was pinching the lateral growths of his Viner, then go on with the pinching without noticing that the weeds were infested with red spider; consequently he plants a colony that will spread over the whole house if they get time.

Insects have a great many natural enemies, and it is well that we should know them and not destroy them—birds are great destroyers of insects; some are pure insect eaters, others like a mixed diet. Amongst our pure insect eating birds we have the gold-crested wren, whinchat, the swallow, the stonechat, the common wren, the hedge sparrow, and the woodpecker. Amongst those which like a mixed diet, we have the blackbird, the mavis, and the redbreast.

The best way to deal with birds during seed time or fruit time, is to herd them away by boys, or protect by nets, or in the case of Gooseberry or Currant buds, a few dark threads stretched from twig to twig will scare them away; but we should not destroy them, and deprive ourselves of the most sharp sighted, most unwearied of insect destroyers

There are also insects that prey on other insects. The larvae of the Coccinellae or lady birds live on aphids. The grub is barely half an inch long, tapering from the last ring of the body to the head; there are faint stripes of different colours running along the back. The perfect insect is a small beetle, the scale-like forewings being red, black or yellow, with spots differing from the ground colour. They should not be destroyed. The toad is also carnivorous, and should be encouraged. It is very interesting to watch it sit motionless, its "leister"-like tongue dart out and transfix an ant or other insect as they pass within reach. The bat destroys the moths which are the parents of the surface caterpillars which destroys our young plants by eating them over at the neck or surface of the ground. The mole is carnivorous, but it takes such a clumsy way of helping us that we are obliged to do without its help. This is not an exhaustive list of the natural enemies of insects, but it is sufficient to show that we have not the battle to fight single handed.

There are many methods of destroying insect pests that have to be decided upon according to the time of year, the kind of plant, and its condition. For example, the fronds of some kinds of Ferns may be seen to be infested with scale about the month of February. The best way to clean them is to cut the infested fronds off; they have done their work, and young fronds are taking their place; but to do the same thing a month or two later would be foolish.

(To be continued.)

LILIES AND IRISES IN JAPAN.

I ARRIVED here on April 12th, and you may want to know what I have been doing with myself. I dare say the other day you had printed directions how to grow *Lilium rubellum* and *L. Krameri*. I prepared this. *Lilium rubellum* is a new Lily of great beauty. I saw it flowering here and found it has been three years in the market and found also that the shippers had lost money, that the culture had been a failure generally and the shippers were going to drop it. I said, however, the thing is too beautiful; but the culture needed is exceptional, and I said, try it again. I could see the buyers, mostly Americans, would soon get tired of the continual deaths. Now these plants can be grown anywhere if the necessary attention is given to them.

Some four or five years back it was found that the supply of Bermuda Lilies did not meet the demand and a New York syndicate applied to Japan and collectors were sent to the southern island where they grew and collected immense quantities, and as they are represented by six or more varieties, some with broken flowers, some dwarf, some tall, others early and some late, I found this gave the American florists a good deal of trouble. I therefore set about looking into the matter and I further found that the varieties could be distinguished from the bulbs and this autumn I have induced one concern to make a start in growing the best form, indeed the one that originally was grown in Bermuda, so that in a few years we may have a good clean stock of the sort, which gives one stem and from eight to twelve flowers and is medium early. These bulbs are not shipped by the growers. The growing is done by the farmers and the shippers supply the small bulbs (called seed) and they are grown on for them. If an American dealer wants bulbs of this best variety, he can have them at an increased price; they will be specially picked out for him after lifting. I was told the firm above mentioned had this year drowned a large quantity of the bad varieties. The farmer does not understand this throwing away, so the shipper buys and then destroys. The best form has almost always one crown and the scales of the bulb are narrower and run up to a point. One with the broadest and darkest green leaves has the broadest scales. One that gives three or four crowns, weak stems and few flowers and so on, *L. longiflorum giganteum*, with the stem more or less dark, has a very distinct bulb. It is the intention of the shippers to destroy all but the *L. longiflorum giganteum* and the one with the long narrow leaves and many flowers, but this is a work of some years. If the buyers would put on the pressure the time will come about sooner, and the buyers will meantime have to pay a higher price for those selected varieties. I think about 4,000,000 of *L. longiflorum* bulbs must have left this shore for America and London.

*Read at Newport Horticultural Association, Fife, N.B., by Mr. William Kennedy, Ardarroch, Dundee.

L. auratum will become annually scarcer and dearer. At one time the hills about here were covered with it, now there are not many, too few to pay for the collecting, and each year they have to go further ahead. Again, too many small bulbs have been sent out of the country, and the very large bulbs are each year, scarce as they are, sent off before they have attained the giant size. Lily bulbs are put on fresh soil annually and the same ground not used oftener than once in three or five years. When the Lily is working at the roots liquid human manure is given once a month; as soon as the shoot appears above the ground no more is given. About Yokobama *L. longiflorum* is largely grown. It likes a damp soil and so is grown in the rice fields with the water drawn off. *L. auratum* does best on the bills in a dryer soil. In fact, the Lilies grown for the market have each their own favourite growing place. To get at the bottom of all this I would have to remain another summer. Among the shippers there is great competition and each has his own secret or thinks he has. One man who sends his bulbs to Colchester, near London, took me out a good deal and we appeared to be friends for life; I chanced to call upon him one day when he was among his Lilies and in two-twos our friendship was rent asunder.

Iris Kaempferi is grown in the rice fields and the plantations are flooded as soon as the plants make their early growth. About August the water is drawn off and during winter they are treated with liquid human manure twice a month. As soon as the shoots appear no more manure is given. The Japanese are mostly vegetarians so that cow dung will take the place of human manure. For this grand plant beds should be prepared specially and in summer flooded frequently. In America I should recommend the same treatment as in Japan; in Britain not so much wet; in the west of Ireland the climate might be wet enough, while in other parts water might be needed. In Scotland, only on dry soils would the water be a necessity and in such dry seasons as the past summer when the gardens were burnt up. I arrived at these conclusions going north. I went about 800 miles north to Sapporo, the capital of Yezo. All the way up as soon as I got from the warm part of Japan I saw *Iris Kaempferi* growing on the banks of the hill sides, but in greater quantities in moist meadows. You may have seen the species of *I. Kaempferi*, a small flower. Now they have varieties of immense size, twelve inches in some. It is upwards of 100 years since it became an amateur's flower. The best collections are now much frequented in the flowering season and are turned into tea-gardens where you get tea or saki and if you have a poetic vein you can write poetry on the whole garden or on one favourite flower. Since the Damios were put down, gardening, one may say, came to a close. It was this class who were the gardeners and had their dwarfed trees that were in the family for hundreds of years.—*Peter Barr, in the American Florist, Nov. 4th.*

GARDENING MISCELLANY.

BERRIED PLANTS FOR GREENHOUSE.

The Japanese grass-like plant, *Ophiopogon Jaburan variegatus*, suitable and respected enough for its foliage and graceful growth, has yet an additional attraction when the flower spikes have produced their dark berries. Everyone knows the plant, it being also suitable for amateurs who require easily cultivated plants. The Snowberry bush, *Symphoricarpos racemosus*, may not have been thought of in this respect before, but in pots sprightly little plants are to be had. Prune the plants back and keep the roots well confined. The Strawberry tree, *Arbutus Unedo*, in the northern parts, where it does not fruit freely, may be taken in hand as a pot subject. So with *Skimmia japonica*, whose bead-like flowers are also neat and pretty. The berries of the *Daphnes* form a large part of their attractiveness. *Ardisia crenulata* is even superior to the *Solanums* as a berry-bearing plant. The berries, or seeds within them, may be sown in well-drained soil during spring and grown on much in the same way as *Solanums*. Cuttings of half-ripened wood, taken from new flowering shoots, may be inserted from March till

the end of summer. Cool conditions, steady shifts, light positions, and other careful attentions will generally be successful in developing nice plants.

GILBERT'S UNIVERSAL SAVOY.

THIS is one of the late Mr. Gilbert's best of the Brassica tribe, and will be generally preferred to the old dwarf curled. It is more conical in shape, and it is more hardy and much superior in flavour. It boils of a fine green colour. As yet, it does not seem to be much in the trade; only a few seedsmen seem to have stock of it.—*William Carmichael, 14, Pitt Street, Edinburgh, November 27th, 1899.*

LISTS OF DWARF PEAS.

THE following dwarf Peas were supplied from Messrs. H. and F. Sharpe, Wisbech, from their home-grown seeds:—No. 1, American Wonder; 2, Cannell's American Wonder; 3, William Hurst; 4, Chelsea Gem; 5, Excelsior; 6, Daisy; 7, Stratagem; 8, Gradus. The above were sown on February 25th. Nos. 1, 2, 3, and 4 came in at the same time, the first week in July. They are all good sorts. Nos. 5 and 6 came in ten days later; and 7, Stratagem, a month later, Gradus is a straggling, useless sort, and never ought to have been sent out. The great advantage of dwarf Peas is that they do not require stakes, and I fully believe that they produce more Peas in the same piece of ground, as they only want to be 18 in. apart in the rows. They do not shade the ground. As one sowing comes up sow another for succession. At the end of May, American Wonder is now superseded by William Hurst, as it is more productive, and it is one of the best. Stratagem still holds its place, only it is 2 ft. in height, so that it will not produce as much on the same space of ground as William Hurst. I have sown a lot of William Hurst on November 24th, and will let you know when it comes in. My soil is dry and warm.—*William Carmichael, 14, Pitt Street, Edinburgh.*

ACACIA RICEANA.

THE family of the Acacia includes some of the most striking and elegant plants we have for the decoration of cool houses and conservatories, and this is one of the very best among them for the purpose, but like many others of the family it requires plenty of room. I was looking at a plant recently in the winter garden attached to a large red-brick mansion, where it is trained over one of the doors leading into a large room, and there hangs in cascades or festoons of yellow and green. I say trained, but it is loosely done so that it assumes the most natural appearance as to growth, which circumstances admit of, and is a combination of loveliness and elegance rarely met with.—*W. B. G.*

THE BLACK CURRANT MITE.

THIS pest appears to be rapidly extending its ravages among the plantations of this favourite fruit. It seems unfortunate that so many are unaware of the foe they have in their midst till untold damage is done. My own experience and observations lead me to conclude that if taken vigorously in hand upon its first appearance it may with comparatively little trouble be held at bay. If a sharp look-out for the abnormally large buds the pest produces by making its home in them, and they are either picked out or cut off and burnt, all would be well, but when a plant gets badly infested the right thing is to grub it out and burn it at once. A friend of mine who followed my advice to this effect two years back kept clear of it by the sacrifice of one bush, and vigorously cutting out all the affected portions of his other plants.—*W. B. G.*

YELLOW BANKSIAN ROSE.

IN its way I know of no other which excels this old denizen of the Rose garden, but there are very few among us who have ever seen it at its best (that is, in the home counties) where it is generally fastened to walls where it makes a good green covering but frequently flowers sparingly. The best position for this gem is under glass in a cool conservatory or corridor, where it will flower most profusely, more so in fact than the favourite Crimson Rambler, which is a sheet of crimson when fully in flower, the yellow Banksian a sheet of gold. The misfortune is that there are comparatively few places where it can be so treated.—*W. B. G.*

CISSUS DISCOLOR.

IN very few places do I ever see this most lovely climbing plant in that state of perfection to which it is capable of being developed. It would seem specially to enjoy an abundance of rooting area, and of atmospheric heat and moisture. A narrow, rather low roofed span-house, facing east and west, if one must be exact in detailing the details of a known instance of most successful culture, together with the other conditions above mentioned, that is, a thoroughly warm temperature, say 68° at night up to 75° and more during the day, plus plenty of root and atmospheric moisture. The long, dark red shoots should be allowed to fall pendantly from every break of the stem. It is an excellent old plant.

THE GREEN CHRYSANTHEMUM.

GARDENERS and others who have much decorative work or who have a love for novelties do not care on the one hand to throw away the old favourites whose distinct colours have not been improved upon, while again any variety likely to create interest is sought for and grown. In *Mdme. Edmund Rogers* we have a neat flowering, green, incurved Chrysanthemum. It is distinctly green, as green as grass. The form is generally pretty, compact, though many growers complain against it. The habit is dwarf, and it flowers freely. Growers who used to know *Primrose League* and *Florence Davis* as green-flowered varieties will now discard these in favour of the truer green variety.

HYDRANGEA HORTENSIS.

THIS favourite flowering plant can be had in dense masses of blooms by allowing the lateral shoots on a stem, to branch out and develop, instead of confining the energies to a crown truss. Mr. Angus, a gardener lately residing near Aberdeen, is very successful with this beautiful plant, and his method has been to cut off the blooms and then to root the shoot by the process of notching. A cut is made half through at a joint then upward for nearly thus forming a slit or tongue. A small piece of wood will keep this open, whence moss is bound round the part thus acted upon. After a week or two there are sufficient roots formed to allow of the shoot being severed from the lower part. It may then be potted and grown on in a cool moist house. The side shoots develop strong trusses. The plant should not be strongly fed until it shows its flowers.

A WORLD WITHOUT GLASS.

GARDENERS as students of nature and as growers of tender exotic plants may find the following a most interesting and suggestive article, one which appeared in the *Family Friend*. "Think what would go with the manufacture of glass! All our sciences and half our civilisation; the beauty of our home, the luxury of our lives, chemistry, physiology, electricity, astronomy, and every other teacher of humanity, down to the pretty airs and graces, taught her by her mirrors, of our youngest and most fascinating coquette. We should be literally beggars in the world of mind if we lost the art of melting sand and flint together, and running out slabs of common unregarded glass. We should get on better with the loss of textile fabrics than with the loss of glass; but indeed these two represent the bands of civilisation, without which but very little would be done in the world, and that little very badly. Civilisation reduced to iron hooks would never learn to use them with grace and profit. Every day glass is turned to some new account. Glass rooms for sea flowers and fishes, wherein they can live and bloom far away from their great mother; glass homes for mountain Ferns, where they may grow and flourish amidst London smoke and the eternal eclipse at Glasgow or Manchester; glass houses for rare exotics and for rarer birds; glass cases for preserved curiosities of Nature, which the air must not touch, and which man must inquisitively study; glass registers of heat and rain, of the power of sunshine and the depth of fall; glass specula, whereby the moon may be mapped out and the sun brought nearer to the knowledge of man, whereby the nebulae are resolved into their perfect systems and comets are dethroned from their place of flashing executioners and heavenly messengers of wrath, which they used to hold, to be received as the youngest child of science; whereby, too, life is yielding up its mysteries, one by one, and

the wonderful secrets of Nature are being plucked from her with such toil and difficulty; glass for the dainty lady's toilet, for the rough-armed workman's shop, for the philosopher's quiet study, and for the experimenter's hard-wrung successes; glass for the palace, and glass for the cottage; glass everywhere in this crowding busy life of ours, which, without glass, would have very little order or organisation in it. How men got on without spectacles, when spectacles were not, passes our understanding! Then fancy oiled paper in place of those large crystal plates which lend a veritable lustre to the landscape. It would be impossible to enumerate all the blessings of glass. Our religious rites, our state ceremonies, our balls and our fêtes, our health, the blessed healing in our hospitals, the adornment of our homes, the lamps in our streets, and the beacon on the rocks—all are connected more or less with these varied blessings of glass, without which we should be thrown back to the most miserable barrenness and disorder."

NEW METHOD OF TREATING CRYPTOGAMIC DISEASES OF THE VINE AND OTHER PLANTS.

ACCORDING to the *Revue des Produits Chimiques*, of November 15th, Dr. Repin has invented a new method for treatment of cryptogamic diseases of the Vine and other plants. Instead of sulphate of copper the inventor employs fluorine compounds of zinc, such as fluoride of zinc, fluosilicate of zinc, as also the double fluorides and fluosilicates of zinc. The mode of application is absolutely the same as with sulphate of copper, and according to experiments results are much more satisfactory.

Fluoride or fluosilicate of zinc or mixture of these two salts can be obtained in several ways. (1). The attack of the apatites for the manufacture of superphosphates disengages large quantities of hydrofluoric acid and fluosilicic acid, which at the present day are not in any way utilised. By causing these gases to act, in an aqueous solution, on metallic zinc, or even carbonate of zinc, or even roasted blende brought to the state of an oxide, you can prepare a mixture in variable proportions of fluoride and fluosilicate of zinc very suitable for treatment of cryptogamic diseases. (2). You can also directly utilise fluor-spar, numerous deposits of which exist in the South of France, Italy, and Spain.

Fluor-spar is decomposed at the temperature of red heat by water steam into calcium oxide and HF, which is partially transformed into silicium fluoride, then fluosilicic acid, according to the greater or less percentage of silica in the fluorine.

Another process consists in heating in a retort a close mixture of pulverised fluor-spar and hydrochlorate of ammonia, which will produce ammonium fluoride. By bringing ammonium fluoride in the natural state, or in a hot solution, into action with zinc sulphate or chloride you obtain zinc fluoride and you regenerate the ammoniacal salt.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Rust on Mint.—R.W.H.: We are familiar with the fungoid disease, or rust, which you send. It is the *Uredo labiatarum*, and, as far as we know, is confined to Mint, which it sometimes injures very badly. The rust of Chrysanthemums is *Puccinia Hieracii*, evidently first found upon a *Hieracium* belonging to the order *Compositae*, and, of course, attacking other members of the same family, such as the Chrysanthemum. We have seen the rust of Mint destroying the latter, or at least living upon it for years in the same garden with Chrysanthemums, yet we have never seen a spot of rust upon the latter all that time. They are as clean and healthy as ever, yet the rust is still upon the Mint. You can keep yourself easy upon this score then, as far as the Chrysanthemums are concerned. The rust in the two cases belongs to the same family, and that would account for their similar appearance. The rusts are merely stages of the fungus which ultimately develops another form upon the same or another plant, then known as *Puccinia*. You need not fear that the rust of Mint will attack any other

garden crop. To get rid of it on the Mint you should take cuttings of clean tops of the growing shoots in summer and root them in boxes in a cold frame. Then prepare a bed for the young plants in a different part of the garden from the old bed, destroying the latter as soon as the cuttings are rooted. Plant out the rooted cuttings, and, if any of them show signs of containing the fungus, have them destroyed. It may be necessary to get fresh stock from a garden where there is no Mint rust.

Onions Frozen.—A. J. B.: No harm will result if you leave them undisturbed while they are in a frozen condition. On the other hand, if you move them about while frozen, many of them will get more or less bruised, and when the frost does get out of them decay will set in. All they want is to be kept in a dry place. By covering them up with a little dry straw, or some mats it would ensure the thawing being more gradual. As soon as this has taken place the covering should be removed, so as to let any moisture escape.

Slugs on the Gravelled Benches.—A. C.: A good plan would be to wash the gravel, so as to get rid of the earthy matter and other filth including eggs, it may be, which would hatch out in due time and renew the evil. The gravel might then be further cleaned by putting it through a $\frac{1}{2}$ -in. sieve, so as to get rid of all the fine matter. Wash down the benches, scrubbing them thoroughly, and then cover them with the clean gravel. You should not have much bother with the slugs for some time to come. If they should make themselves troublesome again, you might scatter some salt over the gravel, and this melting with the watering, would make it very uncomfortable for the slugs. Another remedy would be to put some quicklime into a tub and let it stand for some hours, after which the clear liquid should be dipped out and used for watering the gravel by means of a fine rosed watering pot.

Evergreen Climbers for a Porch.—A.L.: Two very handsome ones, because they carry their berries for the greater part of winter, are *Cotoneaster Simonsi* and *Crataegus Pyracantha*. Of the latter, the variety *C. P. Lelandi* might be preferred because it fruits more freely, even while yet in a small state. The *Cotoneaster* is liable to lose its leaves when situated near or in smoky towns. *Cotoneaster microphylla* is of much denser habit than the latter species, and forms a very beautiful climber, but the berries are much less conspicuous. The green stems of *Jasminum officinale* soon make a fairly good covering, and make a most graceful fringe for the top of the doorway in summer, producing a grateful shade. If you would like a large-leaved shrub for the sides of the porch, you might plant *Magnolia grandiflora*.

Standard Pelargoniums.—W.E.F.: If the varieties you wish to form into standards are of fairly strong growth. All you need do is to grow them strongly, by occasional shifts into larger pots, by feeding with weak liquid manure later on as the pots get filled with roots and the day is lengthening. Any side shoots that may be developed should be pinched, merely removing the tops at first. This will encourage the thickening of the main stem, owing to the presence of extra leaves on these side shoots, that may by and bye be entirely removed.

Names of Plants.—T.M.: 1, *Cotoneaster microphylla*; 2, *Hamamelis arborea*; 3, *Magnolia fuscata*.—W.M.: 1, *Peristrophe speciosa*; 2, *Fittonia argyroncra*; 3, *Ophicopogon Jaburan variegatus*; 4, *Oplismenus Burmanni variegatus* (usually called *Panicum variegatum* in gardens); 5, *Libonia perthensis*; 6, *Phyllanthus speciosus*.—W.: 1, *Prunus lusitanica*; 2, *Prunus Laurocerasus colchicus*; 3, *Ilex Aquifolium ferox argentea*; 4, *Cupressus nutkaensis*.—H.J.: 1, *Dendrobium atrovioleaceum*; 2, *Cypripedium Hartwegi*; 2, *Cypripedium bellatulum*.

Fruit to name.—Chas. Nicholson: Apple, Wareham Russet.

Communications received.—J. Mayne.—J. Peebles.—J. C., Chard.—G. J. Ingram.—Archibald.—M. J. F.—A.M.—R. J.—E. T. C.—R. M.—Flos.—A. G. B.

TRADE CATALOGUES RECEIVED.

WEBB & SONS, Wordsley, Stourbridge.—Webbs' Spring Catalogue for 1899.

DAVID W. THOMSON, 24, Frederick Street, Edinburgh.—Seed List, 1900.

MESSRS. DOBBIE & Co., Seed Growers, Seed Merchants and Florists, Rothesay.—Catalogue and Competitors' Guide, Spring, 1900.

MR. HENRY ECKFORD, Seed Grower, Wem, Shropshire.—Catalogue of Sweet Peas, Vegetable and Flower Seeds.

MESSRS. HOWDEN & Co., Old Post Office Buildings, Inverness.—Catalogue of Garden Seeds.

GARDENING BOOKS.

THE CARNATION: ITS HISTORY, PROPERTIES AND MANAGEMENT; with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. Price, 1s. 6d.; post free, 1s. 7d.

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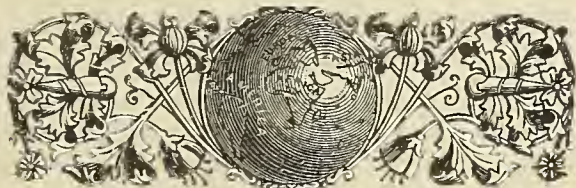
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JANUARY 6th, 1900.

FRUIT FARMING FOR PROFIT.*—The third edition of this book was published in 1890, so that practically a decade has elapsed since that time. The author speaks hopefully of the cause, stating that since 1890 substantial progress in fruit culture has been made throughout the three kingdoms. Great advances have been made in combating insect pests and blight, while many fruits that were then new have become general favourites. We take it that this indicates an improvement upon older kinds, and in that case, substantial progress must be recorded. So decided is this that it has become necessary to revise the lists of the best sorts of Apples, Pears, Plums and Strawberries. The whole book has been revised and brought up-to-date by numerous insertions of fresh matter, increasing the text from 137 pages in the third edition to 173 pages in the fourth, including some new illustrations relating to different systems of planting fruit orchards, &c., in addition to those of the older edition. Arguments in favour of planting fruit trees are less needful than they were a decade ago, thus leaving the author more space to deal with the practical aspect of the question.

The question of pruning is now seasonable, and dealt with at considerable length here, the practical matters being interlined with an anecdote occasionally in order to emphasise the instructions given on the

* Fruit Farming for Profit (Revised to A.D. 1900). A Practical Treatise, Embracing Chapters on all the Most Profitable Fruits with Detailed Instructions for Successful Culture on the Kent System. By George Bunyard, V.M.H., F.R.H.S., M.S.A. &c. Fourth Edit on. Maidstone: W.S. VIVI, Printer, 28, King Street, 1899. 2s. 6d.; or free by post 2s. 9d.

plan advocated. The reader, or for the matter of that the operator, is advised to limit the excessive production of fruit on individual trees in any one year, so as to encourage a more even and regular production of the article in question every year. The thinning of the supernumerary spurs and the removal of weak and useless wood so as to permit sun and air to play equally on all parts and mature both wood and fruit, are dealt upon in such a way that the reasonableness of the argument is at once apparent. The author states that early Apples bear more regularly than late ones, and advances the argument that lost power is recovered before the approach of winter owing to the greater lapse of time between the ingathering of the crops and the fall of the leaf. The labour expenses entailed by the operation of pruning is counterbalanced by the higher prices obtained from the finer samples of fruit resulting from a judicious use of the knife. When a tree—a standard or bush, for instance—has been properly thinned the fruits are of better colour, and when the latter have been reduced in numbers the natural energies of the trees insure the remainder being of larger size and of better quality. When Cob Nut trees are allowed to grow naturally, that is untended and unpruned, the fruits are scarcely larger than the imported Barcelona nuts of the shops. These remarks refer to the pruning or rather the thinning of established trees with good sized heads, but the author gives full details concerning the building up or laying the foundation for good heads on young trees as they progress from year to year. It is decidedly necessary to prune hard in the early stages, particularly in the case of those varieties which are prone to expend their energies in the production of spurs and fruit during their early years to the great loss of the tree in after years. The reader will be reminded of this fact by the mere mention of such varieties as Lord Suffield, Manx Codlin, and Stone's. Many trees belonging to other genera have the same tendency. Hard pruning is most necessary during the first two years of growth, but after that the shoots made should only be shortened one-third of their length, because the remaining two-thirds will be more inclined to form fruit spurs than if three-fourths of their length had been cut away. In relation to our remarks in last week's issue on the "Use and misuse of the pruning knife," it may be remembered that we stated that different varieties of Apple trees required different treatment in the matter of pruning on account of their respective peculiarities, and we find our remarks fully corroborated here, for the author states "that no two varieties of fruit have quite similar habits, and the grower must exercise discretion to a great extent in their management."

In speaking of soft fruits a reference is made to late planting in dealing with the subject of pruning them hard back the first year. February or March are mentioned as late for planting, but we have known practitioners of the old school planting Apple trees in the month of April in the north of Scotland; and we have no doubt they were fully convinced they were doing the proper thing. Then again it must be remembered that the summer is much shorter there and wintry weather sets in much earlier. Well, the longer summer day may practically compensate for the shorter season. In any case no restrictions were placed upon hard pruning; and we have waded in deep snow to prune the wall trees when scarcely any other outside work could be attempted, or on the top of hard snow after it had subsided and solidified. Apples bore heavily and matured properly as well as certain varieties of Pears. Only the earliest Plums

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would ripen; Victoria there was a late variety, bearing heavily, but ripening only a few fruits and that imperfectly. Small fruits and soft fruits all do well under such conditions as was admitted by the late Mr. W. E. Gladstone, when on his jam-making campaigns. The lists of good market varieties of Apples and other fruits should prove serviceable to the beginner, and even to those who have been accustomed working according to the older school of market gardening. The same would apply, of course, to cultivators in private establishments in so far as mere supplies of good fruits are concerned. Individual tastes have more or less to be catered for in such places. Blenheim Orange is regarded or stated to be a culinary Apple; but a case occurred last autumn of an exhibitor being disqualified for showing it in that capacity. We merely refer to the matter to show the diversity of opinion that prevails on the matter. Classification of Apples is entirely arbitrary. Ribston Pippin is delightfully sour in the North; and many, even in London, take delight in the tartness of Dumelow's Seedling, better known as Wellington. Eighteen varieties of Plums are here tabulated for market use, independently of the Gages; yet we have heard speakers reducing the profitable and useful varieties to a number countable on the fingers of one hand. Thirty-one Pears are described; and twenty-five Cherries. The author's firm has tested 150 varieties of Gooseberries, yet he gives only eight of them as the very best in cultivation. Red, White and Black Currants run to nine varieties. Fay's Prolific is said to be of the Versailles race, and Comet and Walker's are identical with the same. They are red sorts producing large, sweet berries. Cobs and Filberts number half a dozen varieties as the best of their kind. Of the seven varieties of Strawberries, old and new, here recorded, Royal Sovereign takes the premier position even for market work, as it "completely eclipses all others for the first crops." Five of the varieties recommended are very old. Newton Seedling is given as the "best for late crops." British Queen or the better form of it, namely, Dr. Hogg, is only recommended where the soil is suitable, as they do not pay except where a first-class trade is done. With this we entirely agree, for in many private establishments they entail a large amount of labour merely to make the mouth water without satisfying the craving they create. A vast amount of valuable information is crammed between the boards of this book, which we consider more than worth the money asked for it.

Royal Horticultural Society.—The first meeting of the committees of the Royal Horticultural Society in 1900 will be held as usual in the Drill Hall, James Street, Westminster, on Tuesday, January 9th, from 1-4 p.m. The Scientific Committee will meet in the library on the same day at four p.m.

Fireside Club, Bucklebury.—The President and Mrs. Sutton (Reading) have invited the members of this club to tea on the evening of Monday, January 8th. Each member who is not in arrears with payment of his subscription receives a ticket for himself and wife or lady friend. After tea Miss Gertrude Bacon has kindly consented to give her extremely interesting lecture, entitled "Voyages by Balloon in Cloudland." This will be illustrated by limelight views, specially prepared for this lecture. A tournament of games is at present being played off by the members of the Fireside Club, but these are to close on March the 20th. We should like to record the doings of other Fireside Clubs, or hear of their institution, especially where such amicable relations exist as seem to at Bucklebury.

Bucklebury and Marlston Horticultural Society.—The following dates have been selected for the three concluding lectures by Mr. Wright, at the Club-room, Bucklebury Place:—Wednesdays, January 3rd, 10th, and 17th. The lectures commence at eight o'clock, and will be illustrated by models and diagrams. These lectures should be of much value to all who are interested in the village shows.

Peas in Flower and Fruit in December.—Mr. A. McDonald, who is gardener and steward to H. St. Maur, Esq., Stover Park, Devon, says, "While going my rounds over the estate I came across a grand row of Peas in pod and flower. They reminded me more of spring than the 14th December. I was unable to get the name, as the farmer did not have it." Surely the climate of Devon must have been a great deal more favourable to vegetation than that of London during the past two months.

Trichonema Columnae in Peril.—The storm on Friday last, December 29th, burst through the Warren at Exmouth, and about one quarter of it I understand is washed away. The breach is nearer to the Mount Pleasant side of the river, where the little plant *Trichonema Columnae* used to grow, its only habitat in the three kingdoms, though I believe it is to be found in the Channel Islands. All lovers of wild flowers will wish that there may be a sprinkling of the little bulbs left as devoutly as *J. C. S.*

New Year's Honours.—We are delighted to note that the Queen has been pleased to confer the dignity of a Peerage of the United Kingdom on the Right Hon. Sir John Lubbock, Bart., M.P., High Elms, Farnborough, Kent. For many years Sir John Lubbock has been known as a politician, banker, scientist, and man of letters, his works on various subjects being voluminous. For the last twenty years he has been the representative of the London University in the House of Commons, where he has had a seat for nearly thirty years. For a great length of time he has been associated with scientific and educational societies, some of his titles being P.C., M.P., D.C.L., LL.D., F.R.S., F.L.S., F.G.S., &c. He has done a great deal to popularise science, as those know who have read his "Ants, Bees, and Wasps," "Seedlings," "Flowers, Fruits and Leaves," "British Wild Flowers considered in relation to Insects," "The Beauties of Nature," "The Pleasures of Life," "Buds and Stipules," "The Scenery of Switzerland," "Prehistoric Times," and many other books on popular as well as scientific, including natural history, subjects. Many of these are full of interest for gardeners, and all others interested in natural history generally. The honour is certainly well deserved.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the society was held at St. John's Parish Room, Redland, on Thursday, 28th ult. A large number of members was present, and the chair was taken by Mr. Cary Batten, Junr., in the absence of the president of the society, H. Cary Batten, Esq., who had been called out with his Militia Regiment. The subject for the evening was: "Mistakes in Gardening," introduced in a racy and exhaustive manner by Mr. Chas. Lock, of Keynsham. Dealing with the subject generally, he suggested that a good many gardeners erred in judgment when they decided on the profession as a means of livelihood, and whilst the same might be said about any trade, he concluded that no one who was not an enthusiast should adopt a vocation that claimed so much of the time and thought of the worker as did horticulture. He went very fully into a great many mistakes amateurs and professionals made in all branches of their work, giving many useful hints as to avoiding pitfalls into which so many seemed to fall, and concluded by pleading for more sympathy between gardeners and their employers. A short discussion followed, and Mr. Lock was heartily thanked for the paper. The president (H. Cary Batten, Esq.) kindly offered three prizes for three plants in bloom in pots not more than 5 in. in diameter. For this there was a good competition, the awards being:—First, 10/-, Mr. McCulloch; second, 7/-, Mr. Raikes; third, 5/-, Mr. Ross. Mrs. Cary Batten, who was present, kindly distributed the prizes, and in responding to a vote of thanks, expressed her regret at the absence of the president, her pleasure in being present at such an interesting gathering, and wished the society every possible success.

Weather in London.—The "tail-end" of last week was dull and muggy. The same conditions, varied only by a bracingly clear day on Sunday, and a heavy fog on Monday, have been our persistent portion since then. Heavy rain prevailed on Wednesday.

End of the Century not yet.—Dear Sir, I houp ye winna cut aff a twalmonth frae the fag end o' the cent'ry, as a lot o' itherwise able men are tryin to dae. Shurely the warld began wi' the year 1, and the end o' the first cent'ry was jist 100 years, nae mair an' nae less. Hoo then is that 1900 sidna hae the full compliment o' nineteen hunder years? To cut aff the cent'ry at the end o' 1899 wud mean that the warld commenced in the year 0, that is a year afore it began. Noo, ye ken that a hunder times naething is simply naething, and a saxpence is worth a hunder times that, or as muckle mair as ye like. This is nae gairdenin', but I'm only writin' tae warn ye, because the loss o' a haill twalmonth's produce oot o' the gairden, and a twalmonth's waages tae ilka gairdener wud mean a michty lot. By the hye, that was a bonnie splatter at Edinbro' the ither week wi' the bubblyjock and the haggis. A'boday at the feast will noo be strong eneuch to turn over the dew leaf we're aye hearin' about.—*Tam.*

When Does the Furze Bloom?—I am aware that there is a popular notion that the Furze or Gorse is in flower all the year round. I do not dispute that it is just possible that a chance bloom or two may be met with in most months, but I cannot follow your correspondent, who writes about Bucklebury Common in Berkshire, in his statements with regard to "the third week in November." In and about Epping Forest where it grows in great abundance I know that it is practically over in July and is succeeded in August by "*Ulex nanus*," the dwarf Furze. The writer speaks of it as "lighting up the common as with a lantern" and then of its being a "pyramid of bloom." Now in the beginning of November even the dwarf species was practically over, but about the middle of the month the true Furze (to which anyone who reads his article would suppose him to refer) began here and there to show a few blossoms. They had, however, to be searched for, but they were only in one's and two's—certainly there was no pyramid. From that date to this no progress has been made and it is difficult to find any blooms. I should, therefore, be much interested to hear what you or any of your correspondents have to say on the subject.—*Sigma*, December 31st, 1899.

Sutton's Angling Association.—We feel sure that to our larger nursery and seed trade firms it is a profitable investment to cater carefully for those by whose united work the success of the house is made. As qualifying the statement we need make no further search but take the name of Messrs. Sutton & Sons, of Reading. They have for their employees' benefit a Cycling Club, a Mutual Improvement Association, and the club which we now make note of, and which may include the steady-headed minority with a bent for quiet recreation. The officers who have guided the club during the past year were again elected at the Annual General Meeting, held in the Firm's Reading Room, on December 22nd, for 1900, and the same rules, &c., passed without any change. Prizes to the amount of 18 guineas are given annually. The following is the list of prize-winners for 1899:—1. W. R. Smith—1st pike, 2nd chub, 3rd roach (specimen), 1st roach (gross), 1st and 2nd roach (matches), and 4th perch. 2. S. Warrilow—5th chub, 7th roach (specimen), 4th roach (gross). Four firsts and one second roach (matches). 3. W. W. Albury—1st chub, 2nd perch, 3rd roach (gross), 2nd and 3rd (matches). 4. W. T. Bartholomew—1st perch, 2nd roach (specimen), 4th chub. 5. W. H. Stacey—5th roach (specimen), 2nd (gross), two thirds (matches). 6. C. W. Goseltine—5th perch, 6th roach (specimen), 2nd (match). 7. J. H. Sharpe—1st roach (specimen). 8. R. Bowsber—2nd miscellaneous (match), 2nd and 3rd roach (matches). 9. J. Wicks—1st roach (juniors' specimen), 3rd perch (juniors' specimen). 10. E. Tufnail—3rd chub. 11. H. Belcher—1st miscellaneous (match). 12. G. Critcher—3rd perch. 13. G. Taylor—1st miscellaneous (specimen). 14. E. H. Leaver—5th roach (gross), 3rd (match). 15. A. Knight—1st perch (juniors' specimen). 16. C. Cooper—4th roach (specimen). 17. E. W. Dormer—2nd perch (juniors' specimen).

Potash is stated to give colour, flavour, and firmness to all fruits.

Ludwig Moller, of Erfurt, Germany, sends us a very well got up calendar for 1900. The pictorial, or brightening element, is lent by a fringe of beautifully depicted Fuchsia sprays, bearing their pendent blooms, whose curving lines curl around the square centre-piece of the date-recorder. The calendar is a worthy representation of German lithographic art.

Ipswich and East of England Horticultural Society.—The annual general meeting of the above was held in the Town Hall, Ipswich, on Thursday, December 28th, 1899. Mr. Albert Ranson presided and among those present were Messrs. R. C. Notcutt, G. Gilbert, T. E. Mayhew, A. E. Stubbs, J. Talbot, E. C. Sayer, W. Messenger, H. Kerridge, Lewis Cann, A. Bennett, P. Cornell, W. E. Harrison, A. Sowman, J. Buttram, W. E. Close, R. Ennals, S. R. Rowbotham, &c., with the secretary, Mr. H. E. Archer. The committee presented their report which gave a good record for the last season's work. They expressed the wish at the same time, that more of the eminent horticulturists around the countryside of Ipswich could be led to send the garden stock to the society's exhibitions. If they did, both the society and the visitors to its shows would derive a benefit. It is to be hoped that the appeal may be responded to. The society had also become affiliated with the National Chrysanthemum Society, for the sake of being able to enter in certain stipulated classes of this latter society's show schedules. They voted their thanks to the donors of special prizes; to Capt. E. G. Pretyma, M.P., their president; to the Great Eastern Railway Company and to the Press. The statement of accounts showed a balance at the bank of £44 15s. 2d. Motions and voting on amended rules or original propositions, &c., were other items on the programme. New officers were also elected.

Reading and District Gardeners.—The annual general meeting of the Reading and District Gardeners' Mutual Improvement Association was held at the Abbey Cafe, on Monday, the 1st inst., and was well attended, the president, C. B. Stevens, Esq., occupying the chair. Before the usual business was commenced the president announced the judges' awards in connection with the Essays arranged during 1899. They were as follows:—"The planting of a garden with hardy fruit trees and bushes" (open to all): 1st (30s.), Mr. G. Hinton, The Gardens, Walmer, Reading; 2nd (20s.), Mr. E. Trollope, The Gardens, Coombe Lodge, Whitechurch; 3rd (10s.), Mr. C. P. Cretchley, The Gardens, The Honeys, Twyford. "Plants suitable for table or room decoration and their culture" (open to assistant gardeners only): 1st, Mr. J. Botley, The Gardens, Blythewood, Maidenhead; 2nd (20s.), Mr. C. Townsend, Whiteknights Gardens, Reading; 3rd, Mr. T. Pembroke, Greenlands Gardens, Reading. The adjudicators were Mr. T. Turton, Sherborne Castle, and Mr. J. Hudson, Gunnersbury House. The annual report and balance sheet was read by the secretary, and was of a very encouraging character, showing that the association was in a very prosperous condition. The election of officers for the ensuing year was then proceeded with, and resulted as follows:—President, C. B. Stevens, Esq. (for 10th year); Chairman, Mr. E. Fry, The Gardens, Greenlands; Vice-Chairman, Mr. G. Hinton; Librarian, Mr. E. J. Dore; Asst. Librarian, Mr. F. W. Exler; Treasurer, Mr. F. Macdonald; Auditors, Messrs. A. Smith and W. Badcock; Committee, Messrs. F. Bright, A. W. Blake, R. Chamberlain, C. P. Cretchley, D. Dore, H. Farey, W. Goddard, F. Lever, T. Neve, E. S. Pigg, G. Stanton, G. Smith, W. Smith, W. Townsend, H. Wilson, and J. Woolford; whilst Mr. H. G. Cox, Fernlea, Junction Road, Reading, was unanimously elected Hon. Secretary. A feature of the meeting was a magnificent display of Primulas, Mr. Townsend, The Gardens, Sandhurst Lodge, showing some splendidly flowered *P. obconica* (rose); and Mr. F. Lever, The Gardens, Hillside, some well-grown *P. sinensis* in small pots, as well as some good plants of *Lachenailla pendula*. Mr. Wilson, The Gardens, Redlands, exhibited some well-coloured specimens of Newton Apples. The best thanks of the members present having been given to the exhibitors and to the past officers, the first meeting of 1900 was brought to a close.

Information for Emigrants.—The state and prospects of emigration as at present existing is published in an issue for January 1st, 1900, by the Emigrants' Information Office. It is too early in the season for the ordinary emigrant to go to Canada, unless he has friends to go to or money to help him until spring. In New South Wales there is practically no demand for ordinary farm or station hands, &c., unless they are specially competent, and have a little money when they arrive. In Victoria there is not much general demand for labour. There has been a considerable amount of settlement on the land recently, and drainage has made special progress. In South Australia there has been a demand for farm hands and for married couples without children for farm and station work. In Queensland farm labourers, &c., are also in demand, and, of course, there is the usual demand for female servants. Free and assisted passages are now being granted to farm labourers and female servants from seventeen to thirty-five years of age, who have never been otherwise engaged. The same demand prevails in Western Australia. In Tasmania the timber trade has been busy, and men and the sawmills have been fully employed, but the supply of farm hands is sufficient. Shearers have no difficulty in finding employment during the present busy season. Persons are warned against going at present to South Africa. Full particulars can be obtained from the E. I. Office, 31, Broadway, Westminster, S.W. Many public libraries and institutions are also able to supply circulars.

FORCING ASPARAGUS BEDS AT SYON.

I AM sure the writer of the note on p. 249 quite unintentionally gave the system or method of forcing adopted here as my own ideas. I have never claimed it in any way; indeed, in any advice given or notes written, I have stated our beds to have been in bearing for twenty years. The matter is readily explained. The writer of the note in question saw the trenches being filled, and it was at once asked was "that your system of forcing," and the answer was "yes"—I meant ours—and it was commented upon, but in names mentioned; and I regret the mistake made as the writer made no note at the time. I believe Asparagus has been found at Syon in permanent beds for at least fifty years, so there is no need to appeal to Mr. Barron as suggested by D. on p. 261. Of course, during that time there have been new beds, and in different positions, as we have during the past few years increased the Kitchen Garden area by at least three to four acres; and where the original beds stood there are heated frames. But let me add the method adopted by my excellent predecessor is now altered. Wooden sliding shutters were used, and frames, which is not the case now; but that is merely a matter of detail, as Mr. Woodbridge's system, and doubtless, others before him, was centred on the permanent bed system, which we still adopt. I find in writing a note on this system as long ago as March 15th, 1890 (in *The Garden*), I begin with these words: "Although an old system it ought to be practical, where a large quantity of this favourite vegetable is required. This shows I had not the slightest idea of claiming it as my own plan; and through illness I had not seen the note referred to, and trust the Editor will accept this explanation.—G. Wythes, Syon."

CORONILLA GLAUCA.

THE above is a greenhouse plant of no mean order for flowering during early autumn and the dull months of winter, though rarely met with at the present day, yet its pale yellow pea shaped flowers are conspicuous wherever stood among a collection of greenhouse plants. And as yellow flowers at this time of year are not over plentiful I would urge its extended culture, especially to gardeners who are expected to keep up a good show of flowers independently of cut bloom, as this plant does not lend itself for this purpose so well as many other things, but is most useful for conservatory work blending well with Marguerites, Solanum, Capsicastrum, Libonias, Eupatoriums, &c. It is half hardy with us, standing out against an east wall for two years; but the severe frost of 1894 proved too much for it, so we have not put any out since. As far as my experience goes, I cannot say that they are the easiest

of plants to propagate in the usual way of placing the cuttings in pots and keeping close. Having tried them in slight bottom heat, also under a bell-glass, and placed in the greenhouse, with me the majority have failed to emit roots under this treatment. The little shoots turn a sickly yellow and eventually wither. By far the greatest success has been with cuttings dibbled in on a border of the Camellia house, where ninety per cent. rooted and grew away satisfactorily after being potted up. Thanks here are due to one of the journeymen who happened to put in half-a-dozen as a trial, when, to my surprise, every one rooted; and orders were given to put in a good batch, with the same excellent result. In passing, I may mention we have been successful with Genistas in the same way, another plant a bit slow at times to emit roots when put in as cuttings. Coronillas should not be pinched too much, at least, such is not our practice, preferring to see them as half standards from 3 ft. to 5 ft. in height. Plants can be kept several years, but care is required in the short days that no more water is given them than is really necessary, as they are very impatient of being kept sodden. In the spring, after flowering is done, they should be cut shapely in, and, a few weeks after, have the ball of soil slightly reduced and placed back in the same size pot, or a bit larger as the plant may require, using loam, leafsoil, a little peat, and the usual dash of sand. After getting established, place them outdoors in May, paying attention to watering, staking, &c., until they are again housed, which should be early in October. Seven-inch pots are large enough for fair specimens.—J. Mayne.

NOTES FROM SHERBORNE CASTLE.

THIS garden has had a name from a gardening point of view for many years. Mr. Pragnell's death caused a change, and, his successor being an experienced fruit grower, is well able to sustain the reputation, and most probably lift it to a higher level.

Being a west of England operator, and having known Mr. Turton for many years, I paid him a visit early in December, and found him busy amongst the fruit trees, superintending the planting of some young bush Apples.

Evidently he is persuaded what is worth doing is worth doing well, as he had made great provision for a good root run; and this is the way to start young trees, if you want them to give a good report of themselves in later life.

Another thing I observed, Mr. T. does not believe in planting poor trees because they are cheap. No; such trees are cheap, cost what they may, when in prime condition. A good well rooted and prepared tree is by far the cheapest in the long run.

When I saw my old friend, he then left his interesting work and went with me, and we took a survey of the gardens, omitting the pleasure grounds, as night was drawing on. It was plain enough that lifting, root pruning, transplanting, and destroying old trees, replacing them with new, were the order of the day in this garden. Added to this, I observed that the house of Mrs Pince Vines had been destroyed, as they did not answer as they did in former years. I remember when this house was planted first, which must be over thirty years ago. They are to be re-planted by the same kind, as this variety did grand here for many years. I have seen some grand crops from these Vines, and where the variety does as here, it is a most desirable kind to grow.

In one of the vineries was a fine lot of late Chrysanthemums. Princess Victoria is thought highly of, and I thought it a long way before L. Canning. W. H. Lincoln was in good form and very dwarf.

In a light warm house was a good batch of Primulas, and a good strain from the Reading firm, with a good batch of Pelargoniums in full bloom.

What attracted my attention was a large quantity of Begonia Gloire de Lorraine, in small pots, 2 ft. to 3 ft. across, and which surpassed any I have seen even at the Drill Hall, and this is saying a good deal. These mixed with Eucharis in bloom and Ferns made a fine show.

In the fruit room were some good Muscats from Vines of which Mr. T. lifted part of the roots quite late in the spring. The colour was grand, no shanking, and good in berry. This shows this kind needs fresh sweet food to do its best, and keeping the roots near the top.

I was pleased to observe how well some kinds of Pears do on this soil, in the fruit room, where Glou Morceau, Easter Beurré, Chaumontel, Winter Nelis, Bergamote d'Esperen, and Nouville Fulvie, were all of good quality. That fine old dessert Apple, Cockle Pippin, was here to be seen in quantity, the fruit large and good in colour of that russety appearance which denotes high flavour. The fruits of Cox's Orange were very large, grown on low cordon trees on borders adjoining the paths. I noticed these very large fruits were not keeping well. Nor were they as high in flavour as some in our garden grown on open bush trees, and fed, being heavily cropped; and they lacked the nice yellow cast in the skin. Many of those fruits bursted. There were several other fine kinds of Apples on the shelves.

When one has had an opportunity of visiting a large private garden of this class, on and off for over thirty years, one can see the changes time brings. Here where Pines used to be grown, is to be found material to obtain cut flowers from, and once scarcely any plants for furnishing were wanted. Now it is quite the reverse. Undoubtedly Mr. Turton is made of the material that can change as needs may be; but evidently the old order has passed away, and a new one is springing up.—J. C. Chard.

PEOPLE WE HAVE MET.

MR. FREDERICK C. THOMSON.

WE are pleased to add to our gallery a portrait of Mr. F. C. Thomson, the genial and courteous gardener, who presides over the gardens of H. Tower, Esq., Tewin Water, Welwyn, Herts.

Mr. Thomson is a native of Schleswig Holstein, where his father had a nursery, so that he may well claim to have been associated with gardening all his days. When he was old enough his father sent him to Messrs. Peter Smith & Co., of Hamburg and Bergedorf, to learn the nursery and seed business. Here he stayed for three years, until, in fact, the nursery business was sold. Mr. Peter Smith emigrated to Scotland, and Mr. Thomson accompanied him. A brother of the nurseryman was gardener to the Earl of Home, The Hirsell, Coldstream, Berwickshire, and Mr. Thomson was placed under him. Here he stayed for a period of two years, acquiring a knowledge of gardening as it is carried on in this country.

His next move was to Haggerstone Castle, Northumberland, the residence of Captain Leyland, where he made a further sojourn for two years. He next pushed his way to Dalkeith Palace, the residence of the Duke of Buccleuch, at the time when the late Mr. William Thomson made the place famous on account of the fruit grown there, but particularly Grapes. To learn fruit growing under glass was Mr. Thomson's object, for that was what drew him thither, as many another young gardener would have been in those days. An opportunity occurred for his returning to The Hirsell as foreman, and Mr. Thomson accepted it. After staying here for a time he gravitated to London, like hundreds of other members of the profession, and at first went into the nursery of Messrs. Hugh Low & Co., Upper Clapton.

We next find him as one of the young men in Kew Gardens, in 1866, a time when gardeners had the ambition to study and pass the examinations held under the auspices of the Royal Horticultural Society and the Society of Arts, as many gardeners still living, and holding important horticultural appointments, are pleased to acknowledge. Mr. Thomson entered for and passed these examinations. He stayed at Kew for two years, leaving there in January, 1868, to go as foreman in the gardens at Sandhays, near Liverpool. In a similar capacity he next went to Manley Hall, near Manchester. Still on the outlook for fresh fields of knowledge, he next accepted the appointment to grow plants and fruit in the Experimental Garden of Mr. Foreman, of Nottingham.

After having graduated in the profession for a greater or less number of years, gardeners begin to look out for a position of greater responsibility than that of a subordinate in private gardens, and the opportunity presenting itself, Mr. Thomson left Nottingham to take charge of the gardens and estate of Bruntwood, Cheadle, Cheshire, the residence of Mrs. Douglas. Here he was thoroughly at home, and stayed for a period of eight years. During his stay

he made many improvements in planting the estate and in laying out the grounds. He also had splendid opportunities for carrying out all the duties belonging to gardening proper, and as a consequence blossomed out into an ardent, enthusiastic and successful exhibitor at all the flower shows near



MR. FREDERICK C. THOMSON.

Manchester. He stayed at Bruntwood Hall till the death of Mrs. Douglas.

This unfortunate event necessitated his finding another situation, but that was soon forthcoming, and he was appointed head gardener to Wm. Barling, Esq., Norman Court, Dean, Salisbury, where he put in another seven years, until the place was reduced. While the latter was in its heyday fruit and plants were well and extensively grown, particularly fruits; for we find that Mr. Thomson still retained his enthusiasm as an exhibitor, the hard work attached to which has to be stimulated by the rewards which success brings. He exhibited at all the flower shows in the principal towns within convenient reach of Norman Court, taking exhibits of fruit chiefly. The reduction of the place so damped his ardour that he determined upon making another move. On this occasion he secured an appointment as head gardener to C. T. Hoare, Esq., Bignell House, Bicester, Oxfordshire, where he made great alterations in laying out the grounds, as well as extensive planting for cover and ornament. After seven years' service at Bignell House, the place unfortunately became so reduced, that it was no longer possible for the gardener to maintain the gardens in proper condition with the means at his command, so that the subject of this sketch once more had, reluctantly, to bid farewell to the place where he had spent so many years of an active life in putting it in order.

He next secured the appointment as head gardener to H. Tower, Esq., with whom he commenced his duties about two years ago. Since then he has been actively engaged in improving and restoring the gardens and grounds which had previously been allowed to get greatly out of order. Tewin Water is beautifully situated in a deep valley on the edge of the river Maran, a stream of as beautifully clear water as is to be seen within a long distance of London. The flower garden has been markedly improved and rendered attractive, while the grounds in its immediate vicinity, and around the mansion, also show the same master hand. By skilful treatment, the waters of the Maran are made to widen out for some considerable distance along one side of the residence, so as to resemble a natural lake. Higher up some ornamental cascades have been formed, the sound of falling water and its crystal clearness being quite refreshing on a warm summer's day. Alongside of one part of the Maran used to be a piece of boggy and useless ground. This has been transformed into an interesting bog garden, with pools

for aquatic plants and some islands connected with the drier grounds by means of a footbridge, and supporting trees, shrubs, and other subjects that delight in moisture. Mr. Thomson is busy extending the bog garden this winter. He has already constructed a pathway for a long distance along the banks of the Maran, under the shade of trees, the valley being beautifully wooded as well as the higher ridges above the valley. We wish Mr. Thomson a long and prosperous career in the carrying out of these and other improvements in contemplation.

CAMPBILL, GLASGOW.

Nor even excepting the People's Palace on Glasgow Green, the winter garden at Campbill is the most important of the glass ranges belonging to the Glasgow Parks. The houses are situated on a plateau overlooking what used to be the village of Langside, now a populous suburb of the city. All the parks are under the able superintendence of Mr. James Whitton, who thoroughly believes in having a practical gardener to do a gardener's work. He has, in fact, a gardener in each of the parks of any importance, and more particularly where plant culture under glass is concerned. At Campbill he has placed Mr. W. McIver in charge, and there is no mistaking the fact that a fine lot of plants has now been placed in all of the houses, whether the public has access to them or not.

Some time ago we had the pleasure of a run through the houses, the first entered being a stove, where two fine plants of *Tornelia fragrans* (*Monstera deliciosa*) carried three and four cones of fruit respectively. *Nepenthes mastersiana*, *N. hookeriana*, and *N. dicksoniana* carried a fine lot of pitchers in splendid condition. *Coccos Bonnetii* is by no means a common Palm, but here was a fine specimen of it, as well as of the better known *Areca lutescens*. *Russelia juncea*, carrying long graceful sprays, was well grown. The showy and curious *Gloriosa superba* was flowering freely on the roof; while *Coelogyne massangeana* and a long-fronded specimen of *Goniophlebium subauriculatum* were also suspended from the roof. *Pancratium speciosum* and *Hymenocallis macrostephana* are popular bulbs with sweet-scented flowers.

Not the least interesting feature of the place are the Orchids, to which frequent additions are being made. One house contained a collection of *Cypripediums* of which *C. Parishii*, *C. Druryi*, *C. Charlesworthii*, *C. radiosum*, and *C. tonsum* were in bloom. A dark variety of *Oncidium incurvum* was also noted. In another building *Cattleya Trianaei* was flowering out of season, and *C. labiata* was throwing up 300 to 500 spikes of bloom. Elsewhere were *Dendrobium nobile*, *Maxillaria picta*, *Coelogyne* and *Cypripedium insigne montanum* as well as the type in great quantity.

Next to this came a stove with a collection of *Crotons* for the cultivation of which Mr. Whitton has long been noted. *Dendrobiums* were resting, suspended from the roof after having made up their growths. Here also were *Juncus zebrinus*, a Rush striped transversely with yellow; also *Acalypha Sanderi*, *A. godseffiana*, *Dracaena Lindenii*, *A. L. massangeana* and the ever golden *D. L. Victoria*, the three making an interesting set of this popular *Dracaena*. *Euphorbia fulgens*, with branching stems, stood 6 ft. to 8 ft. high.

An intermediate house next claimed attention. The popular *Begonia Gloire de Lorraine* was in fine form; and near by was *B. smaragdina*, similar in form to *B. imperialis*, but having green foliage. *Stenocarpus sinuatus* is here grown under the name of *Agnostus*. *Schubertia grandiflora* is a sweet-scented climber. The leaves of *Begonia Sambo* are almost black. In the next house was a plant of *Arundinaria bambusaefolia*, 6 ft. high, with flowers like those of a *Laelia*. *Aristolochia ornithocephala* was carrying some of its huge and strange looking flowers. In the cool corridor connecting the houses were many subjects adapted for the purpose, including *Xanthorhaea australis*, with graceful leaves; and very tall plants of *Cyathea medullaris* and *Dicksonia antarctica*.

Passing into another Orchid house, we noted the variegated Ground Ivy in pots, trailing from the benches to the floor. Many Orchids were in flower, including *Masdevallia Chelsoni*, *M. Lindenii*, *M. harryana*, *M. Roezli*, *M. bella*, *M. Chimaera Wallisii*, and the curious little *M. ochthodes*, which continues

in bloom perennially. *Odontoglossums* contributing to the display were *O. grande*, *O. bicktonense* and *O. crispum*, of which over 1,000 imported plants were established or semi-established. Showy, pretty or otherwise interesting were *Oncidium varicosum*, *O. ornithorhynchum*, *Epidendrum vitellinum*, *Stenoglottis fimbriata*, *Maxillaria sanderiana* and *M. grandiflora*, all of which were flowering even at that period. A collection of insectivorous plants included *Sarracenia Chelsoni*, *S. Courti*, *S. Drummondii*, *S. purpurea*, &c. Here also we noted the beautiful *Polystichum angulare plumosum Grimmondii*, raised at Carbet Castle, Broughty Ferry, 30 years ago, and still one of the choicest.

Fine foliaged plants elsewhere included *Coleuses* in quantity and variety; also *Begonia heracleifolia*, the showy-flowered *B. haageana*, and the sweet-scented *Rogiera gratissima superba* with pink flowers. A cool house contained a fine lot of Indian Azaleas, *Hydrangea paniculata grandiflora*, early flowering *Chrysanthemums*, *Rhododendron Countess of Haddington*, *R. Maddeni*, *R. Williamsii*, *R. aureum*, and many other hybrids and species, some of which were specimens of huge size. The pretty *Agapanthus umbellatus minor* carried a fine lot of dark blue flowers just going past their best.

Several cool houses were next encountered, in which were collections of popular as well as curious and uncommon subjects in which the public take interest. Amongst the former were *Lilium auratum*, *L. speciosum*, *L. s. Kratzeri*, and *L. s. Melpomene*. The leaves of the rare *Senecio Fosteri* are white underneath. Large plants in tubs were *Veronica anomala* and *Enrybla erubescens*, having the flowers of a pale fawn colour beneath. Zonal *Pelargoniums* were plentiful and good. *Testudinaria elephantipes* carrying sweet-scented yellow flowers, must otherwise be reckoned amongst the curiosities. Near by was a fine *Encephalartus* with smooth, dark pinnae. The next house contained *Dracaenas*, *Streptocarpus*, *Fuchsia parviflora* and *Himulus japonica variegata*, amongst other things.

During the summer months an intermediate house is used for the accommodation of flowering Orchids. Even on this occasion a good many were flowering, including *Dendrobium Phalaenopsis schroderianum* in pans, a large plant of *Maxillaria sanderiana* in a basket, *Laelia pumila dayana*, *Masdevallia bella*, with its curiously truncate lip, *Oncidium Papilio*, *Brassia lawrenceana*, *Odontoglossum hastilabium* and a fine plant of *Stanhopea oculata* in a basket. *Davallia paxidata*, in a No. 1 pot was yellow with spores and very striking. The Dragon Tree (*Dracaena Draco*) had found a home here; and flowering plants included a fine batch of *Clerodendron fallax*, with its scarlet blossoms. Elsewhere were tuberous *Begonias* making a display in pots. The broad, finger-like leaves and golden stems of *Dendrocalamus sikkimensis* make this a bold and handsome Bamboo for indoor culture.

The greenhouse was gay with blue *Hydrangeas*, *Cannas*, *Vallotas*, highly coloured *Acalyphas*, *Lilies*, *Fuchsias*, zonal *Pelargoniums*, and other useful plants. A large plant of *Beaucarnea recurvata* was an antiquated looking chap seldom met with in plant houses nowadays. Its other name is *Pincinctitia tuberculata*, and not very inviting either. It belongs to the Lily family, and resembles a huge, long-necked Onion. The Grass Tree of Australia is a suitable companion for the foregoing. Some huge specimens of *Musa Ensete* in tubs were very conspicuous.

Chrysanthemums were being grown by hundreds, and flowered well, but as they have been noted in these pages we need not further refer to them. The above are but a small fraction of the subjects got together from all quarters by the diligence and untiring perseverance of the superintendent, who likes plants of all classes, and caters for those things which please or interest the general public, which has access to several of the houses.

CAMPBILL NURSERY GARDENS.

These are situated at the foot of the hill on which the winter garden stands, and were at one time the gardens belonging to a private estate. As the name indicates, the grounds are used for the purpose of growing trees, shrubs, and many hardy or half-hardy subjects, mostly of a perennial character, for planting in the various parks as they may be required. Here might be seen *Magnolia soulangeana*, *M. Lennei*, *M. Alexandrina*, green and purple Hazels, White Poplars, Golden Box, Golden Privet,

and many others of a similar character. The London Plane (*Plantanus acerifolia*) is being tried to ascertain how it will behave in the smoky atmosphere of Glasgow, of whose deleterious influence we had visible evidence in various quarters.

Early-flowering *Chrysanthemums* were flowering freely and very showy, as only really good sorts are grown. Hardy herbaceous plants of kinds suitable for park embellishment were grown in considerable quantity, including *Helianthus decapetalus*, *H. Golden Bouquet*, a large bed of *H. multiflorus*, and the beautiful new *H. rigidus Daniel Dewar*, which has been termed the Cactus Sunflower, on account of the revolute and twisting character of its ray florets, a feature not seen in any other of the Sunflower tribe. Allied to the Sunflowers were *Rudbeckia laciniata flore pleno* (or Golden Glow), 6 ft. to 8 ft. high; *Helenium autumnale*, flowering at 3½ ft. high; and the crimson striped *H. striatum grandicephalum*. *Phloxes*, *Gladioli*, and other autumn flowers were blooming away freely in spite of the heavy rain.

Interesting was a tree of the rare *Aralia spinosa*, standing 10 ft. high, and regarded with satisfaction by the superintendent. Some Apple trees still occupy the nursery as they were left in the garden by the previous owner.

THE PLANT HOUSES.

NERIUM OR OLEANDER.—These pretty flowering plants are subjected to various modes of treatment, and so unfastidious are they that under all conditions they seem to flourish. It is true that they do not hanker after any special strain of compost. A peaty soil or a loamy soil, both are acceptable, yet not one more than the other. The fact of a difference of compost is, however, seen in a variation of the foliage and style of growth, for with much peat in the mixture a vigorous growth of shoots may be observed. It would rather then seem to be an advantage to pot them in a loamy soil, as then harder growth is followed by a more abundant supply of blooms. The Oleanders like a fairly warm house for their growth, such as a temperate house affords. I am aware that during our summer there are growers who place their plants out of doors. This we may refer to later.

PROPAGATION may confine our attention in the meantime. And this is as easy and as simple to perform, and generally as certain in its results, as the after growth of the plants proves to be. About the end of March take out the points of the shoots, say to a few inches down and prepare these cleanly. Insert the cuttings in 3-inch pots using, as is proverbial, a light compost. A position in a glass case should be given such as has been previously described, in which they should be kept close and moist. In three weeks' time or rather more, they will have rooted. Bottom heat is, of course, a very important factor for the rooting process.

AFTER TREATMENT.—It once again behoves the cultivator to have care and to shift the little plants very tenderly from their cutting pots to those which are next to contain them. If one or two have been struck in the same pot, even greater attention is demanded. But having separated them from the baby pots, their cradles, and having potted them fairly firm into 4-inch pots, giving them an open rich compost, place them for yet another few days into the propagating frame or pit. Nothing so surely makes for fast success as to treat newly-potted plants such as these to "a warm bath" and a still, moist atmosphere after such disturbance as a "shift on." By June they will be fit for a 6-inch pot, the plants themselves having developed a few fine shoots. They may or may not blossom during the late autumn; it is better that they do not. At this season they should rather be kept cooler and certainly drier at the root. During growth, after the pots are well filled with roots, they can scarcely have too much water. Another point to regard is their great liking for plenty of light. We always shade our own plants because they are not placed out in the open, but have to take their chance side by side with softer plants which necessitate shading.

For those who wish to grow specimen plants another shift onward may be made in March of the following year. A 10-inch pot should be used, and

perhaps later on a still larger pot. Very little of the old soil need be removed, but before restarting them, cut back any ungainly shoots, or those whose vigour gives them too strong a lead. If room is required for other plants from the end of June till September it certainly is a wise enough practice, and good for them too, as proved by successful men, to place them in a sheltered sunny part. If ashes can be mounded around the pots so much the better for the health of the multitudinous and tender roots lining them. A constant and heavy supply of water is necessary, besides which a daily or double daily syringing with tepid water is very much to be advised. In September the plants may be brought in to a cool house with a temperature of 45° to 50°. By being kept cool all autumn, they will flower freely from the well-ripened terminal points of the shoots on their introduction to a higher temperature. For larger specimens still, the same role of treatment may be repeated. The *Neriums* can be grown as small plants quite as well as large specimens can be, the only difference being to retain a yearly furnishing of young wood until such time as fresh plants might be absolutely necessary. *N. album* and *N. a. grandiflorum* are delicious varieties when in flower; they are both pure white; *N. splendens* is a pinkish-red variety, not so lovely.—J. H. D.

The Orchid Grower's Calendar.

We think that orchidists will agree with us that judging by the general health of the plants the past season has been most favourable to the culture of this famous class of plants; for although we have been compelled to use an unusually large quantity of hard water, the amount of sunlight and tropical heat have been the means of helping to make the leaves and pseudobulbs of wonderful texture, so much so that when the flowering season commences we shall be able to realise what light and air do for the plants.

Why do we fail with some species? From experience and general observation we are inclined to think that most of the species may be successfully cultivated for years, and that under anything like rational treatment they do not deteriorate or die out. The chief cause of failure is most likely due to attempting to grow them in structures totally unsuited to their requirements. Let me explain what I mean. Just take a twenty-five mile radius around London and you will easily grasp my meaning. At one place you will find East Indian plants growing to perfection, whilst the cooler kinds fare badly; in another, *Cattleyas* and *Laelias* are grand. In the next place perhaps *Dendrobiums* are done best. Then again, some will hit the right treatment for the difficult *Epidendrum bicornutum*, or the beautiful *Phaius tuberculosus*. Yet again with others *Odontoglossums* and *Oncidiums* are done best to the exclusion of the warmer species. I, therefore, firmly believe that were it possible to provide them with similar structures in one place that every species may be cultivated to perfection with ordinary intelligence.

LOCALITY.—Yes, I know this is supposed to make a vast difference. So it does if you happen to be in or near London; but twenty miles out either way makes but little difference, providing your houses are not stuck down in a hole, and that due attention is paid to detail when they are erected. The more simple the structure the better; elaborate looking houses with complicated gear work for regulating the ventilators are all very well in a way, but often useless for the purpose intended.

The greatest difference in locality is, we think, the water. In places where the water from the waterworks is known to be unsuitable to plants, means should be adopted to save all the rain water possible; this should be used for watering the plants only, the damping down between the pots being done with the hard water.

The object of this article is to point out that it is as useless to attempt to grow Orchids successfully in badly-constructed houses, as it is for a man to do any other kind of work without the proper tools to do it with as much as you may try.—S. C.

Tomatos.—The special point in favour of dwarf Tomatos is their earliness.

HINTS FOR AMATEURS.

Greenhouse Climbers.—Referring for a moment to cool greenhouse climbers the following may be added to the list of those which appeared last week:—

Solanum jasminoides was treated of quite fully enough when answering a correspondent in last week's number. I prefer it to the white *Plumbago*.

Lapageria rosea and *Alba* are difficult, at least with us they are difficult, to strike as cuttings. Seedlings come on well enough, but they also take funny turns. I would invite the comments of readers, professionals or amateurs, upon their success in the propagation and treatment of the *Lapageria*. Old plants which we possess cover quite a large surface, and flower most freely. They are very subject to attacks from black flies. Constant syringing and fumigating must be minded in their culture. They seem to prefer warm borders of a turfy and porous description. Plenty of water and feeding may be given at all times. Plants in pots should be brought on in a warm house.

Passifloras.—Except for *P. caerulea* and *Constance Elliot*, I would not recommend amateurs to go in for these at all strongly. The old *P. racemosa* or *P. princeps*, should be found more frequently in warm houses, but as cool house subjects the above are very fitting. Their culture runs in the same lines as do the *Lapagerias*. I prefer to raise them from cuttings of the young shoots, taken with a heel during spring.

Tacsonia Buchananii may in all respects be treated as for either *Lapagerias* or *Passifloras*. It likes good drainage, a warm border, confined rootage, and plenty of water and liquid manure. Green fly troubles it.

Crimson Rambler Rose.—Either as a corridor climbing plant or for open-air trellises, or, again, planted out in beds in the pleasure grounds and flower garden, the *Crimson Rambler Rose* is a general favourite, and fortunately is becoming more widely appreciated. The beauty of this Rose for massing in beds lies very particularly in its habit of sending up long, arching shoots, whose interlacing supports each the other. There is absolutely no staking required. Where unlimited space can be given for a wide spread development of the rambling shoots a few planted, thinly disposed over a respectable area of ground may be made to cover the same by means of pegging down the shoots. They grow so long that there is no direct need to lay them flat, they may be led upward to be looped downward, and after being notched they may be pegged firmly down at the notch, and the points of the shoots at the same time directed upward. The soil around the plants and into which the shoots are pegged can hardly be too rich or too well broken up and pulverised. A self-supported hedge of *Crimson Rambler* forms one of the proudest features and cheeriest sights of our summer gardens.

Fortune's Yellow Rose.—More than once I have "beat the drum" for the awakening of a love for this fine early flowering decorative Rose. As a pot variety and a free flower it certainly is to be recommended. For him or her who wishes an exhibition bloom *Fortune's Yellow* may be passed, but for grace, natural beauty, and all the features of free loveliness, this may well be added to good collections. It seems to be most useful after it has become comfortably established and well advanced in formation.

Euphorbia (Poinsettia) pulcherrima.—Where there is convenience for the growth of this plant no one should hesitate to grow a batch. Very few things at this period of the year are so bright for indoor decoration. It may well be said to have no rival as a brightly ornamental December plant, continuing in flower, as it does, for a long time. There are a few points which make it desirable to have dwarf instead of long-legged plants, these latter generally being leafless. Dwarf plants may be secured by taking the strong top shoot of a vigorous plant during August. With care these root freely enough, only a good bottom heat is necessary. During August, of course, it will be necessary to shade them very thoroughly, and to maintain a moist, close atmosphere around them. A passing word is necessary in regard to the making of the cuttings. The cut should be clean and straight, and

exactly below a joint. The internodes are hollow, and any careless preparation of the cuttings would almost certainly end in their decomposing and dying off. As soon as roots have been developed the plants may then be gradually potted on till a 5-in. pot is given them. As they grow they must also be more and more inured to the fullest of light, being kept near the glass. Late cuttings are more fickle than others taken in spring, and which are grown naturally throughout the summer in pits. Great heat is not necessary for the development of the red leaves known as bracts. The more gradually these expand the better in every respect will they be. The stems bearing the bracts last for several weeks if cut and placed in water.

Chrysanthemums.—Where the means for securing a reasonable percentage of rooted plants from a known quantity of cuttings is entirely inadequate or is faulty, and the time at disposal to wait on the needs of cuttings which are rooting, it may well be deemed a sensible plan to cut down the old plants, and instead of trying to take cuttings at all, let the sucker shoots grow up to form the flowering plants of the following year. It may or may not be advisable to thin out the shoots; all depends on the vigour of the variety; generally, however, thinning is essential. After the cutting down of the old stems it is wonderful how little water the old shoots need. Such plants can stand a great deal of rough treatment, but do not try their constitutions too much. Allow the growing sucker shoots a good amount of light and a fair supply of moisture. Before the season becomes advanced take an opportunity to turn out the old balls from their pots, shake them well to loosen some of the soil, then pot the plants once again in pots of the same size, or at least of only one size larger. Pot firmly, and use a rich, rather solid compost. Dew the foliage regularly after this operation. The old and seemingly little known *La Vierge* and *Virgin Queen* lend themselves splendidly to this procedure. They even seem to flower more profusely by being left alone as regards re-potting. They require a tremendous amount of water and liquid manure, and also should be plunged in a bed of coal ashes when re-potting has not taken place. Mrs. George Rundle, Geo. Glenny, Jeanne d'Arc, Dr. Sharpe, Elsie, Mary Anderson, Sunflower, and others all lend themselves remarkably well to this two-year-old system of growing them.

Astrantia major.—For the sake of variety it would be well to add this to the herbaceous border. So far as I have seen the plant in flower the colour of these might be described as a shade of brown. The larger variety grows about 2½ ft. high, being bushy and self supporting. When cut the trusses last a long time. They are quite distinct, and may be used along with almost any other kind of flower in vase arrangements.

Malva moschata alba.—As a rule the *Malvas* or *Malopes* are more ornamental as foliage subjects. Of course, where they produce an amount of lavender blooms, they may be deemed ornamental enough. But in *M. moschata alba* lovers of hardy plants have a subject which they should not like to lose sight of. This is mainly because of its habit of throwing up clusters of pure white large blooms much like a *Godetia*. They bloom for a long time, from mid-summer until frost puts a stop to their vigour. The sheltered, moist corner of a border such as skirts the garden walks will answer very well.

Light and Graceful Trees and Shrubs suitable for small front villa gardens may be found in the following:—*Golden Privet* (*Ligustrum ovalifolium aureum*); *Common Privet* (*L. vulgare*); *Golden and Cut-leaved Elders* (*Sambucus nigra aurea* and *S. n. laciniata*); *Arbutus Unedo*, *Berberis Aquifolium*, *Viburnum Opulus*, *Pyrus japonica*, *P. Aucuparia*, *Prunus nana*, *Weigela rosea*, *Forsythia suspensa*, *Daphne Laureola*, and *D. Mezereum*, all of which are more or less dwarf and bushy. For trees to plant as outside edgings to the front garden those of light and graceful habit of growth should be chosen rather than trees, whose nature it is to grow tall and spreading, and whose limbs in a year or two have to be miserably cropped in. The Thorns are among the finest; *Sophora japonica* and the false *Acacia* with its varieties are charming; the *Tulip tree* (*Liriodendron tulipifera*) may be introduced in larger front gardens; the double and single *Prunus* or flowering Cherries are capital; some of the Birch trees would do, such as *Betula alba pendula* and

Young's fine variety, *B. a. Youngii*. If more were wanted *Ceanothus azureus* may be tried; the Honeysuckles when well trained; and tall standard Roses may even be grown with a fair measure of success.

Present Work.—Pea and Bean stakes may be prepared and stacked away ready for use. Nets which are used for protecting blossom and young growth or for defying the birds may also be looked over to make sure as to their condition. Lettuces may be planted out in cold frames to keep up the supply. A gentle bottom heat is beneficial to them. Where Cucumbers are attempted during winter it is necessary to top-dress the roots frequently. Trenching operations at all favourable times may be proceeded with. Watering of all indoor plants must be cautiously done.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Vines for an Amateur's Lean-to.—*Samuels*: For the purpose of an amateur gardener who has little time to spare to Grape-growing, but who wishes ardently to have a try at the same, we would, as we have said before, grow *Black Hamburgh*. The following others may be taken in hand if it is desired:—*Madresfield Court*, a variety with splendid flavour; *Foster's Seedling*, which has large bunches, and is a white Grape; *Alicante*, a good black; and white *Frontignan*.

Aloysia citriodora.—*Hamman*: The lemon scented *Verbena* usually should be rested through the winter. In March, after you have potted the plants afresh and trimmed the shoots, new growths will break out. Cuttings may be taken soon afterwards, or when the wood is maturing in August; strike in moderate heat, and grow them on steadily in a greenhouse when rooted.

Agapanthus umbellatus.—*Melvor*: Propagate from offsets which may be broken or cut off in February, potted up and kept in a moist warm house till active growth is evident. The roots of course must not be kept too saturated. A compost of three parts good fibrous loam, some leafmould, peat, charcoal, and sand, and this made very firm, should be given them. Old plants flower best when they are thoroughly root-bound. Such plants require liberal liquid manure waterings through the summer. In winter they must be kept almost without water.

Potting Ferns.—*S. R.*: Those which you mention as making a fresh start by sending out the aerial roots, &c., may at once be potted. So soon as the days begin to lengthen, the general potting of indoor plants takes place.

Plan of Rockery.—*W. H. W.*: To have the greatest variety in the least space may be proper enough when the plants are skilfully placed, but only under such stipulations. If you can choose raised ground; an area which slopes on three sides at least should be selected. This allows a diversity of aspects. To make a number of connected, yet distinct sections of a rockery, a prominent central portion with other tier-like, circular, or irregular sections, spreading downward, yet around it, should be constructed. Or a simpler rockery for an Alpine collection may be arranged along the sloping sides of a "gullet" or small ravine. If the back parts are carefully planted up with shrubs and suitable trees, this style of rockery is beautiful, befitting and easily effected.

Pergolas.—*J. Right*: When they are uncovered with climbers they certainly do look naked and uncouth-like for a garden ornament. But do not let this disturb you. Proceed with the other you propose to erect, making sure that the plants you intend to use are likely to succeed.

Alstroemerias.—*Hardy Plantsman*: Make a sowing in February, placing a few seeds in a 4-inch pot, and singling out the seedlings when they appear.

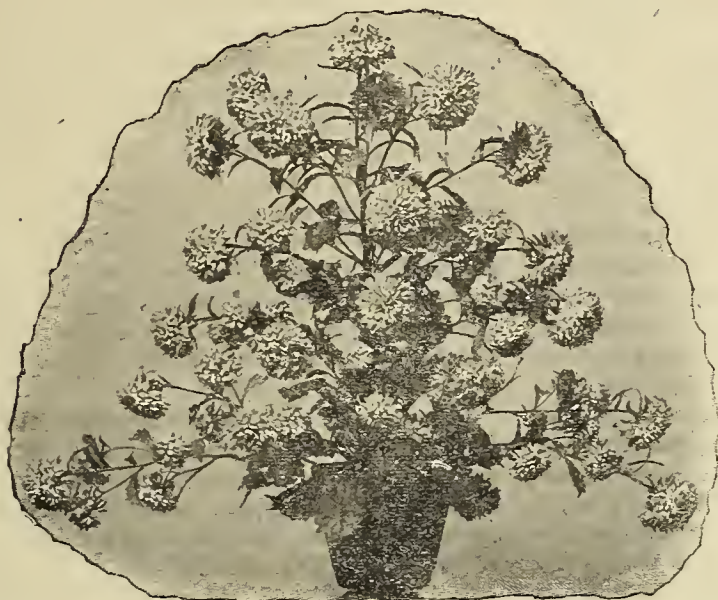
This gives you stronger plants than if you waited till May and sowed outside. Old beds may be lifted, the roots divided and again planted just when the first signs of growth appear.

Bedding-plants damping off.—*Ergo*: This must

MR. HEINEMANN'S FLOWER NOVELTIES.

THE season is now at hand when gardeners and the lovers of gardens will be casting about for novelties to add to their collections of those particular

being generally employed for the purpose at the festive season that has just passed. The lower branches of each plant spread out horizontally, while succeeding ones are more or less nodding or drooping at the tips. This mode of growth determines the outline, and as each branch and shoot ter-



CHRISTMAS-TREE ASTER.



MYOSOTIS ALPESTRIS GRACILIS "WHITE."

be looked for more or less, especially if your district is a foggy one. Keep all decomposing matter picked off and stir the soil on the surface of the pot. Afford only the requisite amount of water, and retain a dry warm air, say at 58° Fahr.

Nelumbium speciosum.—*J. F.*: This aquatic, the Sacred Lotus of Japan, is one of the finest members of the section of plants to which it belongs and is not very frequently found in private gentlemen's gardens or in those of the amateur whose hobby is gardening. You of course know its general needs, that is plenty of space, in a sunny sheltered position, planted either in tubs or constructed benches in shallow ponds, the tubs being filled with soil of a solid nature. In one season you will learn much about its likes and dislikes. Those from whom you buy will be pleased to supply you with fuller hints.

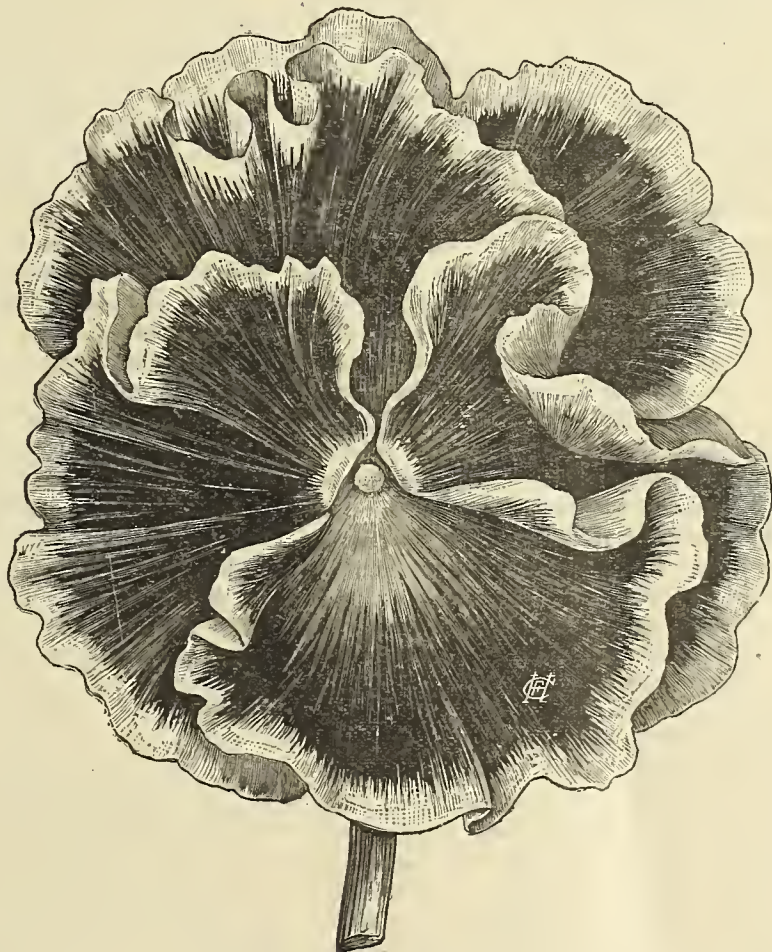
flowers which they find most useful or which most take their fancy. From the list of novelties now being put into commerce by Mr. F. C. Heinemann, Erfurt, Germany, we select four of a widely different character, and place them before our readers in such a way as to indicate the chief characteristics of each, and which, in fact, constitute the novelty attaching to and separating them from their nearest allies or kindred.

THE CHRISTMAS-TREE ASTER (see illustration) is a variety of the China Aster, which has varied so immensely under cultivation that it has been necessary for many years past to classify them into sec-

minates in a flower head, while the stronger ones bear a number of heads, well grown plants are both conspicuous and highly ornamental. Well-developed specimens bear from 70 to 100 blooms, all expanded at the same time. For this reason the Christmas-tree Aster is well adapted for cultivation in pots, or as isolated or centre plants in bedding arrangements. To make whole beds of them would be to mask or conceal much of their beauty, particularly if planted too thickly; otherwise, if given sufficient room, a bed of them ought to be productive of a distinct effect from those of any other China Aster. The habit is already sufficiently fixed to come true from seed.



SINGLE GIANT COMET ASTER.



PANSY MASTERPIECE

Gentiana verna.—*S. S.*: A pretty plant, certainly; it is suitable for sheltered rockeries in the south, though you may grow it in pots in what may be termed an alpine house. It likes a well drained pocket in the south side of a rockery. *G. acaulis* beats it for size and show.

tions, each of which now includes a greater or less number of varieties distinguished by colour. The Christmas-tree Aster is distinct enough in habit of growth to constitute a section, on account of its conical or pyramidal outline, which has been likened to that of a Christmas tree, the Norway Spruce

Four varieties are now being put into commerce, namely, White, Pink, Light Blue, and Carmine.

SINGLE GIANT COMET ASTER, as may be seen by the illustration, holds the same position towards the double varieties of the Comet section of China Aster as the single Cactus Dahlia bears to the true

Cactus Dahlia. The blooms of the type of Aster under notice are confined to a fringe of long, twisted and curled ray florets, surrounding a large central disc. Already there are three colour varieties, namely, Light Blue, Rose, and Delicate Pink. They are perfectly distinct from the ordinary single China Aster now finding much favour in this country for the sake of cut flowers. The single Giant Comet Aster is of vigorous growth, so that long-stemmed shoots are obtainable, suitable for decorative purposes in glasses and vases. Their being single gives them a light and graceful character, not characteristic of the heavy headed double flowers of the same species, and for this reason they will be acceptable to lovers of single flowers.

MYOSOTIS ALPESTRIS GRACILIS "WHITE" (see accompanying figure p. 297) is notable amongst other strains of the alpine Forget-me-Not (*M. alpestris*) for its dwarf, compact, bushy habit and floriferousness, traits which recall the garden variety of *Lobelia Erinus pumila*. Of most of the cultivated species of *Myosotis* there is a white variety, more or less popular, and that is the colour of the charming variety under notice. It is suitable alike for carpet bedding, spring bedding, and for border culture in lines or masses.

PANSY MASTERPIECE (see figure p. 297).—This is a giant form of the garden Pansy, producing large flowers, the petals of which are so broad and extensively overlapped that they have become much undulated or waved and curled for some distance in from the margin in order to find accommodation. The flowers, therefore, appear semi-double, and are both massive and conspicuous. The colours are both varied and handsomely distinct, each flower including a combination of showy colours. On account of the size of the flowers and the freedom with which they are produced the strain is well adapted for beds and border decoration. The plants themselves are of free and vigorous growth, so that the new strain should be well received for ordinary garden and park decoration, both by professionals and the flower-loving public. The illustrations have all been placed at our disposal by Mr. F. C. Heinemann, and they show the characteristics of the varieties so well that further description is unnecessary.

INSECT PESTS OF OUR GARDENS.

(Concluded from p. 284.)

APHIS.—This is a very large genus of insects, every plant which is subject to attack appearing to have a species of its own, which is named after the plant it infests, such as Plum Aphis, Peach Aphis, Rose Aphis, &c.; but it is possible that further investigation may reduce the number of species; for instance, every Chrysanthemum grower is aware that the Chrysanthemum is very often infested with black Aphis and green Aphis at the same time, showing that more than one species can feed on the same plant. In a natural way the aphides begin their life cycle in April or May, according to the lateness or earliness of the season. They are hatched from eggs which were laid the previous autumn on trees and plants which they infest either wild or cultivated. From these autumn laid eggs come the countless millions of aphides, all the succeeding generations being produced alive without the intervention of the male, until the autumn, when the males make their appearance, pairing again takes place, and eggs are laid to start a new life cycle the following year. The females and males are both winged and wingless at different periods of their lives.

By their great powers of reproduction, the great quantity of sap drawn from the plants by their suckers, the honey-like fluid voided from their bodies, and the changing of their skins as they develop, they choke up the pores of leaves and young stems, and destroy the plant. Under glass the life cycle of the aphis is somewhat different. Reproduction goes on all the winter; they are forced along with the plants, and like them are neither so vigorous nor so productive as in their natural season. One of the best preventives against aphides is good cultivation, so that a strong sturdy growth with short internodes and thick leathery leaves is produced. It is wonderful how free the Pelargonium is from aphis if in this state of health, although it is one of our most troublesome plants for greenfly. The herbaceous Calceolaria is even more subject to aphis than the Pelargonium, yet, if grown

well, it is rarely attacked by aphis till once it is weakened by its abundant flowering, then the aphides make their appearance. The best remedy against aphis for inside plants is XL All Fumigator; it is nicotine vapourised by a spirit lamp in certain quantities to suit the size of the house. It is effectual and safe, but rather dear yet. A solution of soft soap in water is a good remedy for plants outside, such as Roses, Plums, &c., but for the Chrysanthemum tobacco powder shaken into the growing point is the best remedy.

COCCUS ADONIDUM (or Mealy Bug) is one of our most difficult insects to destroy; its powers of reproduction are so great that if only one or two get into a house or are left after a cleaning, they soon spread all over it. This species of coccus being introduced to this country from the warmer parts of America and Africa, is confined to our hothouses. When the female is full of eggs she fixes herself to one spot, spins and envelops herself in a white, downy substance, and dies. The eggs are hatched in this downy mass, and disperse in quest of food. It is in this stage of their life that they are most difficult to get rid of; they are so small that the least fissure or rent can shelter them, the rough bark of the Grape Vine being an ideal cover. Like a good many insects which are active from the egg state, it can be torpid at any period of its life if the temperature is too low for it; in this way it passes the winter in our vineries. At the winter cleaning of the Vines, after the loose bark has been removed, a good remedy, because it penetrates the bark, is washing with a solution composed of one gallon of water, one ounce of soft soap, and one gill of paraffin. The soap prevents the paraffin from floating on the surface of the solution. This is very necessary, as the pure paraffin coming in contact with the buds would destroy them. A strict watch kept in the spring after the winter cleaning for any females approaching the egg-bearing state after the Vines are started to grow often enables one to kill the solitary bug that would have been the parent of thousands. The male is a small, slender, two-winged insect, which XL All Fumigator destroys, and prevents the fertilisation of the female. It does not destroy the female, however, which may be owing to the fine white powder covering her body, and acting as a filter and purifying the air before it reaches the spiracles or breathing pores of the insect.

There are two more members of the scale family which trouble us very often; they are *Coccus hesperidum* and *C. testudo*. The former infests the Orange, Camellia, &c.; it is very conspicuous by the white, woolly, oblong-shaped case in which the female envelops her eggs, not covering them with her body as most of the scale family do. A good pressure of water applied with a hose or water engine throughout a summer now and again ultimately clears them off even large bushes. The latter, *Coccus testudo*, is the oval-shaped brown scale, which infest Crotons, Ixoras, &c. It likes a high temperature. If hard-wooded plants infested with this scale are laid on their side and syringed with warm water they loose their hold and are driven off. The water should be about 150° Fahr. to be effectual without injuring the plant.

Aspidiotus is a genus of insects closely allied to the *Coccus*, and is the small, whitish-looking scale which infests Acacias, Palms, Aloes, &c. Being smaller than the *Coccus* family they are not so easily removed from the plant. Brushing with a soft, close-haired brush, using at the same time a solution of Gishurst's Compound, is a good remedy.

There is a genus of insects called *Anthomyia* which causes a good deal of trouble in the kitchen garden. They belong to the dipterous or two-winged order of insects. Their specific name is obtained from the family of plants they infest, as *Anthomyia Ceparum* (Onion fly), *Anthomyia Brassicae* (Cabbage fly), &c. We will take a short glance at the two species named, beginning with the Onion fly. I will not describe this fly to you, but only ask you to examine the fly papers you may have in your houses in the autumn months and you will very likely see specimens of this and the Cabbage fly, along with other members of the genus. They are more or less alike to the ordinary observer. Anyone wishing to get better acquainted with this genus of insects and others that infest our root crops may lift an infested root, put it in a flower pot, and place a piece of glass over it. After the maggot is full fed it goes into

the pupal state. In this state it is a brown, lifeless looking body about the size of a grain of rice.

It lies in this condition about a fortnight, then comes out the perfect fly. The specimens should be kept under the glass for a few days till they die; when they can be taken out and examined without fear of losing them. The best way to avoid an attack of this insect is transplanting from a seed bed sown under glass in the spring or outside in the autumn. Transplanting prevents the flies from laying their eggs at the base or side of the bulb, the only place they will lay their eggs (they do not lay their eggs on the leaves or green part of the plant), as the bulbs are a little below the surface after transplanting. By the time the bulbs press themselves to the surface by growth they will have attained a size more fit to resist attack. If the autumn-sown Onions are in the ground too early, or the weather abnormally warm after they come up, they may show signs of maggot, but if the weather gets colder again the attack is stopped. The eggs and larvae do not survive the winter. It is as pupae they pass the winter.

The pupae of the Cabbage Fly lie in the ground all winter, or they may be lying in a rot heap or manure heap, carried there by the old roots of the Cabbage, Cauliflower, &c., when they were cleared out of the garden. Rot heaps are a common source of pollution. The roots of the Cabbage family should all be burned if the roots have been infested during the summer. That would destroy a great many of the pupae which would have attained the perfect state in the spring, and would then lay eggs which would soon become ravenous larvae. The eggs are laid at the roots of the young Cabbage, Cauliflower, &c., mostly in the seed bed; this brood does the most damage, as they attack the young plants when they have not sufficient size to resist attack, and when they are weakened by transplanting, as the larvae are seldom hatched out till the plants are in their permanent positions; because transplanted in the usual way the eggs are sure to be transplanted with the young plants. If an attack is feared, before planting the roots should be held under a strong rush of water, washing them clean of soil and eggs. The eggs have a tendency to adhere where they are laid, and it is safer to use a little force of water to dislodge them.

Although red spider (*Tetranychus telarius*) does not strictly come within the scope of my paper, it is one of our commonest garden pests; but it is not an insect, it has a pair of legs too many; it has no antennae, and its body is in one solid piece. The harm it does, and its life history resemble insect pests; and this is a more important resemblance to the horticulturist than a bodily resemblance. This little animal (called a mite instead of an insect) more than any of our pests is the product of a dry atmosphere and dry rooting medium. It is easier kept away than the most of our pests by the opposite of this, viz., plenty of moisture in the soil and in the atmosphere. Many I know consider these impossible conditions when fruits are ripening, but Vine borders, Melon beds, &c., are often kept too dry at this stage of their growth, more particularly if the weather is bright and sunny. This argument is borne out by the behaviour of outside fruits in good summers when there is plenty of rain alternating with plenty of sunshine. Then we have healthy trees, handsome fruits, and no red spider. If we tried to imitate Nature when she is at her best with our fruits under glass, red spider would not trouble us much. Only in dull wet weather should the drying method of ripening fruits be resorted to; but a more generous supply of moisture should be given when the weather is bright and sunny. A common cause of red spider in fruit houses is allowing the hot water to circulate through the pipes when there is sufficient sunshine to keep up the temperature without the hot water; more air is allowed to enter the house than is necessary for the welfare of the plants; but the air is admitted to keep down the temperature, and the result is a dry withering atmosphere, bad for the plants and favourable to the growth of red spider. If an attack occurs on outside fruit trees the latter should be syringed several times with a good rush of water from engine or gravitation supply; no insecticide should be used if the fruit is of any size for fear of damaging it, but at any rate the best remedy is clean water. When the attack is in fruit houses, wetting the hot water pipes, and dusting them over with sulphur while wet, and

heating the pipes till the sulphur fumes fill the house, is an old but good remedy.

THE CARROT FLY (*PSILA ROSAE*).—This fly is smaller than the Onion or Cabbage fly, but resembles them in a general way. It lies in the ground all winter in the pupal state, and is hatched out in the spring; it then lays its eggs on the roots of the young Carrots. Being a very small fly it can find its way to the roots by very small holes and crevices. If the soil is inclined to be heavy these holes and crevices will not crumble down in dry weather, but remain rigid, giving every opportunity for the insect to enter and lay its eggs on the roots of the Carrots. The reason that Carrots do so well on very sandy soil, is that when the sand gets dry in fine weather (that is when the fly lays its eggs), there is a want of cohesion amongst the particles of the sand, and impelled by their own weight they run into every crevice and hole, completely blocking up every entrance to the roots of the Carrots; and the fly is quite unable to make an entrance for itself. Gardens, however, that were almost pure sand to begin with, after years of manuring get well mixed with humus and go into rents and fissures, earthworm burrows, &c., in the same way as a loamy soil, and the Carrot Fly is not slow to avail itself of the opportunity to lay its eggs. This condition of soil favourable to the growth of Carrots might be imitated on heavy soils by covering the ground with sand after the seed is sown, repeating it once or twice, as the teeming life of the soil would gradually mix it with the surface. If the sand was soaked with paraffin it would be all the more effectual.

In conclusion, I would say that a gardeners' study should be how to avoid insect pests, more than how to kill them; and to know how to avoid them is to know something of their life history; and to know that is better than to know about the newest insecticide.—*William Kennedy*.

THE JOBBING GARDENER AND PRUNING.

IN THE GARDENING WORLD, of December 23rd, p. 268, "C. S." has some notes about the jobber and his modes of pruning. Many gardeners must have noticed this cruelty to trees, for one can call it nothing less, to all classes of shrubs. They, at the same time, must sympathise with the poor crippled subjects. But very few interested people seem to come to the rescue, or write against such malpractices. If they would, how much good they could do! The nurseryman especially should find it his duty to do so, for the sake of improvement to his business and directions to those of his customers who require it. People who plant shrubs for flowering effect, must get tired waiting for blooms which can never come so long as the jobber prunes them with hedging shears into all sorts of ugly shapes. And people must surely get tired of trees planted close to the roads, trees which are not suitable and which have to be crippled by close pruning. A great deal of this mischief might be avoided if there was a little more advice given by experienced men, and I am sure a great number of gardeners and jobbers would be thankful for it, besides a great number of those employers who are interested in the beauty of nature. Much could be done to improve the plantings in the suburbs of London and other crowded cities. At present it is a disgrace to see so many crippled trees.

After having grumbled about the bad habits of pruning I will say a few words expressing my views on the subject itself, and I would be pleased if other gardeners would give their opinions. Starting with large trees it is advisable to have the pruning of them done by thoroughly careful and experienced men. Beautiful trees are often ruined in a very short space of time, or so damaged that it often takes many years before they re-establish themselves in health and beauty. Therefore, take care when pruning large trees that only those branches are cut out which do not injure the symmetry of the subjects, and any branches operated on should be cut off close to the joint. A pruned tree always will look a disgrace if there are stumps left of 12 in. or 15 in. long. These stumps start rotting in a short time and very often result in the ruin of the tree. A well-pruned tree should allow the light to pass freely into it and between the branches. Take some Stockholm tar and paint all the wounds carefully;

this will heal the wounds much quicker and keep all moisture off the wound.

Shrubs pruned with hedging shears generally assume formal shapes, whereas with a knife or secateurs no more expense need be entailed and the shrubs can be specially pruned so as to bring out their fullest flowering qualities. All flowering shrubs which bloom immediately out of wood grown the previous year, such as *Deutzias*, *Ribes*, *Wiegels* and *Philadelphus*, should have all the old wood pruned out, leaving only sufficient of the younger shoots and suckers, the tips of these only to be pruned, and that slightly. Shrubs with an arching or hanging habit (*Wiegela*) may be pruned so that the upright growing shoots are kept. If a shrub is growing too tall, a skilful gardener will prune in the above-mentioned way without losing the individual habit, beauty, or flowers of the shrub. All pruning should be done with knife and secateurs, never with hedging shears. There are many shrubs which flower on shoots grown late in the same year such as *Spiraeas*. With such, prune all old wood out and cut back the younger shoots to about 12 in. to 24 in. This depends on the position in which the shrubs stand. Those in the front of shrubberies should be cut back still more.

Lilacs do not require much pruning, only just enough to keep them in their place. Evergreen shrubs such as *Laurels*, *Euonymus* and *Aucubas*, require to have all dead wood and weakly shoots taken out. Prune the tall growing shoots back and keep the shrubs in a pleasing shape. Conifers do not require a great deal of pruning except that they have to be kept in good shape, but what Conifers require very much is cleaning out the dead scale-like leaves every year. If this is done in May it will improve the health and growth of the tree. Most gardeners will agree with me that the best season for tree and shrub pruning is from November till February. Growth is then at rest and the new development in spring proceeds in the most proper and best way.—*H. L.*

EARLY TOMATOS IN POTS.

Many will be about to make their first sowing of Tomatos for the season. For this the earliest crop pot culture yields the quickest and surest returns. The plants for placing into borders in a warm house are safer left till the middle of January, whence they can be grown on steadily to be planted into a border when the days are brighter and becoming more lengthy. Deep pans preferably, though 4-in. pots may also be used, and these filled with an open, friable loam made to pass through the $\frac{1}{2}$ -in. riddle, and a goodly quantity of sand and leaf-mould, all well mixed, will be found to suit for seed-sowing. The drainage should be ample and well placed. Rougher compost should be used in the lower parts of the pots or pans, becoming finer as the surface is reached. Seed should be got from a reliable source, and sown very evenly, but quite thinly, over the firm, smooth surface. Only the merest covering of very fine soil should be screened over the seeds after sowing, and a gentle watering from a fine-rosed can given. The pans should then be placed in a warm pit, their tops being covered with glass. This glass should be frequently turned and wiped. In three weeks' time the seedlings will be fit for potting on. After this they will require constant and regular shifts until they are installed into eight or 10-in. pots, in which they should fruit. Lesser pots may be made to answer, and fruiting the sooner precipitated by allowing the plants to become root-bound, and to sustain them by persistent feeding. On all occasions it is well to have the potting soil warmed. The newly shifted plants should likewise be retained in the same temperatures after the pottings as that in which they were previously. This allows a fresh start to the roots, &c., whence they may be removed to cooler quarters. For plants going into 6-in. pots, a compost consisting of good yellow or red loam, leaf-mould, spent mushroom dung, and coarse sand, in the respective proportions of 3, 1, 1, and one half of sand in the order as named may be used with all surety. Firm potting is essential. Up to the period in which the Tomatos were placed in the 6-in. pots, a warm house with a temperature of 55 degrees should be given to them. After this shift a temperature of 56 degrees at night, rising to 63 degrees during the day, with a constant, but very limited, current of air from the bottom ventilators

at all times, are the conditions under which they will thrive. The growth, of course, must always be developed firmly. If lankiness is allowed the probability is that no fruits will set. Firm plants yield quick returns, and the best produce too. For these earliest plants the lateral growths must be kept constantly pinched off. When a number of trusses have set well the leading shoot may be also pinched to terminate growth of wood, and to throw the strength into the crop. A dry, moving air, and practice with a hare's tail over the flowers at the time of their development greatly ensures the setting of a decent return of fruits. Sutton's Earliest of All, Ham Green Favourite, The Trophy, Conference, Hackwood Park, and others, are good varieties.—*J. Harris*.

SYON HOUSE.

(Concluded from p. 249.)

HARDY FRUITS.

A PASSING notice was given to a few items in the vegetable garden on page 249, and the methods which Mr Geo. Wythes so successfully employs. The hardy fruit section has not so many points of interest for us at this season. The pruning operations were being pushed on. There are wall trees, of course, in all forms, and in all stages of development. A fine west wall of Pears, Apricots, &c., had just been replanted before the writer's visit, for when the trees are very young they are planted close, and so soon as they have filled the spaces between each other no delay is made, they are entirely lifted and set wider apart. With the careful and skilful treatment, the vigorous young trees receive just sufficient check to be beneficial toward fruit production. Young trees are made to bear so soon as they have organised a shapely and healthy frame. By judicious cropping splendid fruits are secured, and the strength which their development withdraws from the trees saves any danger of depreciation into gross wood growth. The maxim seemingly followed is:—Get a tree into a fruitful frame, and afterwards it will remain fruitful. The system of having horizontal cordons as an edging to the walks is one which, to careful cultivators, provides a feature of much ornamental merit and also valuable returns. They are trained at from 15 in. to 18 in. from the ground, and parallel with the same. From all points of view this is the best height at which to train these cordons. The fruits are just above the reach of splashes or spattering from passing pedestrians, and the men have freedom to work beneath the boughs, while these are still within the influence of the slightest radiation from the soil. If they happen to be in blossom and a late spring frost appears imminent, light protective material can be gently spread along their length in a few minutes. For this purpose dried vegetable *Asparagus* fronds may be tried, or soft hay, tiffany, &c. Having referred thus pointedly to the edging cordons we should hope planters may be led to reflect upon the advisability of joining in the method.

STRAWBERRIES

are grown at Syon House as annuals. Much has been written in one or other of our gardening papers by the most eminent growers of Strawberries, as to the merits of the practice whereby the Strawberry is treated as an annual. To those of us who have all our lives been used to plantations ranging in age from five to fifteen years, the "new fangled" manner of growing appears to require explanation. Mr. D. T. Fish, in defending the practice of the old school, expressed the opinion that Mr. Wythes expected from babies what could only be got from adults, in other words, he hoped to get as fine returns from one-year old plants as other men only got from five-year-olds. But I've been to Syon House, and I've seen Mr. Wythes' annual Strawberries. They are splendid samples. The man who has to provide the best fruits possible to parties, which reach to quadruple figures, surely must have a powerful plea to make, and must needs have unimpeachable illustrations to show. As has been already stated, Mr. Wythes grows plants, call them mother-Strawberries, if you care to, specially to bear runners. Fruit they never are allowed to be adorned with. These, of course, have their strength concentrated in one issue, that of runner production. By the cultural care bestowed on them, the plants provide young plantlets early in July. They are rooted and taken up then, planted in nursery rows, and at a time when many other growers have just finished their pegging down, the

plants for the next year's supply of Strawberries at Syon House have been snugly placed in the ground on which they are to fruit. Every chance is thus given to them. The ground is richly manured, indeed, heavily manured both below and above, being likewise deeply worked. The soil, be it noted, is a remarkably light, sandy loam. It follows then that a visitor to the place under note, in the middle of December, particularly after such a mild autumn as this has been, must necessarily see very large plants. As a matter of fact this was the case. The finer of the samples, planted in August, I believe, had now developed to a breadth of 1 ft. across. The "crowns" of the plants are very strong, and the foliage and general build of the plants sturdy, so that it need not be imagined that long leaf-stalks span out to make a massive diameter. The number forced is 5,000 annually. Mr. Wythes does not like, in fact, condemn, the practice of stacking up the plants and covering them over with ashes as a means of economising space. For the earliest forcing, La Grosse Sucrée is the favoured variety.

INDOOR FRUITS.

Vines sprouting early in December are not a sight to see in an every day walk. Yet such was seen in a low range of sunken lean-to pits facing south. These, of course, supply Grapes by the end of March and beginning of April. What a task it is when one comes to think it over—Grapes in March. He who has this to do, also has to keep the supply forthcoming throughout the twelve months. To be able to do it is an honour, even though it causes grey hairs. Following upon these earliest pits are other houses which had been started in December. A large quantity of Vine eyes are yearly propagated, and are grown on in the usual way, being cut down in November and rested. In February of the next year they are shifted into their fruiting pots, and a crop taken that year. Heavy crops are borne by all the younger canes, and so hard is the pressure for fresh Grapes that whenever a cane begins to decline from heavy yields, a fresher one has to be installed. When the first crop has been taken from the two-year-olds, in pots, they are sometimes planted out in low lean-to pits for early forcing. Thus the system is seen to be one whereby vigorous young canes are brought on to supply the early returns. Winter fruiting Cucumbers were in very fine condition. No pinching, or at least only that which is absolutely necessary, is done.

TOMATOS.

Classing these with the indoor fruiting plants, it may also be said that Tomatos have to be kept going all the year. I saw numbers in the process of ripening, and a large houseful of sturdy young plants just at the flowering stage which will fruit early in the New Year. These were sown in September, their sturdy appearance in a temperature of 65° or so, being explained by the fact that they had been grown in the open air for as long a period as it was safe to leave them. The variety used is Syon House, the result of a cross between Conference and Ham Green, both of them capital Tomatos and favourites, too. As a further addition to plants in "fruit," the forced Kidney Beans may be noticed. A dish or two of the pods (fruits) are relished for the Christmas dinners, and being the acme of luxury they are the more demanded. But only those who have to provide supplies during the short, gloomy days, know how much care is wanted to do so. The plants do fairly well once the days begin to lengthen, and the artificial heat above and below is ample. Bottom heat is recommended as a necessary factor, the plants even being placed over the hot water pipes for the sake of encouraging root growth. Mr. Wythes' system is to sow the seeds at once into the fruiting pots, which are 6 in. in diameter. Top-dressing he does not adhere to, and upon principle, but he advocates feeding by means of liquid manure. The plants just fruiting were sown about the end of October. Fogs did a lot of damage, however, by causing showers of the flowers to drop. The October to December plants never produce full crops, from the causes stated. The old variety, Mohawk, has been found best from among something like a dozen others tried for December supplies.

Of the Banana plants, some in tuhs, and some planted out, there is matter for no comment. A fine healthy stock is in hand.

The Vanilla is not seen as a fruiting plant in many of our gardens, but at Syon it is made use of. The pods take nine months to mature for use, so that one

might hope for something "extra special" when they do yield a return.

PLANT HOUSES.

In the houses there are so many points of cultural interest, &c., to glean, that it would necessitate a longer article than the present to fully notice them. Malmaison and Tree Carnations have recently been strongly favoured by the Duchess, and to meet the desire the head gardener now cultivates these by the thousand. The plants, which are presented in all stages, are sturdy and free from disease so far as passing scrutiny made evident. I had almost written that they were clean, but Mr. Wythes has discovered that a little soot among water is a capital preventive of fungus and insect attacks when occasionally syringed over the foliage. However, soot upon the foliage is easier to remove than disease within the plant tissues. Very carefully is the operation of watering gone about. Specimen Heliotropes for winter flowering are other features of Syon which one should like to see indulged in more liberally in other gardens. Heliotropes are very valuable as winter or spring pot plants. Eupatoriums in wonderfully small pots were also seen to be favoured. The houses of Orchids, more or less those of the cool temperature section, are grown in quantity to suit demands; and the Cattleyas can likewise be furnished in goodly array. One need only refer to the Temple Show groups of these which Mr. Wythes exhibits in the spring to prove that they are up to the high standard mark. The little *Pinguicula caudata*, a curious subject to succeed with at times, gladdened us with its tall stalks bearing the pinky blooms. Probably the

NEPENTHES HOUSE

is one of the finest of the plant structures at Syon. This class of plants has a peculiar fascination for Mr. W., and his taste is one I would follow. Insect-ivorous plants are full of interest, and it is one of the sad things in horticulture that they, with many members of the Cactus tribe, which again forms a distinctive but highly interesting class of plants, do not become established in the popular regard. As things are at present we may as well abstain from further comments on this grand collection. Most of the finer species and varieties are represented, the whole appearance of the houseful being splendid. On many of the plants there was simply no room for more leaves or "pitchers." The numerous other plant houses and conservatories were each in capital trim.

A look in at the fruit room, which is papered both on the ceiling and walls with prize cards, not a few of which bore the words Gold Medal, and also a flying visit to the young gardeners' reading room and library, terminated the visit. The latter adjunct deserves high commentary. What a treasure for the industrious young "Adam," in having every volume of the Encyclopaedia Britannica to refer to, and with most of the standard horticultural works, papers, and funds of good novelistic literature all at hand.—Harrison, D.

CARROT AND ONION GROUND.

CARROTS and Onions are such favourite vegetables that there is no gardener but has tried to make these two crops an annual success. And they require a deal of catering for. If one's soil is agreeable, some pest is more than likely to come in its unwelcome visitation, and if pests are absent for a season, that season generally may be set down as a phenomenally dry one, or erratic in one or other of its several climatical items. That the soil has a great influence on the ultimate results of the crop goes without challenge. Many vegetables have no decided regard for any special class, or mechanical condition of soil. Not so with Carrots and Onions. For them special beds have to be prepared, and it is with the desire that the proper preparation of these beds may be seen to while there is yet good good time, that the present notice is penned. Both like rich and porous soils. The first is a tap-rooted vegetable, the latter is a bulb. Both store up nutriment in the portions which we use for our nourishment. Both can be grown, and, of course, as a rule they are, as annuals, but strictly they are biennials.

In the case of the tap-rooting vegetable, it would at first seem that the land in which it grew would require to be very much more deeply worked than that from which the spreading rooted Onions drew

strength. Yet we cannot have rich and porous land with lasting qualities of goodness, fit also to supply a steady drain of moisture and fatness, unless the larder is larger, unless the land is deep and uniformly stocked. Onion roots penetrate to a depth of many feet. Thus without doubt the land for both crops requires most thorough preparation. Having trenched the areas to a depth of 3 ft., and having enriched the lower strata with easily decomposable farmyard muck, all other ingredients for fertility, which as often as not are misused, may be collected in preparation for a surface dressing, latterly to be forked in.

For both cases soot is a capital natural fertiliser; a dash of gas-lime, just a mere dusting of the surface, proves helpful in more ways than one; spent Mushroom dung from old beds is generally in too scanty quantity to be liberally employed; still, so much as can be spared ought to be used. For heavy soils, secure a few tons, say ten tons per acre, of road scrapings. It may not be at all times easy to lay hold of so much. The plan followed by ourselves is to stack the road-parings, scrapings, and trimmings in certain convenient stations on our own estate at those parts where it borders the highway. When left for a year or two such a stack is very valuable to us.

On the other hand, if the soil is very light, use up the leaf mould and as much sappy dung as can be supplied. These may one and all be evenly spread abroad and forked, or lightly dug into the ground as soon as convenient. The gas-lime is not in quantity enough to do any harm, especially if it has a week's exposure. When the land has been thus enriched in the surface spit, such further top-dressings as can be given by applications of wood ashes, burnbake (old potting and border soil, &c., burned); and the sweepings from hen-houses and pigeon cotes are additional ingredients whose use will make a very rich body into which the roots will revel. Onions like a very firm bed; Carrots a moderately firm bed. As an artificial fertiliser for the Onion bed the following admixture has been recommended as of special value:—1 cwt. of sulphate of potash, 2 cwt. of superphosphate, and $\frac{3}{4}$ cwt. of nitrate of soda per acre. Carrots enjoy a little more potash. It is to be recommended that gardeners buy and mix their own artificial fertilisers, genuineness and economy are thus made pretty certain. Dustings and hoeings between the growing crops add greatly to their onward growth. The best preventives against droughty seasons and their ill effects lie in deep tillage, the incorporation of humic material such as leaf mould and dung, and steady, constant surface hoeing. To prevent insect attacks the very safest mode of protection is that of raising the seedlings early, so as to be too tough before the particular pests bestir themselves.—L. A. W.

GARDENING MISCELLANY.

CULINARY PEA, GRADUS.

Such résumés upon vegetable trials by private growers from over the breadth and length of the land, as was given by Mr. William Carmichael in his reference note on dwarf Kitchen Peas, in your paper last week, p. 285, are always useful to those of us who are now making out our season's seed orders. I can endorse all he says in regard to the first seven varieties he mentions, but surely Mr. Carmichael has not the true Gradus to have given it such a denunciation. From my own experience of the variety, and from the opinions of other growers, Gradus has always proved a favourite, and stands high. It varies but little on different kinds of soil, coming in as a second early. The pods are large, well filled, borne heavily, and the habit of the plant quite as good as that of William Hurst, Chelsea Gem, Daisy, or Stratagem, its height being three feet. According to a connoisseur upon the flavour of peas, Gradus represents the pink of perfection. If Mr. Carmichael's other varieties did well, one ought to expect that the true Gradus would not have failed in the manner he states.—Surprised.

WATER LILIES IN ARRANGEMENTS.

In the December issue of *Tijdschrift Voor Tuinbouw* there appears two illustrations representing the great adaptability of the Water Lilies, particularly the White Water Lily, for purposes of floral decora

tion. In one view we are shown their arrangement in a tall, unornamented glass vase. Above them Papyrus is used, while below them and around the vase Asparagus, Polypodium fronds, and brown Beech sprays are charmingly interspersed. The other decorative design takes the form of a gate-like framework, at the bottom right-hand corner of which and at the centre on the top of the frame, full bloom Lilies with Barberries and Asparagus sprays are used. The left top corner is clearly raised, and here again there is a crowning of the Lilies, &c. The style of arrangement is simply wonderful, and represents the most perfect of high artistic sense.

HURST & SON'S CLOVER & GRASS SEED CIRCULAR.

JANUARY 1st, 1900.

152, HOUNDSDITCH, LONDON, E.

According to our usual custom at this season, we present our report upon the various Clover and Grass Seed Crops of the past harvests in all parts.

From careful enquiries and information received, we have come to the conclusion that an appreciable shortage in new seed of almost every article will be a special feature of the coming season, from all Continental districts we hear this, and as a proof we have already been selling a considerable quantity of our English Red Clover to the foreign dealers. All appearances at this date point to a firm and steady trade throughout the season.

We have special arrangements for buying English-grown seeds in the various markets, and as heretofore, whatever we sell as English will be absolutely genuine.

We are prepared to supply the leading Natural Grasses according to their commercial values, and where any of our friends require samples that have been subjected to a botanist's analysis, we shall be pleased to forward them.

Our representatives will call upon our friends as usual during the season, and at any time we shall be pleased to sample enquirers or give the best information in our power.

ENGLISH RED CLOVER AND COWGRASS.—It would be generally supposed that the brilliant summer we experienced last year would have resulted in producing large crops of Clover seeds, but the want of moisture in June no doubt prevented any large yields from the maiden plants, and the continuance of the drought in the same way affected the second crops on the light lands. The only districts that have good yielding crops are the colder lands of the Eastern Counties and the South-Eastern parts of the Midlands; in these districts large quantities have already been threshed and sold, much of it going abroad. They are fairly large-grained, well ripened samples, and we hope to still get a supply from these districts. Some of the Western Counties that generally produce good crops have but little seed this year. It should be borne in mind that a considerable quantity of yearling seed is still in the merchants' and farmers' hands, and is making a better price than it closed at in May last.

SINGLE CUT COWGRASS.—Is in fair supply, both yearling and new; we should have enough to meet all requirements, without going to extreme prices.

FOREIGN RED CLOVER.—The American and Canadian crops are always the principal factors in the market, we believe the first to be almost an average one, but by far the greater proportion of the seed is smaller and weaker than for some years. In Canada the new crop is reported short. The remaining yearling seed, of which there is still some quantity on hand, is far better, and commands considerably more money. The States will have to supply to a great extent the shortage in Europe, and, therefore, we expect the market to gradually harden, and should not be surprised to see eventually a very substantial rise. The Continent of Europe is undoubtedly very short of new seed, by the fact of Germany and France paying us good prices for our home-grown seeds, thus pointing with some certainty to their not being able to export, and from all recent accounts we must not expect any new seed from Russia this season.

WHITE CLOVER.—A smaller crop of English than last year, of generally poor quality. America has a very short crop. Germany has an average crop of the lower grades, but really fine samples are scarce, and make ready sales.

ALSIKE.—Has advanced very much since the close of last season, chiefly owing to the small Canadian and American crops. Germany, from the low prices prevailing for several years, has much neglected the sowing of this article, and the consequent result is a strong rise, with every probability of its being maintained, and possibly another advance established.

TREFOIL.—For fine new seed the market is very short; our Super English samples are making much higher prices than last year. There is still a fair supply of yearling and two-year-old seed which can be bought reasonably, but growths are very low.

LUCERNE.—An average crop in France but a short crop in America.

SAINFOIN, GIANT AND COMMON.—Fair crops both in France and England, but much smaller than the unprecedented crops of last year.

ITALIAN RYE GRASS.—The smallest French crop for many years, prices have risen from the commencement of the season and we expect will still advance. The Irish crop is smaller than usual, and prices have advanced in the face of the meagre French supply.

PERENNIAL RYE GRASSES.—Following the several years of such large acreages and abundant yields we find different conditions this season. Whether the prices of recent years were not remunerative to the growers or the yield this year is much less, the fact remains that the marketed seed is a much smaller quantity, and consequently higher prices had to be paid. We have been most particular with our cleaning and can show excellent samples.

NATURAL GRASSES.—Cocksfoot about an average in New Zealand, and a fair supply from America; growths are good. Timothy still in large supply and very cheap. Meadow Fescue a small crop of new, but a large quantity of old seed of the poorest growth is still on the market and buyers should be most particular to get growth tests. Meadow Fox-tail an average crop of good growth. Poa pratensis is under an average, and Poa trivialis a short crop. Sheep's and Hard Fescue still cheap and good.

WHITE MUSTARD.—Short crops in every district.

RAPE.—The shortest English crop for years.

SPRING TARES.—Under average crop of excellent quality.

WINTER TARES.—The large demand of last autumn has almost exhausted the stock of these.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner only will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Pandanus Veitchi Going Off.—*Botan*: The specimen you sent must have been in a bad way for a long time past; and the decay must have begun at the roots and worked upwards until the whole rootstock was thoroughly rotten, judging from appearances. The leaves have also rotted at the base simply because there was nothing to support them. Evidently the drainage of the pot must have been bad for sometime past, or else the plant was over-watered in the low temperature at which you kept it. The species of Pandanus require a stove temperature, which should range from 50° to 60° at the lowest during the night in winter, and certainly not

below the former figure. It is possible to keep it alive and healthy at a low temperature in winter, provided the plant is in good condition to commence with, both root and top, and if kept sufficiently dry so that there is no condensation of moisture in the crown of the plant during the night. The house should be kept fairly dry in winter and the night temperature not allowed to sink below 50°.

Concerning the Mistletoe.—*John Peebles*: Large quantities of Mistletoe, we are told, are sent from the orchards in the West of England, more particularly from Hereford and Gloucester, to the London markets. The French also send over Mistletoe from the orchards of Normandy. The statement that it is a native of Britain is quite right, as it is found growing wild on various trees in many of the southern counties, at least. As far as we know or ascertain it grew in this country previous to historical times. It is not confined to Britain, however, but is also native to various countries of Continental Europe, where it is yet more or less plentiful. This will answer the question as to where it was first found, as it no doubt grew in various parts of Europe (including Britain) and temperate Asia before there were people to find it. The berries are not properly matured before the end of February or the beginning of March, so that we fear the berries you get in the florists' shops at Christmas might not germinate, unless you can keep the shoots fresh in water for some weeks to come, so as to give the berries a chance of ripening the seed properly. Do not put the berries in crevices of the bark, nor cut notches in the same to receive them, as that would be unnatural. Get some ripe berries and rub them on to the smooth bark of Apple, Thorn, Poplar, Lime, or possibly other trees as you may think fit. The viscid matter of the berries will make them stick. Tie a piece of matting or rag over the berries to keep away insects and birds till germination takes, which will soon take place in spring. No leaves, however, will appear till the third year, so that you must exercise patience, and then tell us of your success.

Shrub from Exmouth.—*J. C. S.*: The specimen you sent was *Atriplex Halimus*, the *Halimus Orache* or *Tree Purslane*. It is a native of Spain, Portugal, Virginia, and Siberia, but not of Britain. It grows best when planted by the seaside, and for that reason is planted on the southern and western coasts of England, and may also be seen on sandy portions of the coast of Jersey. Most of the tribe delight on the sea coast, which they frequent in a wild state. We have seen good bushes in the neighbourhood of London, but they are liable to die away. This species seldom flowers in England, and we do not remember seeing fruit. Evidently it could not long maintain itself except under the most favourable conditions.

Soil for the Walnut.—*A. G. B.*: The tree will grow in a great variety of soils, but they must be dry rather than moist. Heavy wet clay is very detrimental to their welfare and longevity. A rather dry, deep, and well drained loam enables the Walnut to reach the largest size of which it is capable, and live the longest, so that you should bear this in mind when selecting spots to sow or plant Walnut trees. Calcareous or chalky soils are also highly suitable to their welfare, and the nuts produced in such places are of the best quantity. The tree also succeeds by making healthy growth and fruiting on rocky soils, but you should sow the nuts in March, or rather plant them then, in the permanent positions selected for the trees, so that the tap roots may strike downwards in search of the food and moisture the surface does not contain.

Names of Plants.—*Botan*: *Phyllanthus nivosus*.—*A. T.*: 1, *Luculia gratissima*; 2, *Primula floribunda*; 3, *Pteris Wimsettii*; 4, *Pteris hastata macrophylla*; 5, *Adiantum hispidulum*.—*W. J.*: 1, *Heliotropium peruvianum*; 2, *Mesembryanthemum edule*; 3, *Gasteria verrucosa*; 4, *Aloe mitraeformis*.—*A. West*: 1, *Oncidium varicosum*; 2, *Masdevallia Chimaera*; 3, *Maranta bicolor*.

Communications Received.—*Sutton & Sons.*—*J. H. Williams.*—*J. Mayne.*—*M. Campbell.*—*Bernhard Thalacker.*—*R. M.*—*T. B.*—*A. J.*—*H. Jameson.*—*G. T.*

TRADE CATALOGUES RECEIVED.

TOOGOOD & SONS, the Royal Seedsmen, Southampton.—Toogood's Royal Garden Seeds.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Seed List.

KELWAY & SON, Seed Growers, Langport, Somerset, England.—Wholesale Catalogue of Seeds.

DICKSONS & CO., 1, Waterloo Place, Edinburgh.—Dicksons' Garden Seed.

LITTLE & BALLANTYNE, The Queen's Seedsmen, Carlisle.—Garden Seeds.

W. WELLS & CO. LTD., Earlswood Nurseries, Earlswood, Redhill, Surrey.—Special List or Supplement to Descriptive Catalogue of Chrysanthemums for 1899-1900.

WM. CUTBUSH & SON, Highgate Nurseries, London.—Descriptive Spring Catalogue of Flower, Vegetable, Farm Seeds, &c.

JOHN DOWNIE, 144, Princes Street, Edinburgh (Nurseries, Beechhill, Murrayfield).—Seed List.

T. METHVEN & SONS, 15, Princes Street and Leith Walk, Edinburgh.—Seed List.
 JOHN PEED & SON, West Norwood, London, S.E.—Seed Catalogue.
 CHARLES SHARPE & Co., LTD., Sleaford.—Standard Seeds.
 DICKSONS, LTD., Chester—Dicksons' Select Vegetable and Flower Seeds, Seed Potatoes, &c.
 JOHN T. GILBERT, F.R.H.S., Anemone Nurseries, Dyke Bourne, Lincolnshire.—Seed List.
 H. CANNELL & SONS, Swanley, and Eynsford.—Catalogue of Golden Seeds.

DICKSONS' (Chester) CATALOGUE,

No. 508, for 1900,

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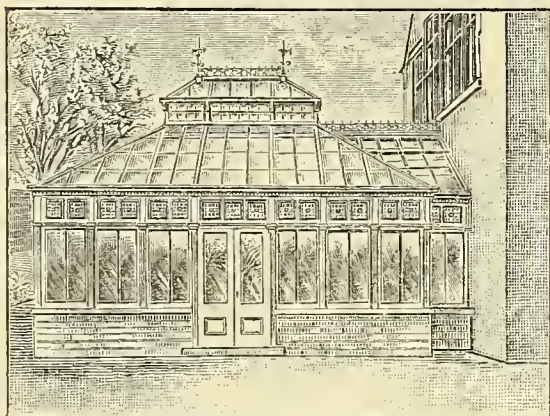
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The Chair will be taken by HARRY J. VEITCH ESQ., Treasurer and Chairman of Committee, at THREE o'clock.

The Poll will open at THREE FIFTEEN o'clock and close at FOUR THIRTY o'clock precisely, after which hour no Voting Papers can be received.

The Voting Papers have been issued. Any Subscriber not having received a copy should communicate with the Secretary.

The Annual Friendly Supper will take place also at "Simpson's," 101, Strand, W.C., at 6 p.m., on the evening of the same day, when W. A. Belney Esq., of Weybridge, will preside.

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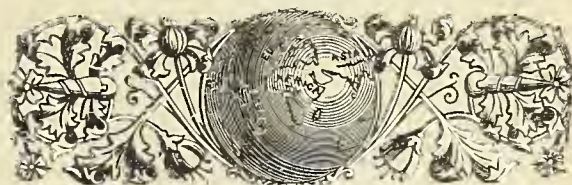
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JANUARY 13th, 1900.

PRACTICAL INSTRUCTIONS TO PROCURE SHELTER.*—Before retiring from business Mr. James Dobbie, the founder of the firm of Messrs. Dobbie & Co., had 55 years of practical experience. It is, however, hard for a man, who has pursued an active career for so long, to remain in idleness. His garden affords Mr. Dobbie both rest and recreation, paradoxical as the terms may seem. In addition to this he has written, and quite recently published, a pamphlet of some 32 pages dealing with some of his observations and experiences during his long career of horticultural work. Under the heading of the "sheltering and supporting of fruit," he deals with some of his observations made as far back as 1851. A horticulturist of Dunse complained to him of the dropping of his Apples about a fortnight previous to a flower show at which he was going to compete. Mr. Dobbie

* Practical Instructions to Procure Shelter for the Animal and Vegetable Kingdom, and Kill Caterpillars, Snails, Worms, Insects, Green Flies, Parasites, &c., that Destroy Plants. By James Dobbie. Price 6d. Rothsay: Printed at the Buteman Office, Castle Street.

suggested that he should tie up the remainder with pieces of calico, which he did, and was greatly surprised to find that the Apples had increased from 11 in. to 13 in. in circumference during the fortnight. The intention was merely to hold up the Apples and prevent them from falling and getting bruised till the morning of the show. Mr. Dobbie also noted the enormous size attained by a fruit of a Jargonelle Pear tree, which rested upon the upper side of a branch. It also came to his knowledge that the fruits of an Apple tree trained over the tiled roof of a house attained great size, as well as the fruits of certain trees trained over the top of a stone wall. The Apples that were resting on the tiles as well as on the top of the wall were much larger than those suspended on their own stalks.

He then proceeded to make experiments and found that all sorts of fruit increased in size about one-third more than they otherwise would have done, merely by being supported. The work was accomplished after the fruit had attained some size, the object being to release the stalk of the weight and strain of the fruit, provided always the raising of it did not bend or twist the stalk, as that had the effect of diminishing the flow of nutrient material upon which the growth of the fruit entirely depended. This, then, was the result of the experiments, that by relieving the stalks of the strain caused by the weight of the fruits and the bending or twisting often brought about by the same agency, the stalks were able to convey a greater supply of nourishment to the fruits, thereby increasing their size. The fixing up of the fruit also had the effect of preventing them from falling and getting damaged as well. He considers that even after the lapse of as many years the recording of his observations at the time had not produced the desired effect. He admits, however, that the operation of tying up fruits could not be carried out by market gardeners on practical, that is, paying lines, although it could be done for exhibition purposes. We may say that a great amount of tying up of Apples and Pears for exhibition purposes is effected. It is done more or less to prevent birds from damaging valuable fruits and also to prevent them from dropping. The operation is applied chiefly to large and heavy samples which are the most liable to drop when trees are shaken by the wind. Peaches are also to a very great extent tied up, especially under glass, to prevent them from dropping and getting injured. Our observations have not, however, enabled us to discern that the growers tie them up to encourage size, though we think that by mulching and watering fruit trees during July and August, and by supporting the fruits as above indicated, larger samples might be obtained. We know that size is greatly increased by taking means to insure a proper supply of moisture and nourishment at the period when fruits are accomplishing their last swelling. The covering up of the fruits would prevent their proper colouration; and even netting leaves its marks; but experiments might be made with the view of supporting the fruits, yet leaving them properly exposed to light and air at the same time. Melons are often supported by means of small flat pieces of wood. Why might not valuable Apples and Pears be supported in small, slightly concave saucers, even if those saucers are made of stiff paper for the purpose and suspended from a branch above by means of three pieces of slender twine? The propriety of sheltering orchards by means of lines or belts of trees is well understood by some, but not very often put into practice. On the other

hand we know that some gardens are too much sheltered by bringing the plantations of trees too near the garden walls. This often has the effect of greatly increasing fungoid and insect pests, by preventing a free circulation of air. Belts of trees and shrubs should be just sufficient to break the force of gales of wind. A dead calm is an unnecessary evil.

The author has also increased the size of flowers, particularly Dahlias, by supporting them. We do not think that mere size increases the beauty of that class of flowers. Opinions may, however, differ in Scotland where Dahlias seen at shows are often much larger than those grown in the south of England. Staking is, however, absolutely essential to the safety of a great variety of outdoor flowers if they would be seen in perfection, and to guard against their destruction by high and boisterous winds. In speaking of the "advantages of shelter," the author says that agriculturists will have observed that crops are heavier in the sheltered parts of fields than in the more exposed positions. He says that the evil effects of this is not due to the shelter so much as the fact that farmers manure every portion of the field alike, whereas well-sheltered places require only half the amount of manure necessary in the more exposed positions. This is an observation that certainly merits attention. If the manure applied is farmyard dung it would have the effect of retaining a great amount of moisture in sheltered parts of fields where a little less moisture, especially in wet seasons, would be an advantage. The extra retentiveness of the soil, and the absence of the drying effects of exposure, coupled with a dressing of stable manure, would cause a rank and sappy growth that thunder showers would be liable to prostrate, even in the absence of heavy gales of wind, though both very often come together. The author also deals with the protection of Pansies from slugs, new methods of blanching Leeks and growing Onions, the growing and preserving of Carrots and Parsnips, the sheltering of Peas, Beans, and many other subjects which gardeners would do well to study.

Mr. A. F. Barron, of Chiswick, we are sorry to learn, has had a bad attack of influenza.

Oranges and Lemons to the extent of 100,000,000 were sent into the United Kingdom during December last, according to the statistics of the *Fruitgrower*.

The Apple Crop of the United States of America during 1899 is tabulated at 35,100,000 barrels. Great as this seems it is yet a long way behind the yield for 1896, which amounted to 67,570,000 barrels.

Woolton Gardeners' Mutual Improvement Association.—The annual meeting of the above society was held on the 4th inst., at the Mechanics' Institute, Woolton, Liverpool, Mr. J. Stoney in the chair. The secretary read the report which states that the work of the past year has been highly satisfactory, the meetings having been well attended and the papers of a highly creditable character. The library has been well utilised, eight new books having been added during the year, bringing the total up to over 80. It was announced that a class had been formed for preparation for the examination of the Royal Horticultural Society. The statement of accounts is satisfactory, a balance of £2 os. 11d. being carried forward to next year. Votes of thanks were accorded to Mr. J. Rae, librarian, and to Mr. H. Corlett for his services in connection with the microscope. A like vote was carried for the secretary and treasurer, with the addition of an honorarium for his valuable services for the past eleven years. Mr. R. G. Waterman was re-elected treasurer and secretary. A vote of thanks to the chairman terminated the proceedings.

Commercial Fertilizers.—These, according to Prof. Vanslyke, are much more satisfactory when used in conjunction with humus, than when used alone.

Well's Chrysanthemum Calendar, 1900.—At the time of sending out their Chrysanthemum catalogue, Messrs. W. Wells & Co., Ltd., Earlswood, Redhill, Surrey, also issued a year's calendar. The novelties from the previous season being sent out by them are figured thereon, as many as eleven photos appearing this year. The most important introduction would appear to be the variety *Etoile de Feu* (Fiery Star). This is represented in a well finished coloured plate of natural-sized blooms. It is one of the brightest bush or decorative Chrysanthemums ever seen, a lovely fiery red. The cultural hints for each month of the year are so handy and valuable that growers of these plants ought to find a corner where to hang the Wellsian Calendar.

Odontoglossum harryano-crispum at the Sale Rooms.—On Friday, the 5th inst., two varieties of this supposed natural hybrid turned up at the sale rooms of Messrs. Protheroe and Morris, Cheapside, and were sold for 70 gs. and £50 respectively. The longer priced one was a very fine form. The sepals were banded and margined with dark and rich purple-brown; while the petals had a yellow band running round the central masses of blotches, and were also margined with the dark colour. The lip was clear yellow spotted with purple and purple-brown on the lower half. The other variety had a much paler yellow ground, but was otherwise fine. Fine varieties of *Odontoglossum crispum* in bloom sold from 20s. to 30s., and 63s. apiece. A magnificent piece of *Coelogyne cristata*, hamper and all, sold for £1. The complaint is that such large pieces take up too much valuable space in the Orchid house.

"The Garden."—The first issue of the new series of *The Garden*, under the new ownership and management, has made its appearance. It was founded by Mr. William Robinson, author of "The English Flower Garden," in 1871, so that it has now run a course of twenty-eight years. The first number of the new series contains a coloured plate of *Rose Marquise de Salishury*, and several photographic illustrations of Kew Gardens, and of the garden of G. F. Wilson, Esq., at Wisley. Paper and printing are good. In the way of contributions the Poet Laureate leads off with a sonnet, followed by the address of the joint editors, Miss Jekyll and Mr. E. T. Cook, to their readers. The Dean of Rochester, Mr. William Robinson, the Hon. Vicary Gibbs, M.P., the Rev. W. Wilks, secretary of the R.H.S., Mr. Edward Mawley, secretary of the National Rose Society, Mr. W. Watson, assistant curator, Royal Gardens, Kew, and Mr. W. J. Bean, of the Arboretum, Kew, also contribute. The new office is 20, Tavistock Street, London, W.C.

Rainfall in 1899 at Bicton Gardens, Devon.—During the past year the rainfall in January was 4.35 in.; February, 4.05 in.; March, 0.31 in.; April, 2.81 in.; May, 1.87 in.; June, 1.10 in.; July, 0.79 in.; August, 3.18 in.; September, 1.73 in.; October, 2.02 in.; November, 3.38 in.; and December, 4.11. According to the record, January, December, February, and November were the wettest months at Bicton, in the order given. August comes next in the order with 3.18 in. March and July were the driest months. The greatest rainfall in twenty-four hours occurred on August 7th, and this accounts for the heavy fall of the month, and apparently must have been due to a thunderstorm. On January 1st the rainfall was 0.80 in.; February 5th, 0.69 in.; March 8th, 0.16 in.; April 13th, 0.57 in.; May 19th, 0.40 in.; June 19th, 0.43 in.; July 22nd, 0.65 in.; August 7th, 2.14 in.; September 30th, 0.62 in.; October 27th, 0.85 in.; November 9th, 0.98 in.; and December 23th, 1.04 in. The last figure was only excelled by the fall on August 7th. The number of days on which 0.01 in. or more fell were in January, 20; February, 13; March, 4; April, 16; May, 12; June, 5; July, 5; August, 7; September, 14; October, 8; November, 10; and December, 13. The first and last months were, therefore, the rainiest in all respects. The total rainfall at Bicton was 29.70 in., which is higher than 23.65 in. in 1898. Both years were dry for Devon. Bicton is 90 ft. above sea level. All the observations are made and the records kept by Mr. J. Mayne, the gardener.

Brier and Manetti Rose cuttings may be inserted now. They will serve as stocks for budding next August.

Marl as a Fertiliser.—Seven samples of marl upon analysis gave the following:—Potash, 0.24 per cent.; Phosphoric acid, 1.05 per cent.; Lime, 40.5 per cent. Marl is a splendid thing for sour soils.

The Quality and Vitality of Seeds.—The President of the Board of Agriculture (Mr. Walter Long) is arranging for the appointment of a departmental committee to consider the question of establishing machinery for testing the quality and vitality of seeds.

An American Rose Society.—A Rose society has just been formed in America, with Paul M. Pierson at its head. The officials are in communication with those at the head of our own English Rose Society the latter having promised to give them guidance from their experience. Two shows are proposed to be held. The aims of the society are precisely similar to those of the National Rose Society here.

Long Island Seed Crop.—Now-a-days when the nations are so inter-dependent what affects the pulse of trade in one land, has its effect likewise chronicled in the trade records of other lands. No one of course would say that this would be to any extent appreciable in failures of confined seed-producing areas, yet one likes to know what the prospects of districts or lands are. Long Island, America, is a great seed area and from a number of causes the yield this year is almost entirely a failure. The Tomato seed crop of Michigan is likewise behind in bulk.

National Dahlia Society.—The annual meeting of the National Dahlia Society will be held, by kind permission of the Horticultural Club, at the Hotel Windsor, Victoria Street, S.W., on Tuesday, January 16th, at 2 p.m. Agenda:—Report of Committee for 1899; election of officers for 1900; schedule for 1900; bye-laws, and other business. Notice has been given that the following new rule will be proposed:—"No new Dahlia shall be exhibited in competition in any class except:—(1) Varieties which are already in commerce or are already advertised for distribution in the following spring. (2) Varieties which are exhibited with a distinctive name, together with the name of the introducer or raiser, the names of such varieties to be retained as their future distinctive appellation.

"My Garden Diary for 1900."—It is universally acknowledged that Messrs Suttons' publications, be they books, catalogues, or pamphlets, are beautifully got up. The outside covers which give first impression are always becoming, and always pretty. Within them the paper is of the first quality, the illustrations are both numerous and good, and the text clear to read, and what is better, reliable. The "Diary" they annually publish furnishes a very welcome present to all garden workers, whether garden apprentices or garden chiefs. The former learn speedily from such a diary how to summarise the work and cultural memoranda of the seasons, and the latter have a reference from which important reminders can be gained. The date calendar and the space for passing notes, &c., are neatly arranged, and will prove very useful and handy to gardeners.

Preston Horticultural Society.—At a meeting of members of the above society, held on the 6th inst., Mr. R. G. Waterman, secretary of the Woolton Society, read a paper on "Exhibition Roses." A brief history of the Queen of Flowers was given, and some information as to the raisers, especially those of British seedlings. The cultural details included the preparation of the ground as to site, drainage, and the most approved soils. Manuring in its various forms was considered with mulching. Pruning was recommended for H.P.'s from March 20th to March 30th, and for Teas some fourteen days later. Insect pests with the most approved measures for their prevention and destruction, and some hints as to the method of staging were submitted, the best material being moss with sufficient stem so that the foliage could be included. A discussion followed, in which several members took part, who were replied to by the lecturer. A vote of thanks to the chairman and Mr. R. G. Waterman concluded the proceedings.

Nitrate of Soda and Sulphate of Ammonia differ from each other in this respect, that the former has effect on growth much quicker than has the sulphate. The nitrates are freed after very short contact with solvents, but the sulphate does not act so readily.

The Seedsmen and others in America cry out against their Government agent this latter body's free distribution of seeds. These are transported all over the United States. We can fancy how our English seedsmen would accept such an action. This year's seeds distribution in America is recorded at 13,000,000 packets of vegetable seeds, and 1,560,000 packets of flower seeds, besides field and lawn grasses. The why and wherefore of all this we should like to know.

The Conservatories at White House.—The *Washington Post* lately had a long article upon the conservatories which adjoin the White House, Washington. It states that each mistress of White House has had a favourite flower, a precedent not, however, followed by Mrs. McKinley, wife of the present President. She has an aversion to yellow flowers, but is partial to blue ones. The conservatories cover a large amount of space, and contain a rich collection of both flowering and foliage plants. President McKinley does not find much time to visit these luxurious places, but the manner in which they were attended in President Cleveland's time, and in that of Hayes, Harrison, and others, is well remembered by the head gardener at White House.

Cold versus Warm Water.—The Iowa Agricultural College, with Prof. John Craig at its head, made experiments last year in the watering of plants, the following being a summary of the results:—(1) "There is practically no difference in the results secured by water between 45° and 75°. (2) Water at temperatures between 32° and 34° had a distinct dwarfing effect upon all plants treated. (3) Water at temperatures between 75° and 100° caused a weak and somewhat spindling growth. (4) Hardy plants like Geraniums were less influenced by cold water than tender plants like Coleus. (5) The best Geranium plants were grown by the use of water near the freezing point, while the poorest Coleus were produced by the same temperature. I am not prepared to say that there is 'nothing in' this watering business."

Horticultural.—The publication of their Garden Seed Guide for 1900 by Messrs. Toogood and Sons, the Royal Seedsmen for half-a-century, Southampton, will be welcomed by all gardeners, amateur and professional. The imposing Guide, which contains hundreds of accurate wood-engravings of flowers and vegetables, appears in a strong royal purple cover, decorated with gold and with a scarlet wax seal; and it is evident that neither expense nor personal labour has been spared to make the work as artistic and useful as possible and in all respects worthy the hundred years' prestige of the house. In a prefatory letter attention is directed to the fact that the firm still continues to sell only the very best produce, new seeds of guaranteed power of germination at the lowest possible prices; and customers are assured that no order is too small or too large to have prompt and personal care. Amongst the numerous reproductions of photographs of Toogood's various premises is one of a new and additional seed warehouse, believed to be the largest seed-store in the world. Some hundreds of recent letters from customers are published; and special attention is drawn to the Toogood series of gardening manuals, which are supplied at cost, and of which tens of thousands are annually sold only on the recommendation of buyers. No less than eight pages are devoted to the novelties in flower and vegetable seeds introduced for 1900 by this eminent house. Amongst so many it is almost invidious to select any for mention, but special notice should be given to Toogood's Empress Elizabeth Winter Stock, the delightful flowers of which are of the brightest imaginable shade of carmine-rose, the Toogood Mignonette, each plant of which striking novelty forms a globular bush about 24 inches in diameter, and often consisting of more than 400 flower-spikes, and Toogood's Masterpiece Pansy, with charmingly fringed petals. We should advise every reader interested in horticulture to obtain a copy of this large Garden Guide, which will, we understand, be posted freely to intending purchasers.

Greenhouse Acreage.—It is estimated that there are 1,100 acres under market glasshouses in England, but of this only about 350 acres are devoted to flower culture, the rest to fruit and vegetable production, chiefly fruit.

Maidenhead and District Gardeners' Mutual Improvement Society.—At the bi-monthly meeting of this society, on the 9th inst., the chair was taken by Mr. D. Ingamells, the vice-chairman, when Mr. J. Fraser, F.L.S., of THE GARDENING WORLD, gave an address on "The Cabbage Tribe," describing the various cultivated forms of the Wild Cabbage which have been evolved by the industry of man during many bygone centuries. He classified the many forms under four leading or principal types, such as Coleworts or open-headed Cabbages, Savoy or blistered Cabbage (including Brussels Sprouts), close-headed or hearting Cabbages, Cauliflowers, and Broccoli. At the same meeting Mr. E. G. Batten, gardener to Mrs. E. A. Beckett, Boyn Bank, Maidenhead, exhibited a well-grown plant of the beautiful but by no means common *Billbergia moreliana*, with leaves 2 ft. to 3 ft. long, and having blue flowers, with rich rose bracts of a showy character. He was awarded five out of a possible six marks for his exhibit.

Roof Gardens.—Roof gardens are permanent institutions in Paris. In New York they also have a goodly hold. Our own old cities are alone behind. A lady writer, in an American paper, describes all about some of those at New York. "While everybody around you," she says, "has left on holidays, and while the mercury crawls steadily upward, one's intellectual level falls to the consideration of music halls and roof gardens. You go into a place that looks like a theatre, only it isn't. Very soon the elevators, upon which you step, take one up, up, till at last the roof is reached. But it does not look like a roof. You cannot see the sides, and there is no view of the distant city. The walls are banked up with high foliage; the only openings being the fire-escapes. There are chairs and a stage, and men and women talking and drinking; and what with boxes screened off with Palms and Magnolias, &c., the whole place looks just like a cool music hall. It is only by staring overhead to observe the stars that you realise it to be a roof garden."—*The Sun*.

The Food of Plants.—An instructive and entertaining glimpse of the mysterious processes by means of which plants secure their food is given by Mr. H.H. W. Pearson in the current number of *Knowledge*. He says—"It is more than 2000 years since philosophers began to speculate about the food of plants and what we may term their 'digestive' processes, but it is only during the latter half of this century that really clear and definite notions concerning the food supplies of the vegetable world have been generally accepted by scientific men.... As far as is known, the first botanical experiment ever performed was conducted by Van Helmont. He placed in a pot 200 lbs. of dried earth, and in it he planted a Willow branch which weighed 5 lbs. He kept the whole covered up and daily watered the earth with rain-water. After five years' growth, the Willow was taken up and again weighed, and was found to have gained 164 lbs.; the earth in the pot was dried and weighed and had only lost two ounces. *Knowledge* was not yet sufficiently advanced to enable Van Helmont to interpret these striking results correctly, and he came to the erroneous conclusion that the increased weight of the plant was due to the water which had been supplied to the roots. He therefore looked upon this experiment as supporting the theory which he had advanced, viz., that plants required no food but water." Stephen Hales advanced the subject a great step by indicating that much of the increase in weight of plants was derived from carbon dioxide in the air. Vegetable cells contain a liquid known as "cell-sap," which is water holding in solution various materials which have been taken up from without by the roots and leaves. "These materials are thus brought in contact with the protoplasm, which causes them to undergo changes in composition which prepare them to be added to the substance of the plant. Thus it is in the protoplasm of the living cells of the plant that those 'digestive' processes are carried on which Aristotle believed to occur in the soil. We see then that the living cells are microscopic laboratories in which the digestion of the food of the plant is carried on."

Bush Fires are raging in Victoria and Tasmania, as a result of the great heat and drought prevailing there.

Eleven of the Young Men at Kew have been laid up with influenza. This is rather a large percentage to be off duty at one time, and the authorities make the remainder muster at a given place every morning to get a dose of quinine. This expedient was resorted to on a previous visitation of the epidemic and proved successful.

The Gloucester Diary for 1900.—A glance at the index of this neat little diary and directors' calendar, proves it to be a useful hooklet for the section of our public to which it is offered and compiled for. The names and addresses of inspectors and others connected with the Gloucester Railway Carriage and Waggon Co., Ltd., are recorded, together with brief memos., tables of distances and other information, which is sandwiched between the pages of the diary.

The "Garden Annual" for 1900.—Again we have to record the issue of the "Garden Annual," from the well-known address of *The Garden* newspaper offices, and hearing the name of the original publisher of the work. Active gardeners and interested horticulturists, both in our own islands and abroad, find this work of reference on gardens, on their owners, head-gardeners, and their full postal address, a very useful publication. This year's style of arrangement follows that of past times. All the new plants of 1899, and when they were exhibited, received, awards, and from whom they came, together with the dates, are alphabetically arranged. But more is needless. Those who have the "Annual" find it a good shilling's worth; and to others it is to be well recommended.

Open Air Vine Culture.—I have to thank you for copy of your journal of 2nd ult. Your notice of my contribution to the journal of the R.H.S. pleases me as keeping my "hobby" of open air Vine cultivation before the public. What friends call my hobby should be at least part of the business of many people in this country. My conviction is that Vine growing in many of our southern counties would pay. Clement Hoare, who is the only master I know of this subject, says that wine could be grown at a cost not more than that of moderately strong beer. My calculation is 1s. per gallon, and in some cases as low as 6d., if land owners will do their part and not stand aside or assert that it can't be done. We know of nearly a score of English counties which have grown wine, and since they did so, I for one maintain that our climate has improved. My collection of Vines in the open has last month been increased from twenty-seven to forty-five varieties. I hope these lately arrived guests will survive.—H. M. Tod.

Men and Women Gardeners.—There are about three sections of labour at which I can never fancy a woman to be employed, and these are as engine-drivers, gardeners, or jolly jack tars. The middle section of these divisions of employment, has, however, become blessed with the sunshine of her gentle presence. There can be no dull days now in our gardens with "Woman in her loveliness, presentment of Paradise" as its caretaker and director of of works. From stories which are going the rounds, it would seem that women as gardeners are highly successful. A woman has been appointed head-gardener to a demesne of the Marquis of Bute. No doubt after this the Marquis will discover men gardeners an anomaly, and may invent a substitution to conscription in the enrollment of the "anomaly," into an army. Capital! bless the lady gardeners. No more shall we be under the dominancy of fouzled old cabbagers, who can grow nothing better than greenflies or toadstools, when by the bounty of Providence a few Doyenné du Comice Pears, or a truss of Crimson Rambler Roses do appear, they nobly guard the heritage from high Heaven sent, vowing execrations upon the head of master or mistress who dares do more than admire them without his kind permission. According to a cutting sent us by a reader, the above story has an actual foundation and real enactment. A lady had an old Scotch gardener who could grow nothing for her, or when a bloom or fruit was to hand he so grudged her having it, that in his place she substituted an "Eve," and now she sings "Corn in Egypt" all day long!

Bermuda Bulbs.—Statistics which are authentic, show that as many as 270,000 bulbs have been imported into Bermuda to grow for next season's American and English market supply.

R.H.S. of Ireland.—The annual general meeting of the above society was held on Tuesday, December 19th, in the Central Hall, Westmoreland Street, Dublin, the president, the Right Hon. Lord Ardilaun, in the chair. The minutes of the last annual meeting were read, and showed on the whole a fair record, although the receipts are lower than last year's. Other matters of business, such as arranging for next year's challenge cups, and the appointing of new officers, were accomplished.

H. Cannell & Sons' Seed Catalogue.—The Golden Seeds of Kent from the horticultural establishments of Eynsford and Swanley go over the wide world. Messrs. Cannell & Sons, of the two places above noted, are once again sending out their catalogue of seeds, plants, trees, and novelties, a catalogue which keeps up to the high standard already gained. Gardeners will find it valuable as an easy and accurate reference to the long list of soft-wooded plants which for conservatory decoration are absolutely necessary in our modern gardens. The lists of vegetable seeds offer a wide selection, and the high merits of the plants from which the seeds are saved may be judged from the fact that the Messrs. Cannell obtained the highest English Trade Award from the R.H.S. on October 24th, 1899, for a collection of vegetables. The catalogue enumerates all the popular races of florists' flowers and varieties in each class, with illustrations filling each page. The Papilio forms of Cyclamen are well portrayed. Altogether it is one of the catalogues which gardeners will find useful.

Developing the fruit trade in our Colonies.—A contemporary makes a leader upon the subject of the, greater development of fruit culture in South Africa and in our other colonies, so that in a possible day of adversity we should not be too dependent upon outside sources for our food or fruit supplies. The displayed loyalty of our colonials during the present crisis and the obscene commentaries of the French Press, more especially, are the motives upon which our lagging apathy might contemplate for its quickening, after which it is safe to conclude that our answer might take the serious shape of boycotting our wrathful and foulsome cross-channel neighbours. If we earnestly joined hands and both gave and received reciprocal advantages there seems no reason why it should not be proved that Britons never were, and never shall be, slaves in trade any more than in imperial administration by foreigners. A boycott of France would be a very severe blow to her and a mighty upward swing of luck to our kith and kin, resulting in ultimate good for ourselves.

Annual Meeting of the Grand Yorkshire Gala.—The annual meeting of guarantors and life members of the Grand Yorkshire Gala was held last week at Harker's Hotel, York. Ald. Sir C. A. Milward presided over a goodly attendance. Last year's Gala had proved most satisfactory in all respects. The chairman referred to deputations which had been made, one to wait upon the Lord Mayor of York to invite him as the president of the Gala for 1900. The Lord Mayor was proposed and seconded for the office, and unanimously accepted. His speech was full of hope for another prosperous year. He proposed that the retiring president be elected as Chairman of the Council. This also was seconded and unanimously carried. Mr. Ald. Border was re-elected vice-chairman. Mr. Jas. Wilkinson was re-elected treasurer, and Mr. Simmons likewise was again appointed to the secretaryship. Messrs. Pearson and Taylor were elected auditors. The following were appointed on the Council:—Messrs. G. Balmford, J. Blenkin, J. Biscoomb, J. W. Craven, M. Cooper (guarantor), Alderman Dale, L. Foster, J.P., J. S. Gray, G. Garbutt, T. G. Hodgson, J. J. Hunt, A. Jones (Sheriff of York), E. B. Kendall, W. Lund, T. M. Lambert, Alderman McKay, J.P., Alderman Purnell, G. Potter-Kirby, A. Proctor, E. S. Robinson, H. Scott, W. S. Sharp, J. B. Sampson, and W. H. Waddington. On the motion of the Lord Mayor, £21 were voted to the local fund for Soldiers' and Sailors' Families. The following grants were made:—£650 for the floral fête; £230 for music; £120 for fireworks; £60 for balloon ascents; and £175 for amusements.

"Hurst & Son" Musical Society.—The second concert of the season of the above society was held last Thursday evening in the Pillar Hall, Corn Exchange, Mark Lane, E.C. It, like its predecessors, was an unqualified success. It is most gratifying to note the gradual perfection which Mr. E. Sherwood's orchestra is gaining. At the meeting last Thursday N. N. Sherwood, Esq., as usual, presided. The company numbered upwards of 100, and was in the heartiest and free spirited mood possible. The programme opened at 7.30 prompt by a cheery pianoforte solo from Mr. J. Jefferson. This was ably given, and provided a high standard to be upheld throughout the evening. Mr. Cox followed with a pleasant song, the first of a series of patriotic songs most suitable for such a time as this. The very beautiful and somewhat pathetic song, "Angels Guard Thee," came next in order from a sweet singer, Mr. John Garrett. The sympathetic chords in the bosom of the audience were touched, the beautiful song passing off with much applause. Then came an orchestral selection, entitled "A Frangese," a composition from Kaiser. Nothing better could have been chosen, the joyous pulse of the music being well developed, and proving that the band is under good leadership. By persistent practice the "Hurst Orchestra" will make a name for itself, and that even in London. Mr. R. C. Tucker always entertains the audiences at these concerts, and his humorous recitations have become recognised as features of the programme. He was in his usual mood, which is sufficient commentary to those who have heard him. The warrior song, "Who Carries a Gun," set us "up in arms" (in a quiet way and inwardly) by the story it told. Just a little more "go" would have enhanced the spirit of the song. Another selection from the orchestra, "The March of the Monks," but heightened the good opinions already formed about the rendering of their pieces. A humorous song, "I live underneath," by Mr. R. Phillips, lent variety to the items. But Mr. T. A. Baldwin's song of "The Old Soldier," oh!—the company joining in the chorus simply shook the rafters. The old soldier wanted once more to go a-fighting for his Queen, as many in reality no doubt would like to at this time. Then came Mr. Fairley and Mr. Harmer, both of them dons at singing, and gave us as a duet, "The Army and Navy." No words are needed here; it was grand. The sounds of revelry grew higher when Mr. Harry Briden, "the inimitable Harry," appeared and chanted off the story of how "They were very good to Me." Mr. R. Elley gave a very smart hanjo solo. "The Bohemian Girl" by the orchestra, proved that in this difficult piece some further practice is required to perfect its effect from the band. It was, however, well received. Once again we heard Mr. Tucker, this time in the character of "an old salt," who tells the tale of his son-in-law's courtship with his own daughter; how he, the father, refused young Hall, thus causing him to flee to the Crimea where the war was raging. Eventually he became a hero, came home, and like the prodigal of old was received to his father's bosom with many joyous tears. Mr. Arthur Wolton, always looked for at the Hurst concerts, pleasantly recited one of the old "Ingoldsby Legends," in connection with which, as their author, the Rev. Thos. Barron, Vicar of St. Paul's Cathedral some twenty or thirty years ago, has left a famous name. Other songs, duets, &c., followed. Most of the artistes had to respond to hearty encores. The party dispersed about 10.40 after singing the National Anthem.

CHOICE BASKET FERNS.

ADIANTUM TENERUM var. farleyense, is a beautiful Fern which can be grown to perfection, and also seen to greater advantage when planted in a wire basket. It requires a temperature of 60° to 65°. Although a very moist atmosphere is necessary to develop the fronds, great discretion should be used when applying water to the roots, as failure is inevitable if the soil is allowed to turn sour, through the application of too much water.

The compost should consist of half loam (fibrous), quarter fibrous peat, and quarter leaf mould and charcoal, and a little artificial manure. Retain all fibre, and well mix the compost. Make a lining to the basket with thin strips of fibrous loam, then place the plant in position, and fill with compost

already described, taking care not to cover the crown. The soil should be made moderately firm. *Adiantum Capillus-Veneris*, var. *imbricatum* resembles the above. It succeeds equally well as a basket Fern, and also in a slightly lower temperature. With similar treatment the following are excellent basket Ferns:—*Adiantum caudatum*, *A. Moorei*, *A. aethiopicum* var. *assimile*, and *A. Edgeworthii*, *Gymnogramme schizophylla* var. *gloriosa* makes an excellent basket Fern. It requires a temperature of 60° to 65° and also the same compost, with the exception that a little more peat may be added. *Asplenium caudatum* and *A. longissimum* are very graceful in habit and well adapted for a lofty stove, producing long narrow drooping fronds 4 to 5 ft. in length. Afford similar treatment.—*C. P. Cretchley, The Honeys, Twyford, Berks., January 6th, 1900.*

WHEN DOES THE FURZE BLOOM?

THIS question, I think, might, with much propriety, be put in the negative form, viz., when does the Furze not bloom? For, as far as my observation goes, it is more or less in flower the whole year round. So much, however, depends upon local conditions, the state of the barometer, and other causes, that an ever-flowering subject like the Furze or Gorse is sure to be in bloom somewhere in our country. "Sigma," however, does not dispute the partial blooming of our common Furze (*Ulex europaeus*) all the year round, but questions some statements of mine about its being flush, on Bucklebury Common, in the third week of November last.

Possibly the statements referred to were too floriferous, or too poetical; but still after these have been denuded of all their drapery, the fact remains that *U. europaeus*—the species referred to—was not only in flower in considerable quantity, but that in the case of one bush the "pyramid of bloom" was so pronounced as to well deserve the epithet applied to it. The allusion to a "lantern," likewise, can, I think, be fully justified; for in several cases the bushes were enveloped in light, or, in other words, made such a grand show of colour as to merit, in my eyes, the quaint conceit.

As to the time of flowering of the Furze, i.e., of full flowering, authorities differ. Nicholson gives two periods, viz., February and March, and August and September. Withering says May, and "occasionally at all seasons"; Johns quotes February to June; Pratt from February all through the summer months; and Milner, in his "Country Pleasures," refers to it in March, July and October.

With regard to October he writes "the sun brought out the scent of the Pines; and across the stream (in North Wales), the steep un-wooded bank was covered with yellow Gorse, which, to our surprise, was still in full bloom." Perhaps it was rash on my part to go one month further. However, although I cannot be quite sure what Milner means by "full bloom," I am in no doubt as to time and to the floral condition of the Furze in question.—*C. B. G., Acton, W.*

YOUR correspondent "Sigma" (p. 292) is evidently not far enough removed from the contaminated atmosphere surrounding London to enjoy to the full the benefits of a clear unadulterated air and its consequent blessings. I can fully endorse your correspondent's statement about the Furze bloom on Bucklebury Common on his visit here in the third week in November; even had he said more he would have been well within the bounds of truth. After reading "Sigma's" query I went out on the common to see what the effect of the frost through which we had just passed (18° to 22°) had been upon the Furze bloom. There were bushes in plenty with the withered flowers still upon them; and there were fresh flowers opened and others opening in numbers; others in all stages down to the small buds almost concealed in the axils of the leaves. Here and there bushes were still to be seen as sentinels bright with flowers watching those that were asleep; and as they faded away others were ready to take their place, until some morning we will wake up to find Bucklebury Common a sheet of gold. Curious to find out the opinion of some of the residents here on the subject, I put the question to several, and received the same reply from all, viz.: "It's in flower all the year round." No doubt situation and surroundings have much to do with the time the Furze flowers, but on a close examination of the plants many were

showing signs of variety, both in the habit of the plants and in the size of the flowers. Should "Sigma" require some specimens to go botanising on, I will be pleased to send him some.—*Alex. Wright.*

STOVE FLOWERING PLANTS.

THE many practical articles on greenhouse flowering plants by Mr. J. Mayne, appearing in your valuable paper of late, prompts me to offer a few cultural remarks on some of our stove occupants that flower during winter and early spring, when anything in the way of cut-bloom is highly prized by all who are fond of their garden. Practically speaking, flowers are at a minimum except where otherwise sheltered with glass in some form or another.

PLUMBAGO ROSEA is a most useful plant for this structure, of easy cultivation, and not subject to many insects. Thrip is its greatest enemy, but with careful syringing this pest can be kept under. Cuttings should be taken in February or March from plants that have been cut back after flowering, and stood well to the light to strengthen the same, using sandy soil, placing six or eight in a sixty size pot, keeping close in a Cucumber or Melon house, or, failing this, plunged on a hot-bed, where they quickly emit roots. A few days after they are out of the case or frame they should be potted off singly in thumbs or three-inch pots, placing them back in a temperature of sixty to sixty-five degrees, plying the syringe well up under its foliage. In a young state this plant is not at all fastidious as to soil, but when placing them in the pots you expect them to flower, a little fine peat added to loam, leafsoil and sand, will grow them a treat. Though some, I believe, add a little well decayed manure, I prefer to feed them at a later stage, when growth is well advanced. Two shifts are sufficient for the first year, 4½-in. or 5½-in. pots being large enough to get well branched plants in by the month of November; and stopping of the shoots must be frequently practised up to July, or else they soon show flower. Very little fire-heat is necessary during July and the next two months, in fact, a cold frame will do for them if well syringed, and by closing same not later than three o'clock on bright days, using a thin shade from 10 a.m. up to closing time. Before taking them into the plant stove make sure they are free from all insect pests, or else trouble will be in store for you. Place a neat stake to each plant and loop up the flower shoots to the same, giving a light position. The overhead syringing must be discontinued as soon as the flowers begin to open, as they are easily dislodged. It is an old inhabitant of our garden, and was introduced from the East Indies as long ago as 1777, but a later variety, *P. rosea coccinea*, from Neilgherries in 1863, has larger and brighter flowers than the type, and should be preferred. Old plants can be grown on by cutting down after flowering, or early in spring, shaking out when on the move, giving a trifle larger pot, and growing the same as young plants. The Plumbago belongs to the Lead-wort, so called, and said by Pliny to be efficacious in curing a disease of the eye.

ERANTHEMUM PULCHELLUM is a lovely, intense blue flower, and well worthy of our attention, as anything of the blue order seems so rare with us under glass and even out of doors. This, too, is an old inhabitant of our gardens, coming from the same locality as the former over 100 years ago. It is known to some as *Daedalacanthus nervosus*, or *Justicia nervosa*, but, by whatsoever name known, makes it none the less valuable. Nice plants, in 5½-in. and 6½-in. pots, are now, early in January, quite telling among a collection of stove plants. The flowers that are gone past should be removed each day or else the plant looks rusty. A little feeding should be practised when fairly established. The same treatment as the first-named plant suits this also, both doing well under the same conditions as to propagation, soil, and after attention, in the way of pinching, shade, &c. Mealy bug is about the only insect that haunts this plant, and steps should be taken to clear it of this in its early stage, as the foliage, being rough underneath, harbours such a pest. Young plants should be rooted every spring; and, when making free growth, plants fifteen inches through or more, and as much in height, can be had by the autumn in 5½ in. pots. Cuttings root quickly if kept moist and fairly close.—*Grover.*

(To be continued.)

HARDY FRUIT GARDEN.

THE TRAINING OF YOUNG FRUIT TREES.

Many and oft repeated are the derogatory opinions of old fruitmen who view the system of fruit tree training which exists so freely at the present time in the bulk of formerly well-kept gardens. There is not the number of men kept that there used to be, or the demand for fruit has grown to that limit which compels the gardener to adopt a system whereby he secures a larger return of fruit, though at the expense of perfect form, exactitude of symmetry, and general evenness. The foregoing may be qualified by the practice of a friend of mine who had some splendidly trained old wall Pears. The continual close spurring was believed by him to be a means of crippling the fertility of the trees. Every other branch was therefore pruned out, and the young wood from the spurs was laid in to fill up the wide spaces thus left. The result in fruit yielding was perfectly satisfactory.

Still, trees ought, and can, receive sufficient attention to train them both beautifully and for profitable returns.

There is no necessity for the exactitude of another craftsman known to me, who found one of the main branches towards the centre of a fan-shaped tree, 1 in. from the line he judged it should have followed, and who made his young men loosen the whole of one side, and refix the branches. Good nailers will do their work speedily and well. Say the tree is a young horizontally-trained Pear on a bad wall for nailing to. Bad walls cannot be easily altered and there are plenty in a crumpled state. Where a shoot has been pruned, and the part where one should like to fix the nail does not admit of this, either from want of hold or from the presence of a large stone in walls built of such material, some method has to be thought out for the purpose of fixing the branch. The "hanging" plan is not a nice one, that is, the fastening of tar-twine to the point of the shoot as a means for straight guidance. It becomes necessary to stretch a string from two points close to the wall and tight, and at right angles to the shoot. The shoot can then be fastened by means of a lighter cord to this, the supporting cord. Where no hold whatever can be secured for a nail, wedge-shaped pieces of wood have to be knocked into the wall. The shreds can then be nailed to the wood. It is well to have some taste in the choice of shreds. Nothing appears more "ungarden-like" than scarlet and yellow shreds. Again, they are very often made much too long, and the ends are not doubled in. This is a mistake. A nice length of shred for all ordinary nailing is about 3½ ins. Both ends can then be doubled in upon themselves and the nail put through them. This lends firmness. Between the horizontal branches of a wall or espalier tree, a space of 15 ins. should be left. Apples, when grown on walls, should be trained fan-shaped. It is difficult to keep them at anything like regular distances apart, and straight at the same time. Peaches on walls adapt themselves to fan-training, and so with Cherries, Plums, and Apricots. For the formation of standard trained trees, a single shoot must be left up to the height desired. Any side shoots should be removed when the height has been gained, leaving only half a dozen buds toward the apex, from which to obtain the leading shoots. The central shoot, and the two base shoots, having been roughly laid down in their proper positions, that of the others in between can then be fixed up. For a start, this is all that is needed. They should be cut back rather hard for a few years, especially the central branches. From them the shoots which break forth have to be selected and latterly laid in, allowing them space enough to receive light and air freely. The bottom part of the centre should always have an abundant furnishing of young wood, and no careful gardener will allow his trees to run away and be left bare at this part. Dwarf trained trees have to be cut back to just above the working and the issuing shoots taken and laid in. Cordon trained trees, of course, only require to be shortened back to firm wood, and spurs require to be developed. For pyramid and bush Apple, Pear, and Plum trees, the chief care is to have shapely specimens with branches coming equally from all sides, and by root pruning and shifting, to develop sturdy shoots laden with fruit-buds. A good central stem must carefully be led up and the bottom branches duly held back.—*J. H. D.*

HINTS FOR AMATEURS.

Sweet Peas.—During this present year Sweet Peas are to have a conference for the study of their own pretty selves. The trade in the seeds of Sweet Peas has now reached to impressive proportions. One way or another, hundreds of families enjoy prosperity from their connections with the commerce linked with Sweet Pea growth, selection, seed-sowing and selling, and in the sale of the fragrant trusses. Upon these grounds, and for the sake of more firmly binding all the loveliness and charms of the flower to our hearts for the sake of giving it prominently the freedom of the citadel of our regard, and to count it hereafter as one of the special favourites of our English gardens. Selections of the best varieties now existing, will also be made. The most effective modes in which to arrange the blooms is also to be proved. So that with all the vehicles for the furtherance of this conference and from the diversity of helps, preparations, &c., of interested parties in England, Ireland, Wales and Scotland, 1900, may, in the horticultural world, be termed the Sweet Pea year. Harking back to notes which appeared in THE GARDENING WORLD of July 29th last year, p. 759, we find the following varieties recorded as the choicest as judged from some 200 varieties seen at Messrs. Carter & Co.'s trial grounds at Mortlake. Summarised, we have of white varieties, Mrs. Sankey, The Bride, White Queen, Blanche Burpee (finest white).

Blanche Ferry is the earliest of all Sweet Peas; Colonist, with soft lilac and rose is also a favourite; Boreatton, dark crimson-purple, floriferous and vigorous; Brilliant, crimson-scarlet; Captain of the Blues and Navy Blue, both good; Mrs. Dugdale and Cardinal, a crimson-scarlet, are all of the first order. Meteor, though small individually, is showy in the mass. Rising Sun is quite a blaze of orange and other hues.

Lady Mary Currie is likewise peculiarly pretty, Countess of Aberdeen has large, pink, well-formed flowers. Mars, a scarlet variety, is one of the very finest, making a brilliant display. Monarch, a bronzy-purple; Indigo King, Lady Grisell Hamilton and Imperial Blue are one and all specially superior. The last three varieties are blues. Lilacina splendens is curiously blended with blue, buff and white. A capital creamy-white is Lottie Hutchins. Grey Friar, a light grey; and Salopian, which is very distinct and brilliant, may conclude the list.

Gloxinias.—A few notes may at this time be given on the raising of Gloxinias from seeds. To get good seeds is a first essential. Many nursery houses go in very strongly for Gloxinia growing, and their names are familiar enough to all active amateurs. Like nearly all other classes of flowering plants, Gloxinias are open to diversified development. New strains and improved or altered forms, habits and characteristics, are being evolved by careful selection and by cross-breeding. From such work, and from these selections and experiments which have been made, Gloxinias can be flowered in six months or little more, from the seed sowing. One sowing may be made in February, and according to desires, another can be performed a month later. For a spring display, which is most generally desired, a July sowing will provide plants to bloom at that period. A porous, loamy compost made from loam, leaf mould and sand (nearly equal parts of each) should be used. Give favour to pans, these being preferable to pots. Allow thoroughly good drainage. Fill up the compost to within $\frac{1}{2}$ -in. from the brim, making it moderately firm and sow the seeds thinly on the surface. Place the pans in a propagating pit or warm case, having a moist temperature of 65°. Water always through a fine-rosed can. Whenever the earliest seedlings are fit for shifting, delay not, but lift and pot them into thumb pots. This part of the growth, and at the subsequent shifts, is a time to use special caution, else the plants may easily be potted too deeply and rot off at the collar. The leaves should just rest upon the soil, the crown being kept free. After the first potting and when the plants have become established in the pots, a slightly cooler house is advantageous to them. On all wild spring days, young plants developing during this period may be allowed a little air, given from the leeward side. The watering should be steady and thoroughly performed. The after culture is that of shifting on

as the pots become well filled with roots, about three shifts being sufficient. They will flower in 5-in. and 6-in. pots. A rich, thoroughly porous compost is what they specially enjoy. When the flowers are showing up, liquid feeding may be given. A daily dewing-over of the foliage with lukewarm water is to be recommended. This should only be done when the plants are vigorous and of goodly size. Manure water may be placed in the evaporating troughs to supply ammonia to the air and leaves. It also acts as a preventative to insect attacks. Fumigating with well-proven liquids or materials must be done at the first signs of greenflies or other pests.

Cyclamen.—Our present batch, which was sown in August, is upon a side shelf within a few inches from the glass of a propagating pit. During the month many of them will be potted into 4-in. pots. After they have started afresh in these, we shift them to a larger and more suitable house, with a temperature ranging between 60 and 65 degrees. A shelf is again chosen. They stay there till March. Watering is most carefully and exactly attended to, no pot being watered unless it requires it at the time. It is well to go over them about 10 in the morning and at 2.30 in the afternoon, for the purpose of ascertaining their needs in this respect.

Chrysanthemums.—Cuttings of the newer varieties can now be bought. This is a very busy time with the propagator. The hints given some weeks ago may be revised. It will be found much the best plan to strike the cuttings in shallow boxes, and to allow them slight heat. Rooted plants which are strong may be potted singly into thumb-pots. They may stand for yet awhile in the house in which they were rooted.

Coleus.—To those who know precisely how to keep Coleuses through the winter, the business is a simple affair. To others it is a work fraught with care and vexation. I believe the easiest method known is the system of continually taking cuttings. They root as easily as musk does when given decent conditions, such as obtains in a warm, moist house, and in light soil. Good stout shoots are selected from the old plants, and "struck," say, about November 10th. When the cuttings are too tall, cut them clean off at the level of the pot, and, after shortening them, re-insert them for rooting. This has to be done about three times during the winter. At the last time they may be grown on. About eight cuttings can be placed in a 4 in. pot. If left in a pot-bound state the young rooted plants form firm wood, which is all the better for striking roots. If the old plants are pruned hard back (unless wanted for specimens) they may be somewhat dried off and stowed away in an odd house till February. At that period they may be potted up and re-started. Young plants can also be raised yearly from seeds. By this means of propagation, time, space, material, and care, all are conserved.

Parsley.—With all classes of people Parsley is such a necessary vegetable—to call it by this name—that a stock should always be in progress of growth. A warm-house sowing may be made at once in pans. The seedlings, when ready, are pricked into boxes, these being placed on shelves in warm houses. Later on transplant to hot-beds, and in sheltered corners on south borders out of doors. Beds in the open may be covered by a frame to shelter and abet the vigour of growth. While mentioning Parsley sowing it may be fit to hint on the possibility of very early sowings of Radishes, small Salads, Onions, and Cabbages at the end of this month. As a rule, these are sown in boxes inside, and then transplanted out to the borders. But where the soil is light, and where sheltering walls, hedges, and temporary arrangements can be made use of, to the well-to-do amateur it would be most interesting, though not definitely successful perhaps, to "have a try" at the raising of early vegetables.

Pansies.—Pansies, Violas, and Violets, each but a different type of the same genus, and belonging to the order (Violaceae), are little plants, for whose sake flower lovers would give up many other subjects rather than be without. So easy to cultivate are Pansies, and so tractable under varied conditions are they, yielding us a shower of multi-coloured "faces," looking shyly forth with solemn eyes upon ourselves and the neighboring flowers, that in nearly every garden, even the littlest, they are represented. Their popularity is likewise on the increase. Sturdy plants of the best varieties can now be bought so cheaply that it seems the best way to obtain the required

supply. Seeds are easily dealt with, and very certain too; and cuttings are equal to seeds. But for him who would have good named sorts, and be certain of them, let him buy plants for spring planting. A cool border, with a deep, rich, moist, but porous soil, in a perfectly shaded position, are the conditions the Pansy most cares for. Seeds may be thinly sown in April, either in frames or in hoxes. When the seedlings have become of size enough for shifting, place them thinly in a sheltered border. They will become stocky plants there, fit for transplanting to lines in borders, or to well prepared beds. Cuttings may be placed in frames when rooted, or, during all the time in which they are rooting, allow them air whenever the weather is mild enough to permit of it. When the outside temperature is above 40 degrees, or, say, about 45 degrees, the sashes may be tilted back. Stir the surface soil between the cuttings, and remove all leaves which blow in, also the decaying matter which may be about the cuttings.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject, pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Paeonies in the Grass.—*J. F. C.*: Paeonies would certainly naturalise and establish themselves in the manner described by *Beacon* in his notes on "Wild Gardening." Of course, there would be some amount of deterioration in the strain. The success of the system from its aesthetic point of view has been long demonstrated. We certainly advise you to convert the rough grass area into a wild garden, employing such plants as are mentioned on page 264. If the soil is not ideal incorporate good and suitable compost when planting. Should shelter be required arrange Thorn, Privet, or Beech hedges, and raised mounds here and there. The mounds should be planted up.

Paeonies.—*J. F. C.*: Many a towsy bed could be made to continue in brightness if the system employed at Holland House, to our notes on which you refer, was more generally followed. By planting two or more classes of flowering plants together, so that one succeeds the other in display, the difficulty is banished. For your Paeony beds we would suggest the following subjects:—*Gladioli*, *Liliums*, *Narcissi*, and *Scillas*, which, however, flower at the same time; hardy *Lobelias*, tall *Gaillardias*, *Pyrethrums*, *Canterbury Bells*, and *Phloxes*.

Why are English-grown Liliums dearer than those brought from Bermuda, Japan, and Isles of the East? asks *Curious*. The only answer we can furnish is that many of our *Liliums*, *L. auratum*, *L. longiflorum*, *L. l. giganteum*, *L. Krameri*, *L. Harrisii* (*L. l. eximium*), and others, have never become thoroughly adapted to even our south coast climate and the cultural conditions obtaining there. They do not in this country develop or mature to the same size and perfection with one season's growth, compared with bulbils propagated by experts in their culture, in their native habitat. The labour and other expenses to grow them in the East are much less than those in England. We believe they also suffer more from disease in England. Being transported by thousands and thousands in a single cargo, the expense of freight, &c., does not put a great deal on to the price of each bulb. The utmost care is taken by the shippers to buy for transportation only the very finest bulbils. In cases where growers sell small and inferior bulbils, or those of bad varieties, and so flood the English and American markets, and lower prices, the shippers find it pays them to buy these up and pitch them overboard out of the way.

Mushroom Spawn.—*W. L.*: All the conditions being correct, spawn, if fresh and good, should begin to give returns in from five to eight weeks. Months, however, sometimes elapse before the spawn moves. Water thoroughly with tepid water if the beds are dry. A close covering of straw should be placed over the beds. A temperature of 85 to 90 degrees we consider unsafe for an amateur; 75 degrees is a better temperature at which spawning may be done. The white threads form the mycelium,

each being a branching hypha. The fructification or Mushroom is formed from the union of a number of these hyphae. They grow upward to form the stalk and the cap. From the inside of the cap, when it begins to broaden out, a series of changes takes place, ruptures and concentrations of growth occur, eventually forming the gills or lamellae. The edges of the cap break away from the stalk, and leave a tattered ring, the annulus. On the gills are borne the basidiospores, upon whose germination new mycelium is developed, and the life-history again begun.

Forcing Potatos.—*K. G.*: Eighteen inches of soil is quite enough over the hotbed. We prefer to use whole Potatos as sets, selecting those of a moderate size. Halved Potato seed is best when planted on the same day as cut.

FREESIAS.

THE accompanying photo represents a barrow of Freesias in bloom from our earliest hatch last spring. Although the culture of these plants is of the simplest nature, it is seldom one sees them well

Five-inch pots are the most useful sizes for us. When potted, plunge the pots to their rims in a frame, under a north wall, and cover over with about an inch of Cocoa-nut refuse to prevent the necessity for watering. When the weather is inclined to be showery, put on the lights and prop them up at the back. They are impatient of much moisture, until root-growth commences. When the top-growth shows through the refuse, remove the plants to a southern aspect but keep in the frame, and water when the soil begins to get dry; and as the autumn advances place the pots in the greenhouse on shelves near the glass, in a temperature of about 50°, but not near ventilators, as these plants at this season are very susceptible to cold currents. At the same time they must not be kept in a stagnant atmosphere. Weak manure water may be given when the pots are filled with roots, which will greatly assist their development. If the above cultural remarks are fairly carried out, this batch should be in bloom at the end of January or beginning of February.—*J. Easter, Nostell Priory Gardens.*

For an extra early batch, say, to flower just before Christmas (see page 230), a selected batch of well-

HARDY AURICULAS.

THIS term may seem to be superfluous, because all Auriculas are hardy; but there are so many that it is useless to treat them as such because their flowers are only good when the plants are under glass. I mean by the term hardy, all those varieties which we can and do grow so freely outdoors, where they flower so abundantly. It is in relation to these border forms that I write, as details with respect to the culture of the choice or florists' sections of the Auricula concern but very few. That is no matter for wonder, however, as the thousand can grow these plants admirably outdoors, whilst only the dozen can or do grow the choice ones in frames or houses.

Now it may be said of border Auricula seed that none is in one case more difficult to germinate, in another none more easy. During the month of April of the two years just passed I obtained seed of the best border quality, and sowed it with great care on good soil outdoors. In both cases not a seed grew; the heat and drought were too much for it, and because remote from home I could not shade and water continuously. That description of experience shows that these are cases in which germination is difficult.



FREESIAS AT NOSTELL PRIORY.

done. The most important thing is to start with fully matured, and well ripened bulbs. Unless these are procured it is useless trying to flower them. In some places where suitable conditions of atmosphere and soil prevail, these bulbs can be successfully grown to flowering size, and when well matured can be thoroughly relied upon to produce a profusion of lovely, sweet-scented flowers, which last in a cut state for some considerable time. Where the conditions and convenience does not exist for the growth of bulbs at home, I would advise them to be purchased from some reliable firm. From my experience with these bulbs I have found none better than those imported from Bermuda by Messrs. J. Veitch & Sons. The plants represented in the photograph were procured from this firm. I prefer potting as soon as the bulbs come to hand. When kept any length of time out of the soil, and especially if exposed, their vitality seems impaired. Bulbs ripened at home, when convenient, should be kept in the soil in which they were grown. If not, they ought to be stowed away in air-tight paper bags until potting time, which for the earliest hatch should not be later than the end of August, using rich, light, loamy soil, moderately dry.

matured and large sized bulbs may be potted by the middle of August. Instead of allocating them in cold frames they should be placed in the slightly stimulating atmosphere of a warm greenhouse. In five weeks' time the bulbs will have started, and, almost in the same ratio at which the outside temperature declines during the advance of the season, the heat for the forcing of the now progressive Freesias should be increased. They stand forcing in a steady temperature of 60°, rising with sun heat to 65°. Slight ventilation is advisable during mild weather. Another point upon which opinions differ is on the point of feeding. Given small pots, good bulbs and advancing growth, under congenial conditions they may have weak liquid manure every other day.—*J. H. D.*

Trees for Low-lying Grounds.—It would be a relief to many no doubt to know of trees which are suitable for planting on land liable to be flooded. The following have been tested and well spoken of:—Balsam Willow, Palm Willow, or indeed any of this genus; then there is the Alder, and among Conifers none is better than the Douglas Fir (*Pseudotsuga Douglasii*).

Having had some seed given me by a neighbour in August last, I obtained a shallow box, filled it with sandy soil, and sowed some of the seed moderately thin on that, watered it, then stood the box in one rather larger and deeper, and covered that one up with a piece of stout glass. I had no other means of assisting germination, because I have only a very small back garden, and a thickly populated town for my garden. I shaded the glass with dust until I saw young plants resulting, then gave them more light and some air, just tilting the glass behind with a thin piece of wood. To prevent the glass from being displaced I fixed a nail in on either end of the box, and carried a piece of string over from one nail to the other, thus holding the glass covering securely. Now I have in my box from 200 to 250 nice, strong, seedling Auriculas in various stages of development, for Auricula seed notoriously germinates very irregularly.

So far good. I have thus been enabled to show that it is possible even in the early months of winter, and under very adverse conditions, such as a town atmosphere presents, thus to induce free germination of Auricula seed by the aid of very simple means. I can have no doubt whatever, let the

weather of the next three months be what it may, that now the initial stage of germination has been overcome, and growth proceeds so satisfactorily, that I shall have a fine lot of stout, sturdy seedlings to plant out into the open ground at the end of April or early in May; and if the soil then be fairly moist the plants will soon get established.

Border Auriculas, once they are well rooted, are very accommodating. They seem to care little for heat or for cold, for drought or for rain. This is a great recommendation, and such as should cause amateur gardeners to grow them freely. There are in a batch of seedlings many beautiful things; and if the grower can devote to his flowers some attention in the matter of selecting and marking the best for reproduction, he will in time find that he has for himself obtained a beautiful strain. It is less mere hue in the flower that may be looked for than stout stems holding the trusses of bloom very erect. The flowers should be of bright self colours. Those of a washy hue might be discarded.

Where practicable it is a good plan to put out the seedling plants into a nursery bed where they can bloom the following year, and from such bed selecting the best flowered plants, those which give the best stems, trusses and colours, and planting these out into the flower garden proper, or failing such, getting them into pots to flower on window sills, or, indeed, anywhere that positions can be found for them. Auriculas transplant readily. The best time to do that work is after the autumn rains have well moistened the soil in October. Then the plants soon become well established for the winter.

Auricula seed being hard shelled like that of the Polyanthus and the Primrose, always germinates best when sown in the autumn, within a couple of months of its ripening. When, as in my own case, strong seedlings are obtained in that way to stand the winter, and plant out in the following spring, the plants become so very strong relatively to bloom the succeeding year as compared with what results when seeds are sown only in spring. Of course, gardeners who have plenty of glasshouses or frames and warmth can raise seeds of all descriptions in the spring with ease; but after all how few of them grow border Auriculas.

I am thinking rather of the amateur element in gardening, and especially those who, like myself, have only limited means. These will find seed raising at any time greatly helped if they use glass covered boxes, stood in a warm place outdoors, as I have done. When I told the neighbour who gave me seed that I had secured good growth he was delighted, as he said others, to whom he had given seed, had not induced it to grow. No doubt the simple secret of my success was found in the glass-covered box.—D. K.

KELVINGROVE PARK, GLASGOW.

This interesting park extends to eighty-five acres, and is situated not very far from the Botanic Gardens. At the Kelvingrove Street entrance a handsome gateway was erected in 1897. Nothing so fine is to be seen at any of the entrances to the other parks in Glasgow. The ground is beautifully undulated, and the natural features of the place have been taken advantage of and improved by the planting of trees and shrubs by Mr. James Whitton, the efficient superintendent. The leading thoroughfares have been greatly widened, thus relieving the congestion of traffic which used to take place in this thickly populated neighbourhood.

Many large beds have been planted with flowering and fruiting shrubs of an allied character or of similar habits of growth. In a group of bamboos we noted *Arundinaria japonica* (Metake), *Phyllostachys Simoni* and *P. violascens*, all in fine healthy condition, having thriven well since they were planted out in the winter of 1894-95. Other choice flowering subjects that also do well here are *Magnolia soulangeana*, *Ligustrum japonicum*, *Rhus typhina*, *Buddleia globosa*, *Forsythia suspensa* and *F. viridissima*. The Daisy Bush (*Olearia Haastii*) gives so much satisfaction, both for summer and winter effects, that it is now being raised by the thousand for planting out in the parks. The evergreen *Daphne fioniana* commenced expanding its purple flowers early last autumn, as a result, probably, of the warm summer experienced last year.

A bed is mostly occupied with dwarf European *Rhododendrons*, including the neat habited *R.*

ferrugineum. Several of the hardy heaths are planted, including *E. australis* and *E. vagans*, the latter of which was still flowering. The Holly-like leaves of *Osmanthus Aquifolium* are smaller than those of the type, but for that reason they make the plant even more graceful. Amongst berried plants, *Skimmia japonica* and *S. Fortunei* both do well. *Ilex Fortunei* and *I. F. variegata* look more like Myrtles or *Pernettyas* than Hollies, but they belong to the latter all the same. *Berberis Wallichii* is another dwarf and useful subject, with leathery, evergreen leaves and black berries. A group of Lord Penzance's Sweet Briers has met with appreciation here, and naturally enough they succeed as well as anywhere. Flowering or ornamental Thorns are planted in great variety. The best specimen of the London Plane in Glasgow is situated in the Kelvingrove Park. Though only of moderate height, with a spreading head, the bole is 9 in. in diameter. Many more of the species have been planted in the park.

"RETROSPECTIVE AND PROSPECTIVE."

Most of us will have heard these words used a great deal of late in reference to a question over which our country is now engaged in a terrible war; but it is in another connection that I now use them. As a rule, I think we young gardeners, with our hopes and ambitions, do a great deal more in the matter of looking forward than of looking backward, as our whole work is really a preparation for, may be, next week, next month, or next year; but many of us just now will mentally review the past year's work, with its failures and successes; and, shall I venture to hope, have profited as much by the former as the latter? Do not think, Mr. Editor, I want to sermonise, but, with your permission, I will have a chat with my younger brethren of the craft, and try to give them a little advice at the same time.

First of all, let me recommend, to those of them who have not hitherto done so, that they keep a diary of their work, together with a record of minimum and maximum outside temperatures and the rainfall. I have found it of great use to me, as well as being interesting to look back over earlier records of weather and work. At the same time, too, it affords a good comparison as to the forwardness, or otherwise, of work generally at the passing time. Where not actually engaged in a particular department, notes can be obtained from the leading man, or, when the evenings are light, a ramble round with a notebook will give all the information desired.

I do not recommend too much reliance on the note-book in order to remember names, as it impairs one's memory. I find if I write the name I wish to remember once, I can invariably recall it when wanted. A good plan, too, is to look up the meaning and derivation of both generic and specific names. It is a great aid to one's memory.

Watering is another matter to which I ask their attention and endeavour to improve in, during the coming year. Some may think it a little matter, but it is one of the most important in gardening. It is irritating to find a plant watered time after time, and after each so-called watering, either through excessive dryness or insufficient quantity of water, the upper half only of the ball has been moistened.

There is no fixed rule either as to frequency or the quantity given, and all the telling in the world will be of little use in correcting errors in this direction. It is just a matter of "gumption," or, in other words, observation and reason combined, and it is in these two characteristics that the real gardener shows himself.

Airing and damping are two other little items—by-ones sometimes, perhaps—in reference to which I again ask them to use "gumption," and to rely more on their physical senses, and less on the thermometer and hygrometer than they have done in the past. Perhaps they can recall the crop of grapes partially, if not wholly, spoilt by mildew, which might have been traced to indifferent ventilation, or the batch of plants spoilt by being scorched, through not being aired sufficiently soon. If so, it may make my advice doubly potent.

When one goes round at night and finds, perhaps, condensed moisture on the finest *Phalaenopsis* leaves—a condition, of course, in itself one does not care to find—and that on the top of this the duty man has given the house another good damping, is it small wonder if one feels inclined to use expressions which

the rector did not employ in his sermon the previous Sunday? A little thought would have saved all irritation.

Many will now be thinking of making a shift into other situations, and to them I say, keep your ideal before you, and lay yourself out to attain it, and do not drift as circumstances may take you. It is a great mistake to make. Make up your mind definitely as to the kind of situation wanted, and remember, we have often to make what may seem a step backward in order to move forward. May the New Year be a happy one to us all, happy in the sense of us being better workmen and better men.—G. [Every sentence of the above letter is of value to young gardeners Ed.]

DECORATIVE ASPARAGUS.

At a time when floral arrangements are so rife and seemingly on the increase as regards the occasions for their use, it is necessary that a gardener should bestow considerable attention on decorative Asparagus culture. Certain are we, that no gardener is exempt from the need for Asparagus fronds once a week, at least. "In the season" and with certain families the daily, let alone the weekly, output is very considerable. These facts are well known. Now comes the question, What is the best possible manner for obtaining a supply or for growing plants to yield the supply, we should say? So far as can be seen, both in market gardens and in the private places upon which the heaviest demands fall, the system of planting out into narrow borders yields the best returns.

I have in my mind's eye a splendid stove corridor which ran east and west. The north or right hand side was represented by a wall from which the three-quarter span-house sprung. Adjoining the base of the wall on the inside was a border 2½ ft. deep and about 2 ft. broad. This was used wholly for Asparagus plants. Having cleared out the original soil from this border a thorough bottom work of drainage was prepared. Over the brickbats, clinkers, and potsherds were placed inverted turves, and then the compost followed. This latter addition, as was necessary, had been carefully mixed and prepared from fresh loam, leaf-mould, charcoal, lime rubble, pounded oyster shells, some wood ashes, and a liberal quantity of very coarse sand. The crowns of the plants were planted a few inches deep, but not before time had been given for the consolidation and warming of the border. These were made firm and well soaked, after which the story may be said virtually to have ended.

They did well. Time but added to their success. The older they became the better established and stronger they grew. Nothing further was done save that they had an annual topdressing after the second season. During their early tenure of the border the strictest precautions were taken to prevent the water from lushing over the edge to the path during swilling operations, and it was greatly to such care that the plants grew so well. Had the border become sour, no doubt one should have had a different tale to recite.

Strings, not green strings, but ordinary gray strings, were used for the training up of the shoots to the roof, 9 ft. above. For a heavy supply, and for facility to cut the whole shoots cleanly out, no better practice for Asparagus growing could be formulated. Visiting a famous London market nursery, lately, I saw plants there ten years of age growing like youngsters of two seasons, and they were planted out and always had been.

If borders are not at command deep boxes can be used to act in service for borders, with almost equal success.

The pot culture of decorative Asparagus goes on the same lines. A temperature of 60° at all times, and up to 100° in the summer time, with deep shade and plenty of moisture at the roots and in the air should be maintained in their culture. The varieties suitable for border culture are *A. plumosus*, *A. p. nanus*, and *A. tenuissimus*. For a cool house border use *A. falcatus*.

A. Sprengeri seems to prefer a basket, a pan, or a pot, and to be suspended 20 ft. in the air! At least, the finest specimen plant I have seen was so high and growing in a great basket. The shoots reached down 10 ft. or 12 ft., and after flowering they presented a glorious feature with their berry-bedecked stems.—Scottie.

BUCKLEBURY COMMON.

(Concluded from p. 283.)

KINGSLEY speaks with enthusiasm of the heaths and moors round his house, and Phil Robinson devoted an article to "My Kentish Heath."

There is, no doubt, that commons or heaths in autumn are "wonders of Nature," especially to "those who can contemplate Heather apart from grouse," and who are otherwise aesthetically satisfied with the "purple and gold" which that season generally affords. In November and December, however, the royal colours have been replaced by others of more sombre tone—less bright, but not less beautiful to those who can fully grasp the significance of Nature's woods. Bucklebury Common, too, by reason of its extent, possesses a variety of soils; is, in fact, a valuable adjunct to the gardener, as well as a happy hunting ground for the botanist. Peat, loam, sand, chalk, gravel, sphagnum, &c., testify to its utility in respect to gardens, while the large number of fine trees bespeak it as an admirable recreation ground for the arboriculturist. The Scotch Fir (*Pinus sylvestris*) occurs in groups as well as in fine specimens, while in one instance the symmetry of the foliage extends well down to the base of the bole. The mere presence of Pines, apart from their effect on the landscape, always implies to me a salubrious influence. Moreover, there is a mystery and a melody in the "voices of the Pines." It was under the Pines that the fauns and the nymphs foregathered, and the reeds were played. The Pine, according to tradition, is a sacred tree; for Cybele, "mother of the Gods," has it for her cognisance, and Bacchus, according to the same beautiful myth, is reported to have tipped his thyrsus with its fruit. The specimen Pine referred to, however, is on the edge of the common in the grounds of Spring Cottage, the comfortable-looking residence of Mr. Maskelyne, of conjuring notoriety. Here, also, are some magnificent Beeches (*Fagus sylvatica*), two of which we measured. These went 13 ft. 6 in., and 14 ft. respectively round their boles at 4 ft. from the ground. Moreover, their trunks are smooth and massive, and they possess enormous heads about 80 ft. in height, which must, in the leafy months, be mountains of nmhrageous delight.

Spring Cottage is so-called from a spring (natural not mysterious) on the premises, which "never runs dry"—a valuable acquisition in droughty times.

Thence we rambled on towards Bradfield, in the vicinity of which is an Oak avenue about a mile and a half long. Something like 500 trees have been collected together in double rows, the outer rows being smaller in size and stature—evidently an afterthought. A dozen or so of these handsome trees were tried with the tape, and, without going into details, I may say that they varied from 11 ft. 6 in. to 20 ft. in girth. Presumably all those which were measured were planted at the same time, hence the variation would probably be due to local causes, and the natural tendency of all seedlings to vary. However, the avenue, as a whole, is remarkably beautiful, even if it be not historical, for I have been unable to trace any reference to it in Murray's or Walford's guides to Berkshire.

The Oak is generally considered to be pre-eminent on account of its size, robustness, noble aspect, and other qualities; and whether viewed in spring, summer, autumn, or winter, is worthy of being entitled the "monarch of the woods." On the day in question it was seen to great advantage, for its leafless branches, set off against a soft blue sky and a warm sunny glow of light, exhibited a picture of free development which could not be discerned in summer time. The Oak also appears to be tenacious of existence, for there is one near Nuttage Gate—another part of the common—which was struck by lightning about twenty years ago. This is still hale, and measures nearly 23 ft. in circumference. By the bye, the term Berkshire (Barkshire, Leyland), is by some derived from a certain *dis-barked* Oak, at which the inhabitants of the forest district used to meet to consult on matters of public interest—a far-fetched derivation surely. The Saxons called it Berrocscyre, which Asser Menevensis traces back to "Berroc," a certain wood in which the Box grew plentifully.

Some Wellingtonias (*Sequoia gigantea*) near here are worthy of notice, as they average 50 ft. in height, and are well furnished with leaves. Spruce Fir as well as Scotch Fir are much in evidence; while a curious Birch tree—6 ft. 3 in. in girth—with

Beech-like habit attracted our attention. Other trees and shrubs abound on or about Bucklebury Common, and even Ferns are well represented, ten species coming under our notice. The cork-barked Elm (*Ulmus suberosa*) would give another reason (?) for the county name, if it did not exist in larger quantities in other places. Anyhow, twigs were secured as a souvenir. Much more might be added, but I think sufficient has been said to indicate the nature of the vegetation, the diversity of the scenery—for Berkshire is well watered and wooded—the salubrity of the climate and the beauty of Bucklebury Common.—C. B. G., Acton, W.

THE HISTORY OF GARDENS.

(Continued from p. 278.)

PERSIAN gardens seem to have changed but little from the days when Xenophon wrote descriptive treatises upon their stateliness. They are regarded as having been square or oblong in shape, generally surrounded by a mud wall (substantial, of course, and not such as we of to-day might picture) over which tall trees cast their shadows. Within the walls the gardens were thickly planted with lofty pyramidal Cypresses and graceful Elms, knotty Ash trees, dark funeral Pines, Oaks, Sweet Myrtles, and Maples. These trees were planted so that straight vlews only were obtained, that is, vistas. They thus formed numerous and long alleys, very little care being expended upon the adjacent groups of shrubs, no neat lawn patches or beds being evident. Water canals and coursing streams, above which mounting terraces were raised, all combined to form a typical ancient Persian garden. Shade and the sound of purling waters are, or were, favourite items of the Persian in his garden.

Plutarch's accounts of Greek husbandry with those of the Plinys and Epicurus, and several other writers of classical times, throw but scant light on the forms, arrangement, and the classes of plants, shrubs or trees then used in Greek gardens. To describe them as Olive groves or orchards would seem to be a very accurate summary. Accounts prove that the Academy at Athens was planted around with groves of the Olive, Plane, and Elm trees, which, however, were cut down during the siege of Athens, by Sulla. But Greece, with all her history, seems to have tended to her military or artistic wealth than to the noticing of domestic luxury as represented by gardens.

Passing on to notice Roman gardens, Mr. Sieveking took an early reference of Livy's (B.C. 534), in which that well-known historian mentions the gardens of one Tarquinius Superbus. Old Cato, the Censor of Rome at that period, had issued an injunction for each Roman citizen to cultivate flowers in his enclosure as a source of elegance and moral culture, so that we can reasonably conclude minor gardens were common even then. In these far back times gardens of magnificence were to be found as well as the little plots belonging in right to each citizen.

In various parts of the country surrounding old Rome these gardens are recorded to have been laid, the most famous of which were those of Sallust, Ludovisi, and the Berberini gardens. Pliny, the Consul, had a garden at Laurentine villa on the Tiber, and also at his Tusculan villa, now Frascati, which are so fully detailed in his letters that learned archaeologists have essayed to reconstruct the plan of them.

But far more interesting than written descriptions of Pliny's gardens are those now unearthed by the excavations at Pompeii. These are said to show the plan and design of the inner city gardens at Pompeii. The trellises, pergolas, statuary, and fountains are so strikingly perfect that Horace Walpole expressed his opinion that "nothing is wanting but a parterre to make a garden in the reign of Trajan serve for the description of one in the reign of King William III." An illustration of this "Inner Garden" was shown upon the screen, representing every feature to perfection. A peculiar feature of Roman gardens was the "mount," which was raised, it is supposed, to give a commanding view of the surrounding country. The old time monks used to have oratories in spaces which may be termed gardens, in which also were fountains, &c. The Abbey of Icolmkill, founded in the Hebrides half-a-thousand years after Christ's birth, is known to have had a garden for the cultivation of vegetables, fruits, herbs,

and roots. To the monks, as is well known, horticulture and many of our arts and sciences owe a deal, for it was they who preserved them for succeeding generations, while those of their own day fought and slew. The plan of the kitchen and fruit garden of the Abbey of St. Gall, Lake Constance, which was also shown to illustrate the lecture, depicted fruit trees twining around the graves of the friars and about the monuments. A physic garden was also included. The monks were bound by their vows to live upon pulse, vegetables, and fruit gathered by themselves from these gardens, so that one cannot but conclude that these gardens would both be most economically planted and properly cultivated. Gardens in the early part of the Norman Dynasty were scarcely different from what we now term orchards. Fruit trees and esculents were rather rare in England till a century or two ago.

(To be continued.)

NOTICE OF BOOK.

ANNE PRATT'S *FLOWERING PLANTS, GRASSES, SEDGES, AND FERNS OF GREAT BRITAIN*, with their allies the Cluhmosses, Pepperworts, and Horsetails. Edited and revised by Edward Step, F.L.S. With 315 coloured plates. Frederick Warne & Co., 15, Bedford Street, Strand, London.

Popular books on British plants generally stop short at the notice or description of the showy or interesting species only. The work under notice runs to four volumes, with about 1,100 pages of text, and 315 beautiful, coloured plates, illustrating 1,525 species of British plants. The pretty, as well as the uninteresting plants, that is, from the standpoint of the general public, are included. For the specialist the meanest, smallest, or least conspicuous of our native plants may be as interesting as the showiest. In any case we here get a general history of them, and the handsomely coloured illustrations serve to help the non-botanical reader where the English text fails to give a clear idea of any particular plant that may be under notice. The whole book for this new edition has been completely revised, set in larger type, with the English and Latin names in black letters, and two new coloured plants added. The book will be completed in thirty-six parts at 1s. each, or 1s. 2d. by post.

Opening the book at random we note that seven species of Bluebottle or Cornflower are figured together on one plate. To many of those unacquainted with the flowers outside their own immediate district the number of British Centaureas may surprise them, and the differences in the form and habit of the plants will be no less surprising than the colour of the flowers, which range through various shades of purple to one of the handsomest blues in nature, and yellow. We are wont to look upon the garden varieties of the Cornflower as if they were of recent origin, but Gerarde speaks of its being often sown in gardens, and by "cunning looking to doth oftentimes become of other colours, and also double." With all their beauty, however, we consider the wild form as lovely as any.

Many quotations are taken from the poets when they refer to flowers in their writings. Folklore supplies a great amount of information concerning the beliefs and ideas held by our forefathers relating to the wild plants known to them, and apart from the interest of the story this information shows what a vast stride has been made in the knowledge and natural history of these flowers since their day. There are a great many really beautiful and interesting plants that are so rare or widely scattered over the British Isles that only the most diligent or persevering of botanists can hope to see a tithe of them in their native habitats, but a good general idea of them can be got from the descriptions and coloured plates in this work, which is the next best thing to seeing or possessing them. The forms of the different species can also be compared at a glance, so that an infinite deal of labour is saved that would be necessary to make out the identity of any particular one that might be in hand. Even to those who only know the Daisy will find here an interesting history of it from the day of Chaucer down to our own, including ancient and recent popular names.

Lilium Harrisii, when grown in pots, often loses many leaves from the attack of a fungoid disease. Can anyone explain it and give cures?

SWANLEY HORTICULTURAL COLLEGE.

WHILE down at Hextable, Kent, on a matter of business, I found time to pay a flying visit to the glass houses at Swanley Horticultural College. The number of additional students to this college guarantees the fact that the teaching of elementary science and practical gardening, the teaching of the former to be made evident in the latter, is in worthy hands. The laboratory work and the lectures come more directly under the superintendence of the Principal and his staff, while out in the fruit and vegetable gardens, and in the glass-houses, the energetic Mr. Budworth "rules the roost." Crops of all sorts have been satisfactory during the past summer and autumn. At this season the students, with guidance, are erecting new houses, repairing or seeing others repaired. Fruit borders are being in cases renovated, pruning has been well advanced, and all the necessary work of the present period is being seen to. Blooms, of course, are scarce, but for market supply there are two long spans stocked with various late flowering Chrysanthemums, notably the pure white.

Houses of *Adiantum cuneatum* are filled with capital stuff for furnishing the much needed greenery for the lighter forms of floral decorations. Besides Maidenhair Ferns, they have a serviceable growth of the various decorative varieties of *Asparagus*, *A. plumosus*, *A. tenuissimus*, *A. Sprengeri*, &c. Callas, Bouvardias, Zonal Pelargoniums, winter Cucumbers, and such-like marketable stock were seen in numbers of neighbouring conservatories. The idea is to have things well advanced and good, so as to secure a hold of the market, which the college folks seem very successfully to have so far accomplished. A more extended visit was promised for a further date.—Harrison, D.

CULTURE OF ASPARAGUS.

ASPARAGUS is now known all over Europe. It is perennial, and its rootstocks often acquire a breadth of 19 to 29 in.; the roots are numerous and very long in suitable soils, especially when soil and sub-soil have been deeply dug. There are, however, *Asparagus* gardens in land with permeable sub-soils where the arable layer is only 6 in. thick. Notwithstanding this, the nature of the soil has a great influence on the vegetation of this plant. It is in soil of average consistency, more loose than compact, that it is most likely to thrive.

Asparagus grows badly, and is not productive in soil when there is stagnant water or excessive moisture. It does not, however, suffice to remember that *Asparagus* should be cultivated on well-drained permeable soils, for the plant requires abundance of manure, particularly nitrogenous, calcareous, and potassic. The beauty of the shoots is generally due to the fertilising substances which are applied copiously every year or two years. Night-soil, so rich in fertilising principles, has great influence on growth of the shoots. It is then with reason that people ascribe to the elements of this manure, the excellence of the *Asparagus* grown in the departments around Paris, particularly in Argenteuil and the neighbouring communes.

As a rule *Asparagus* requires more nitrogen and potash than phosphoric acid and lime. Old sulphated and nitrated plaster applied pulverised at the same time as barn-yard dung in a very advanced stage of decomposition greatly increases development of the young shoots.

Asparagus is grown from seed; you can raise the roots you need yourself or buy them from horticulturists who speculate in their propagation. Sowing is performed in March or April in rather loose soil, well prepared and dressed with abundance of partially decomposed dung. The seeds are sown in lines 9 in. to 12 in. apart, and 1 in. to 1½ in. deep. It is well to spread fresh litter or mould over the ground when drought is feared. By these operations you provide for watering, which is not always easy to execute. After hoeing to keep the soil neat and loose, you must thin the plants so as to leave a space of 2 in. or so between each. It is by repeated attentions that vigorous plants are grown.

The varieties to cultivate are three in number. The most common is the "Holland Violet *Asparagus*"; then the "Early Argenteuil" and the "Late Argenteuil," varieties which give very fine shoots when grown in tilled, fertile, well-dunged soil. The

late variety gives crops longer than the others. Let us add that the green or common *Asparagus* is an inferior sort worth little in the market when the other three are abundant.

Asparagus gardens are formed with vigorous well-developed plants one year old. In localities where culture is thoroughly understood it is preferred to the two year old plant which is less sure in taking root. The roots in the nurseries should be pulled up carefully so as not to injure the tip of the roots.

Asparagus is usually planted in trenches of slight depth, and 20 in. to 25 in. apart; each trench is 20 in. wide. These trenches are opened at the end of winter on ground which has been dug and dressed in autumn with half decomposed barn-yard dung, or night soil or street mud; they are 6 in. or 8 in. deep. The places where the roots are to be planted are marked with small sticks.

According as the trenches are opened you must form, at each spot where a root is to be planted, a little conical heap of good soil or mould about 2 in. high. Lay the plants on these little hills and spread out the roots and cover them with soil containing plenty of mould. Finally level the trench with some of the soil which has been dug out and left on the side slopes.

Asparagus can also be planted on beds 39 in. to 58 in. wide. When planting is finished the slopes are all a little higher than the trenches, owing to the amount of mould employed to bury the roots. Once planted the *Asparagus* cannot be left to itself; during the first year they must be hoed when necessary. There must be great drought to make watering essential.

It is well not to remove the sticks which mark the spots where the roots were planted because they will indicate the places where the hoe must be used with care, and manure applied.

Before the cold weather arrives cut the dry stalks 8 in. or 10 in. above the soil, and cover all the trenches with a light layer of mould, well-decomposed dung, or divided night-soil. At the end of winter in the following year incorporate the manure, applied in autumn, with the soil by aid of the fork. During the second and third year the plants need the same care as during the year after planting. Every year from March to September the soil of the trench slopes is utilised for growing dwarf Haricots.

In the third year you begin to hill up the *Asparagus*, covering the roots with 8 in. or 10 in. of mould, or rather light soil taken from the slopes; and in the fourth year the first crop is gathered by aid of an *Asparagus*-cutter, care being taken not to injure the shoots beginning to grow. The hilling-up executed every year, and removed after the crop, is intended to lengthen the young shoots, and give them a length of at least 8 in. The crop is gathered from March to June, according to localities.—*Journal d'Agriculture Pratique*, December 7th, 1899.

GARDENING MISCELLANY.

THE SEA BUCKTHORN.

THE above, which is so much used, and properly, as a sea-coast plant, furnishes us, nevertheless, with a very pretty shrub for our pleasure grounds. In the parts of an arboretum, where light should be the order of things, the Sallow Thorn, which is another of its popular names, may well be chosen. The species known as *Hippophum rhamnoides* is dioecious, one plant male, the other being distinctly female. Now, of course, unless the two sexes are within reach the beautiful cochineal-coloured berries can never be expected. A well fertilised tree is to be seen at the north-east corner of the temperate range at Kew. Flowering sprays of the male trees were brought from a distance to pollenate the stigmas. The result has been most successful; each branch of the female tree is laden with the ornamental fruits. The Sea Buckthorns can be propagated by layers, by suckers, by cuttings of the root, or from seeds. Layers or suckers are probably most suitable. On the north side of the Earl of Wemyss' estate, of Gosford, in East Lothian, this plant is largely planted, and a capital illustration of natural pruning is to be witnessed there. The boisterous waves from the North Sea dash upward to the shore and send their salted spray high over the skirting Buckthorns, killing back the young shoots.

PELLIONIA PULCHRA.

IT may seem strange to say that the little *Pellionia* which decorates so many of our stove stages wherever a footing can be got, belongs to the same order as does our stinging Nettles. Far greater difference of course than exists between these two plants, are apparent in nearly all other natural orders. But this is not the point. One sometimes wishes to have an additional creeper for the edges of the stove stage, one to look fresh, pretty, and of a habit such as will either droop over the edge, or raise itself to clothe the too great nakedness evident at times on our stages. *Pellionia pulchra* answers the purpose. It is easily propagated by cuttings, and requires no other treatment when rooted than those of pegging into crevices, or indeed, merely covering up the roots in the shell, sand, or gravel which should cover the stages. The moisture and heat about and around the plants are ample to sustain them. *P. daveauana* is suitable as a climbing species for the basement covering of low walls and ledges.

THE BABY PRIMROSE.

THE blossoms of *P. Forbesii* are very dainty and graceful, of a pleasing rose colour with eye or centre of a pale yellow hue. The stems are 10 in. or 12 in. long, and remain in bloom for several weeks, fresh buds opening from day to day. For cut flowers they are particularly valuable on account of their great staying qualities. The plants begin to bloom when quite small, and throw up dozens of flower spikes from a dense clump of foliage. The plant requires about the same treatment as the Chinese Primula. The Baby Primrose is one of the most desirable introductions of recent years.

BEGONIA HAAGEANA.

IN *B. haageana* we have a very pretty stove-flowering plant, but one which is inferior as a pot plant, I think, when closely compared with those which it most nearly resembles, namely, *B. metallica* and *B. incarnata*. The plant is altogether more lanky in its parts, larger, indeed, it may be said. It flowers very satisfactorily when planted out in unconfined borders, so that it has merits for such use. In pot culture it may even flower more freely. The culture is the same as for *B. metallica* and for those of the Rex type, by cuttings preferably. Its great length of flower stalks are in its favour.

THE LARGE CONVULVULUS.

IPOMAEA PURPUREA, the major *Convolvulus*, is an invaluable plant for covering trellises, arbours, and out-of-the-way small buildings. It grows fast and spreads persistently. In fact, so much at home does it make itself that it becomes quite troublesome in places. The plant is hardy enough to recommend outdoor sowings during May. Varieties with distinct colours, such as blue, crimson, purple, white, and rose can be bought. For trailing over sunny hedges around country cottages few things are prettier or more adaptable during summer.

CHAMAEPEUCE OR FISH-BONE THISTLE.

THE merits of the above lie in its spiny, spreading, gray-coloured foliage. It may be seen used as an edging plant in many of the fine summer beds in Hyde Park and elsewhere. The plants usually grow evenly, and when placed at regular distances apart in straight lines they form a very effective outer limit. They can be raised annually from seeds.

CARNATION LIZZIE MCGOWAN.

WE had occasion to mention this white winter bloomer once before. At Swanley Horticultural College we saw a whole houseful of plants in 5 in. and 6 in. pots, and their appearance bespoke a good variety, giving grand returns of marketable flowers. White Carnations are generally welcome at any time.

CANTERBURY BELLS.

IT only requires one to look back to the early spring shows whereat *Campanula calycanthema* and its varieties were exhibited as pot plants to ensure a batch of similar plants in one's own houses in the coming spring. Well grown plants are among the most charming of our flowering members in the early spring when grown in pots or in the borders in early summer. They last a long while in good condition. They are easily raised from seed and have few fancies.

FRANCOA RAMOSA.

THE Bride's Wreath! what a beautiful name. Yes, and an equally fine plant. For the busy amateur who has little time or attention for the plants he loves to grow, *Francoa ramosa* may be added to his collection as one not demanding much care. Old established plants growing in deep pans or pots flower freely when they are well nourished. They generally propagate themselves freely by means of the seeds which they spread upon the stages beneath. Especially is this so when coal ashes form the stage covering. They also may be increased by cuttings. An ordinary greenhouse temperature suits them, and the treatment acceptable to *Geraniums* is also to their liking.

STRELITZIA FARINOSA.

FROM Nicholson we have it that the generic name given above is from that of George III.'s wife, Charlotte of Mecklenburgh-Strelitz. It is so strikingly quaint and beautiful, too, it must be said, that Bird of Paradise Flower, and Bird's Tongue Flower are names which have been applied to it. As a whole it is full of grace. The foliage resembles that of some *Cannas*, only the leaf-stalks are longer, and other differences are readily apparent. The flower spikes, but more particularly the manner in which the inflorescence expands and is held forth, add a peculiar piquancy to the plant. The above variety is rather slenderer than *S. Regina*, partaking more of the habit of *S. R. prolifera*. It flowers in February, the scape being purple and yellow. A sandy loam, two parts to one of peat and leaf-mould, and a little sand added suits them for a compost. They must have a liberal supply of water in summer, with some feeding before flowering time. They are propagated by division and by suckers. An intermediate or warm house is what they desire as regards temperature. A plant of it in the Mexican division of the temperate house, at Kew, is now throwing up its flower scapes.

CORDYLINE AUSTRALIS VARIEGATA.

For sub-tropical effects in our now very mild summers, many plants not much employed might be more heartily adopted. There is no doubt a deal of yearly sacrifice in the places where sub-tropical gardening is carried out on a magnificent scale. It also necessitates some "nerve" on the part of those gardeners who carry fine effect to an elaborate extent. And why not? Of course, if a gardener has not the means to house and rear, many of the annuals which give us our summer decorations cannot be grown. Such subjects, however, as the *Cordylines*, though they take up space for a considerable part of their early careers, may be conveniently hustled into odd corners when once they have developed long, bare stems. When such a state of being does exist, each year but adds to their usefulness and fitness for the purpose of sub-tropical employment. Very tall *Cordylines* can be placed in the centre of the Palm beds, and when entwined with the variegated Hop or with the yellow flowering Canary-Creeper, *Tropeolum speciosum*, Honey-suckle, or other quick growing and convenient plants, a very fine jungle picture emanates. The effect of such tropical beds, where Bamboos, Palms, and *Cordylines*, &c., are unitedly used is more realistic, if not so smart, at the end, rather than at the beginning of the season.—A. S.

NERTERA DEPRESSA.

THE coral plant makes a pretty little edging specimen for temperate and cool houses. The numerous cochineal or orange-red berries studded over the moss-like surface gives it great charm. Moisture and an undisturbed growth are asked for by this plant.

HELIOPHILA SCANDENS.

IN this we have a climbing Crucifer, whose long shoots at present are one mass of small white flowers. A cool temperature suits it well. The blooms are not fragrant, a quality which would have added much to its merits. As we have very few cool house climbers in flower at this season it might make a welcome addition to our list.

THE DOG ROSE.

THE varieties of *Rosa canina* are innumerable. The common *R. canina*, or Dog Rose of our British

copies and hedges, is the species referred to, and for the purpose of advocating its far more extended use when planting up grounds. At the dullest season of the year its large, arching shoots, beautiful in themselves, are laden with the great scarlet "hips" or fruits. The nakedness of the stems, and the rugged manner in which these are borne, appeal to any one's sense of beauty, and to those of artistic perception they are the loveliest of the lovely shrubs or hardy plants then in season.

ROSA RUGOSA.

This Japanese Rose is also a pretty, bardy plant for the border, or for massing in well poised beds. It lacks the grace and rusticity which belongs to *R. canina*, having more of the budge-I-shan't character about it. Its sturdy dwarfness is a marked part of its disposition.

SWEET WILLIAMS.

These fine old-fashioned flowering plants, whose peculiarly pleasing fragrance wafts from so many of our farmsteads, where they seem to be general favourites, ought not to be forgotten at the time of the making-up of the year's seed order. They cause no trouble.

THE GIANT CHRISTMAS ROSE.

LIKE the other Christmas Roses, this, the great or giant Christmas Rose opens almost as a pure white under a frame. The leaves are very large, and the flowers naturally are borne profusely. Once in three or four years lift and replant it. Division may also at these times be done. The Christmas Roses all require a rich soil.

DEUTZIA GRACILIS.

It may well be asked why gardeners allow old plants to become fogged up; why do not hold to an annual, or at least to pruning every alternate year. Healthier plants, and more beautiful specimens are thus got. It is well enough known of course that old plants produce loads of blooms, still it is also well to have fresh looking graceful plants in place of closely packed besom-like samples.—D.

AZALEA DEUTSCHE PERLE.

FOR a very long period this variety, the German White, has been one of the most popular varieties. It remains so still. So long as it can be so easily forced, and provide such lovely white blooms, it will hold that popularity. We require it. Wreaths, and most of our floral work, for six months every year, contain blooms of it, and would be the poorer from the absence of them.

SOCIETIES.

ORCHIDS and Primulas were the most conspicuous features of the meeting on Tuesday last, which was not a large one, though an improvement upon the last meeting of December.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, had a group of Orchids, amongst which three plants of *Cymbidium traceyanum*, and two of *Cynoches chlorochilon* were very fine. The first named is distinctly scented. They had the pretty *Cypripedium insigne* Laura Kimball, under a bell-glass. *Laelia gouldiana*, and a white variety of *Dendrobium nobile*, were also notable. (Silver Banksian Medal.)

Messrs. B. S. Williams & Son, Upper Holloway, exhibited a group of *Cypripediums*, conspicuous amongst which were: *C. nitens superbum*, *C. insigne Maulei*, *C. i. fosterianum*, *C. leeanum superbum*, *C. calophyllum*, *C. Sallieri aureum*, and various others. They were set up with Palms and Ferns.

R. W. Richards, Esq., The Priory, Usk (Mon.), had a small but pretty group of *Odontoglossums*, including *Odontoglossum Rossii*, Usk Priory var., *O. crispum*, *Oncidium Forbesi*, *Cypripedium insigne*, Usk Priory var., and others. (Silver Banksian Medal.)

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, exhibited a group of very interesting Orchids, including *Calanthe porphyrea*, *Mormodes buccinator Rolfei*, *M. b. Warszewiczii*, *Platyclinis uncinata*, *Calanthe Phoebe*, *C. revertens splendens*, and the old *Limatodes rosea*, which has been so useful for hybridising purposes,

A number of these Orchids are uncommon and special in their way, as well as being showy.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sbeen, exhibited a fine group of *Phalaenopsis*, including a magnificent plant of *P. schilleriana*, with massive leaves and large panicles of flowers. The plant has been in the collection for the last sixteen years. He also had a grand piece of *Cypripedium rothschildianum*, carrying three open, and one half open flower. Other forms of *Phalaenopsis* were *P. sanderiana* Wigan's var., *P. amabilis*, *P. stuartiana*, *P. casta*, *P. grandiflora*, *P. leucorhoda*, and quantities of the ordinary *P. schilleriana* in variety. Very fine also were the new *Zygocolax woodlandsense*, and *Z. wiganiana* (*Z. intermedium* × *Colax jugosus*). Altogether the group was a fine one, and highly interesting at this season of the year. (Silver Flora Medal.)

On the table for new plants was a grand plant of *Cypripedium bellatulum* from R. W. Richards, Esq., for which a Cultural Commendation was awarded. M. L. Linden, of L'Horticole Coloniale, Brussels, exhibited a grandly grown piece of *Cypripedium lawrenceanum* var. *splendens*, *C. gowerianum* formosum; also *Odontoglossum Adrianae ornatum* and *O. crispum* Papillon, all of which were very fine in their way.

Mr. Ed. Kromer, Roraima Nursery, Bandon Hill, West Croydon, staged *Brassavola grandiflora*. Sir W. Marriott, Bart. (gardener, S. Denny), The Down House, Blandford, showed *Sopbrolaelia marriottiana*, rich scarlet overlying yellow. T. W. Swineburne, Esq., J.P., Corndean Hall, Winchcombe, Gloucester, exhibited *Laelia jongheana*. J. T. Bennett Pöc (gardener, Mr. Downes), Holmwood, Chesbunt, showed a plant of the beautiful and new *Dendrobium spectabile*. Messrs. Heath & Sons, Cheltenham, exhibited *Cypripedium leeanum superbum* and *C. l. viride*. G. W. Law-Schofield, Esq. (gardener, Mr. E. Shill), New-Hall-Hey, Rawtenstall, staged *Cypripedium leeanum rubrum* and *C. l. grandisepalum*, the latter of which had the lower sepal nearly as large as the upper, and nearly the same colour. *Cypripedium Euryades* and *C. godseffianum* × *hirsutissimum* were shown by Cap. Holford (gardener, Mr. Chapman), Westonbirt, Tetbury. W. M. Appleton, Esq., Tyn-y-Code, Weston-super-Mare, exhibited *C. apiculatum striatum*. Mr. James Douglas, Edenside, Great Bookham, Surrey, showed a fine truss of *Laelia Briseis*. Norman C. Cookson, Esq. (gardener, Mr. W. M. Murray), Oakwood, Wylam-or-Tyne, showed *Calanthe atropurpurea*. The finest new *Cypripedium* was *C. Sir R. Buller*, exhibited by W. M. Appleton, Esq. Earl Brownlow, Asbridge, Berkhamsted (gardener, Mr. R. Lowe), showed a large plant of *Cypripedium leeanum*.

Messrs. Sutton & Sons, the Royal Seedsmen, Reading, filled a table 50 ft. long and 6 ft. or 8 ft. broad, with varieties of the Chinese Primrose, grown in 5-in. pots. The plants, one and all, were extra strong and well flowered, their colours when seen in mass being strikingly effective. The sweetest varieties were Sutton's Reading Blue, Double White, an extra good thing; Crimson King (Fern-leaved); The Duchess, a new seedling, having a white edge and a rosy centre; Sutton's Snowdrift, a variety most profusely flowered; the double Scarlet in an improved form, which gave great richness in the mass. Then there was the Star Primulas, perhaps finer than the Chinese species for decoration, certainly they are more graceful. The *Papilio Cyclamens*, though now on the wane, were very floriferous and pretty. Sutton's Salmon Queen (of the *Persicum* type) was very distinct and took our regard in an especial manner. Small *Kentias*, *Cocos* and an edging of *Pteris* finished off a table, most valuable at this time. (Silver Flora Medal.)

Messrs. James Veitch & Sons, Ltd., the Royal Nurseries, Chelsea, showed that their *Javanico-jasminiflorum* *Rhododendrons* are thoroughly fog-resistant. What they attain to in the pure air of the country we do not imagine, but certain it is that under the most uncongenial conditions they return a wealth of brilliance, pure colour and sweetness.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, showed a couple of sports from *Etoile de Lyon* *Chrysanthemum*. One represented a yellow variety, the other a bronze, named Mrs. Alfred Tait. Coming in for use as they did at this time these varieties, which are large, strong, and brilliant, should be much appreciated.

Messrs. Hugh Low & Co., Bush Hill Park, En-

field, were stronger than ever in the Papilio strain of Cyclamens, of which they have a renowned stock. The plants throw up tall flowered blooms of good size, substance, and form.

Messrs. W. Wells & Co., Earlswood Nursery, Redhill, Surrey, set up bunches of two beautiful decorative Chrysanthemums, named Letrier (white) and Kakor (yellow). Both colours are the clearest and purest of their kind, being of exceptional merit for the purpose of late decorative work. (Vote of thanks.)

Mr. John N. May, Summit, New Jersey, U.S.A., exhibited a new Carnation, named Olympia, a tree variety, striped with scarlet on a white ground. It has been brought all the way from America, having been brought across by a passenger.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner only will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The Deleterious Effect of "Kesari."—"Kesari" or "Teori" is a grain food, the product of *Lathyrus sativus* (the Chickling Vetch), and which is consumed, or has been, in large quantities through India. *Indian Gardening* lately gave a very interesting summary upon its effects. From excessive or long continued use, however, this grain food, which is thought to contain a volatile alkaloid principle—poisonous—which acts in a manner known to medical men, produces bodily paralysis. The use of the food seems to be recognised as so dangerous that in all government prisons and institutions it is forbidden. Sufferers from paralysis, or "lathyrism," as this peculiar kind of decrepitude has been termed, are known to be under its bane from their figure-of-eight mode of walking. In one Bengal district no less than 4 per cent. of the people were reported to be victims, but the people know the bad effects, and so far as possible avoid it, only the repeated famines necessitate its use. The Chickling Vetch, of course, scarcely ever fails to crop, and can be grown on rough land, so that this is why its banishment cannot openly and distinctly be pronounced.

QUESTIONS AND ANSWERS.

. Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, *Pelargonium*, *Chrysanthemums*, *Roses*, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Apples Spotted in the Fruit-room.—A.L.: The spotting of the samples was due to a fungus named *Cladosporium dendriticum*. It is in the nature of this fungus to increase after the apples have been placed in the fruit-room, particularly if the atmosphere is at all moist. The markings, as you say, are entirely confined to the surface, so that for cooking purposes little real harm is done. Their appearance on the dinner-table would, nevertheless, be very objectionable. Unless you undertake spraying operations in the summer time, spraying at intervals of a month during the growing period, the next best thing is to sort the apples before you store them in autumn. All that are spotted should be placed by themselves to be used first, and to prevent contamination by their coming in contact with sound and healthy fruits. We should not put the spotted ones in the fruit-room at all, but set them aside, to be used if they are fit to be presented, and before they get worse.

Do Holly Seedlings come true?—W.M.: If you mean the seedlings of the ordinary green Holly you may rely upon the greater proportion or all of them

coming quite true to the parent. The variegated varieties are not likely to come true to the mother plants, though a percentage of them may be variegated as in the case of the variegated Sycamore. Some may be identical with the parent, others may be worse or worthless, while the chance always remains that you may get something better than the parent and worthy of preservation by propagation. Special varieties may be increased by taking cuttings in the autumn of the ripened shoots of the previous summer, and inserting them firmly in sandy soil in a half shady position, and covering them with frames or handlights.

Fruits to Name.—T.B.: 1, Not recognised; 2, Cornish Aromatic; 3, Russet Nonpareil; 4, Downton (probably); 5 and 6, Bedfordshire Foundling; 7, Devonshire Nine-Square; 8, Colonel Vaughan; 9, Norfolk Beefing; 10, Rymer; 11, not recognised; 12, Norfolk Beefing; 13 and 14, Dumelow's Seedling. —J. H. Williams: The two Apples were Bess Pool.

Selaginella apus Going Off.—Nemo.: Possibly the soil is in a wet state; or you may be shading the plants too much by being under the foliage of something else; or the plants might have been too old and crowded in the autumn. The best way to save the remainder is to fill some pots or shallow pans with light and sandy soil. Then dibble small pieces into the soil at 1 in. apart, water the soil and stand the pots or pans in a propagating case till they show signs of fresh growth, when they should be stood in an open position of the stove. As the day lengthens and light gets stronger a little shade would be beneficial.

Golden Leaved Shrubs.—T. B. M.: One of the best of all is the Golden leaved Privet (*Ligustrum ovalifolium aureum*). Others are *Weigela Looymansii aurea*, *Neillia* or *Spiraea opulifolia aurea*, *Populus canadensis aurea*, *Catalpa syringaeifolia aurea*, and *Ribes alpina aurea*, the latter being usually 9 in. to 12 in. high. Some of the golden Conifers might also suit your purpose.

Raising Maize for Cobs.—R. E. J.: About the end of March or the beginning of April would be soon enough to sow the seeds if you are in any way hampered for room. The reason for this is that the more rapidly you grow the plants the stronger they will be when they come to bear cobs. If you sow early then you must repot them into larger sized pots as the latter become filled with roots, so as to keep the plants growing vigorously. Then if you want to grow many plants they would take up a considerable amount of house room. If you sow about the middle of April you could dibble the young seedlings into boxes, with a quantity of rough leaf-soil in the bottom. The young plants will root into this and lift with soil attached to the roots when you wish to plant the Maize out. This operation cannot be safely done until the first or second week in June, as a rule, though, if the weather is favourable, you can do it earlier. Get early varieties, as they are most likely to succeed in this country.

Names of Plants.—J. P.: 1, *Dendrobium wardianum*.—A.R.: 1, *Erica melanthera*; 2, *Boronia megastigma*; 3, *Sparmannia africana*.—R.M.: 1, *Ahies cephalonica*; 2, *Picea Mertensii*; 3, *Picea Engelmanni*; 4, *Retinospora pisifera*; 5, *Retinospora squarrosa*.—D.G.: 1, A fairly good variety of *Odontoglossum crispum*, but the flowers might be larger; 2, *Cattleya bicolor*.—Western: 1, *Vinca minor*; 2, *Escallonia macrantha*; 3, *Cupressus macrocarpa*.—A. J. B.: 1, *Ruellia Portellae*; 2, *Daedalacanthus nervosus*.—J. M. Taylor: *Miltonia Clowesii*.

Communications Received.—Jas. Whitton.—Cassell & Co.—W.B.G.—Sutton & Sons.—Beginner (next week).—Walter Grant.—G. J. Ingram.—A. E. C. (next week).—A. C.—A. M.—G. B.—G. T.

TRADE CATALOGUES RECEIVED.

BARR & SONS, 12 and 13, King Street, Covent Garden, London.—Barr's Seed Guide.
JAMES CARTER & Co., 237, 238, and 97, High Holborn, London.—Carter's Tested Seeds.
F. C. HEINEMANN, Erfurt (Thuringia) Germany.—General Seed Catalogue.
W. DRUMMOND & SONS, Ltd., Stirling.—Drummond's Garden Seed Catalogue.
H. CANNELL & SONS, Swanley.—Illustrated and Complete Descriptive List of Chrysanthemums.
ROBERT VEITCH & SON, 54, High Street, Exeter.—Catalogue of Flower and Vegetable Seeds.
WM BAYLOR HARTLAND, Cork, Ireland.—Hartland's Garden Seeds.
JOHN FORBES, Buccleuch Nurseries, Hawick, Scotland.—Seed Catalogue.
JACKSONS & Co., 1, Waterloo Place, Edinburgh.—Descriptive Catalogue of Forest Trees, Ornamental Trees, Flowering and Evergreen Shrubs, &c.
FISHER, SON & SIBRAY, LTD., Royal Nurseries, Handsworth, near Sheffield.—Catalogue of Vegetable and Flower Seeds.
W. ATLEE BURPEE & Co., Philadelphia, Pa., U.S.A.—Burpee's Farm Annual for 1900.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JANUARY 20th, 1900.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The annual general meeting of this institution, on the 12th inst., showed everything to be in a very flourishing condition, yet unable to cope with half of the accepted candidates appealing for the assistance of the charity. There were forty-eight applicants of whom eighteen had never contributed to the funds of the institution. Several of the latter have made from four to eight applications for help, and one of them at the highest figure is still unsuccessful. Even some of those, who in their palmy days contributed more or less to the funds of the charity, have now made four or five applications. The total number of vacancies for additional pensioners to the list was sixteen. Ten candidates had previously contributed to the funds, and being in distress and having complied with the regulations, were placed on the list without the trouble or expense of an election. This shows how greatly it is to the advantage of gardeners everywhere to provide for the rainy day when they can, for, even if they never require aid they

always stand on the safe side, whatever the fortune or misfortune of life. After the above sixteen have been provided for, there were still thirty-two left out in the cold. Four of the applicants died, practically, on the eve of the election, and one retired through being otherwise provided for, fortunately. The remainder have to rely upon their own resources for another twelvemonth, or to possible allowances from the Samaritan Fund, for the inauguration of which, thanks to the far-seeing initiative of Mr. Harry J. Veitch. This fund is to provide relief in urgent cases of distress on behalf of unsuccessful candidates at the annual election. The Samaritan Fund now amounts to £520, but the hope was expressed by its prime mover that it should soon reach £3,000; for then something more satisfactory could be accomplished in the granting of temporary relief.

At the close of the year there were 163 pensioners on the funds of the charity, and after allowing for deaths this number has now been raised to 178, being four more than at the corresponding date of last year. The report recorded the thanks of the committee to those who opened their gardens to the public and otherwise made efforts on behalf of the institution, and more especially to A. W. Sutton, Esq., who initiated the founding of an auxiliary branch of the institution at Reading, during the past year. The meeting was held about a week earlier than on previous occasions, and that may account for the somewhat smaller attendance than usual. The usual date had to be altered at the desire of the committee in order to secure the services of Mr. Harry J. Veitch before going abroad in the course of a few days after the meeting. Everything was conducted in a business-like manner, and passed off without a hitch. There was nothing of a sensational character on the agenda, and that would no doubt explain the absence of many subscribers. The old saying, "Blessed is that country whose annals are dull," would undoubtedly apply here. The chairman announced the fact that the institution, during the past year, had been more prosperous than in any previous one. Only thirty-seven votes were lost on this occasion through carelessness in forgetting to sign the voting papers before sending them in. Last year there were over 200 lost in this way. A full report of the meeting will be found on another column.

TEACHING OF BOTANY IN SCHOOLS.—At a conference of science teachers, held under the direction of the Technical Education Board of the London County Council, at the Imperial Institute, on the 10th inst., the chair was taken by the Right Hon. Sir John Lubbock, Bart., M.P., a great gathering of science teachers being present. Professor L. C. Mial, F.R.S., of the Yorkshire College, Leeds, delivered the first address, taking as his subject the above heading. He regretted that botany did not take so important a position in the curriculum of schools as did physics and chemistry. Later on, the professor, in replying to a criticism, said he did not think that botany could be wisely associated with the teaching of geography. In our opinion botany and geography are a great deal interdependent upon one another. To the youthful mind botany would serve to clothe the dry bones of geography, and help to fix many a notable fact about the native homes of at least the more important plants on the youthful mind. Sir John Lubbock, Bart., D.C.L., F.R.S., said he was struck with the importance of botany as it affected country schools. One of the reasons which brought men to city life was that it was

more varied and attractive than life in the country, though that was no fault of the latter. The teaching of botany aimed at opening the eye of the pupils to the beauties of Nature around them, so that they might enjoy what they saw, for to do that was to enjoy themselves and take a more intelligent interest in life and the world around them, than if utterly ignorant of the natural objects and surroundings amid which they might be placed in the country. More than this we assert that it would help them to take a more intelligent interest in their gardens, by turning them to use, ornament or profit in raising fruits, flowers, and vegetables now so indispensable to civilised life.

"Cultivate your Bump of caution, don't be 'meat' for the Palm swindler," is advice given by *The American Florist* to its readers. Swindlers in the Palm trade are very rife in America.

Weather in London.—Fogs have given place to dampness. We are having a repetition of the weather we had some time back, dismal surroundings with a lining of mud and water under foot. Friday and Sunday were exceptions however, both being gloriously dry and bright.

Automatic Plant Watering.—From a weekly paper we glean that an "invention" for automatically watering pot plants has been "discovered." It proves to be the old custom adopted by growers of window and other pot plants usually exposed to greatly drying influences. The pot with the plant is placed within a larger one, and the space between the two is filled in with leaf mould, fibre or sphagnum, and kept somewhat damp. Used thus the plan has its merits. Otherwise, to attempt such a vital operation, as plant watering by automatic means is certainly "before our time," and very much to be condemned.

A Successful Small Holding.—Land always gives back an increase when well cultivated; and where lack of knowledge or industry is evident, profitable yields can hardly be expected. A correspondent to a weekly contemporary describes what his own small holding returns to him. He has a garden, a field and an orchard all worked by one man. At the present time all kinds of Greens are flourishing; the Celery is good: Leeks are large and blanched; there are two beds of White's Lettuce for salads, and Parsley in abundance. The root crop has long since been well secured; fruit trees pruned and matured. The old Potato ground is put up in ridges to enable the frost to penetrate the soil, kill the grubs and sweeten the earth. A splendid crop of Rye grass is growing well and will furnish spring food for his Jersey cow. The writer says that he seldom buys any fertiliser for his garden, the cow and poultry supply all that is wanted.

Devon and Exeter Gardeners' Association.—The syllabus for the spring session of the above association has again been prepared, and proves to be an excellent one. The essayists are men thoroughly conversant with the subjects they treat of. The following are the titles of the papers, and the names of those who will read them:—Wednesday, 17th January, Mr. J. Merritt, gardener to R. Ashby, Esq., Matford House, Exeter, on "The management of Caladiums"; then on Wednesday, 31st January, Mr. G. Camp, gardener to E. Byrom, Esq., Culver, Exeter, describes "Gardening as a Profession"; on Wednesday, 14th February, Mr. Alfred Tucker, The Royal Nurseries, Exeter, details "The Culture of Herbaceous and Alpine Plants"; Mr. F. W. Shrivell, F.L.S., of Thompson's Farm, Golden Green, Tonbridge, is to give his interesting lecture on "Experiments with Chemical Manures in Kitchen and Market Gardening"; Mr. T. Slade, gardener to Lord Poltimore, Poltimore, Exeter, occupies Wednesday, 14th March, by a treatise on "The Treatment of Amaryllis"; then to wind up, Mr. Henry Webber, of Messrs. Veitch's Nurseries, and Mr. W. R. Baker, of Knightleys Gardens, on Wednesday, March 28th, gives "A demonstration of various methods of Potting Plants, with the different soils required."

The Tea Plantations in Natal are estimated to be capable of furnishing sufficient leaves for the whole of the tea-drinking inhabitants of South Africa.

Shirley Gardeners' Mutual Improvement Association.—The monthly meeting of the above society was held at the Parish Room, Shirley, Southampton, on the 15th inst., Mr. B. Ladhams, F.R.H.S. presiding. The meeting expected the presence of Mr. W. Middlebrook of Messrs. Veitch & Sons Nursery, Chelsea, to give a paper on "Pear Culture," but being unable to attend, his paper was read by Mr. J. Miles, the Gardens, Portswood Park. Mr. Middlebrook dealt with the subject most thoroughly, pointing out the importance of soils, sub-soils, climate, position, planting, pruning, stocks, insects, diseases, &c., and also the best kinds of Pears to cultivate. A discussion ensued and there was quite a lively time about pruning especially. Votes of thanks were accorded both gentlemen for the excellent paper.

Nature's Birthday.—The following very interesting paragraph was sent us by a correspondent as a cutting from *The Scotsman*:—"To-day, January 15th, 1900, being the 15th day of Shebat, is, according to our calendar (says the *Jewish World*), the new year for trees. Of the four New Year Days ordered by the Talmudic authorities, none is more apposite than that which recognises that the longest winter nights are over; that the sun renews its warmth to earth; now the forest throws off the lethargy of the winter's sleep, and the sap commences to rise in the trees. The old Rabis were excellent observers in their own way. They recognised the dulling influence of the shorter days, and they responded to the human exultation at a brighter season, not by permitting a Bacchanalian feast, but by commanding a simple festival that would bring about a recognition of nature."

Reading and District Gardeners.—There was a large attendance of members at the fortnightly meeting of the Reading and District Gardeners' Mutual Improvement Association, on Monday evening last, in the Club Room, the Old Abbey Restaurant, to hear Mr. G. Hinton, of Walmer Gardens, Reading, read his essay, which was awarded the first prize in the recent competition, "The planting of a garden with Hardy Fruit Trees and Bushes." The paper gave rise to much criticism, and, during an hour and a quarter's interesting discussion, many points upon planting, manuring, pruning, &c. were touched upon. Those taking part were Messrs. Chamberlain, Purkis, Wilson, Woolford, Trollope, Parfitt, Farey, Cretchley, Blake, Bryant, Alexander, Bennett, House, and Dore. A hearty vote of thanks was accorded to Mr. Hinton for reading his paper, and to Messrs. Bunyard, of Maidstone, and the Hon. Sec. for present of books to the Library.

Scottish Horticultural Association.—The annual gathering of the above association was held on January 9th, at 5, St. Andrew Square, Edinburgh, C. W. Cowan, Esq., Valleyfield, Penicuik, the president, and afterwards Mr. Alex. McKenzie, Warriston Nurseries, in the chair. In opening the proceedings, the chairman gave to the meeting his best wishes for a prosperous new year, especially prosperous to horticulturists. Nineteen new members were elected, and thirty-one were nominated for election, among which were three as life members. Both Mr. R. Laird's and Mr. Mackinnon's reports, the former as secretary and the latter as treasurer, were very satisfactory. Mr. Laird made reference to the loss sustained by the association from the death of the two eminent members, Mr. M. Dunn and Mr. W. M. Welsh. The treasurer's report showed a balance of £22 19s. 3d. from the receipts of the last Chrysanthemum show. The ordinary income of the association, including the balance from last year, amounted to £949 6s. 6½d., and after meeting the expenditure the surplus funds at the end of the year were £777 12s. 1½d. The reports were adopted, and some alterations were made in the rules. Office-bearers were afterwards elected. The Duke of Buccleuch was again chosen as honorary president, and Mr. Cowan as president. Messrs. Lonie and Comfort were elected vice-presidents. Mr. Laird and Mr. Mackinnon were re-elected to their offices as secretary and treasurer. Messrs. Grieve, Chaplin, Chalmers, Johnston, Proctor, Burgoyne, Salter, and Brown were appointed to fill the vacancies on the council.

Mrs. and Mr. Harry J. Veitch, of Chelsea, started on Monday last for Egypt and the Holy Land, where they intend staying for some considerable time, in order to accomplish the numerous and lengthy journeys now opened to the tourists, and health and pleasure seekers of the civilised world.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, January 23rd, in the Drill Hall, James Street, Westminster, 1 to 4 p.m. A lecture on "The Neglect of Flowering Shrubs in our Gardens" will be given by Mr. Geo. Bunyard, V.M.H., at 3 o'clock.

Bicentenary Celebration of the Introduction of the Sweet Pea.—A meeting of the executive committee will be held at the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Friday, January 19th, at two o'clock in the afternoon. (1) To receive a report from the preliminary committee. (2) To decide upon a schedule of prizes, and the date and place of the exhibition. (3) And other matters relating to the celebration.—*R. Dean, Sec.*

The Horticultural Directory.—In the above we have an address book of those in any way engaged in the practice or furtherance of horticulture in its commercial, private, or public and charitable aspects, &c., a publication which is the acme of simplicity in its arrangement for reference. Besides containing up-to-date knowledge of gardens, gardening and gardeners, the tables for seed sowings, &c. given at the front of the book are very useful to either the young or the older gardeners. The "Useful Garden Receipts" are worth more than the price asked for the whole Directory, which is 1s. It is published at the *Journal of Horticulture* office, 12, Mitre Court Chambers, Fleet Street, E.C.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the society was held at St. John's Parish Room, Redland, on Thursday, January 11th, Mr. C. Lock presiding over a good attendance. Mr. Garnish, of Stapleton, was responsible for the paper, which was on the subject of "Strawberry Culture." He dealt with the question in a very detailed manner, recommending a soil that was neither shallow nor stiff clay; to be well trenched and manured; the runners to be laid in June for planting when necessary. He said 2 ft. apart was the distance he thought most suitable for planting; urged the frequent use of the hoe; and gave many helpful suggestions as to the general treatment of the plant. Mr. Garnish, who treated the subject with the skill of an expert, was heartily thanked for his paper. Prizes for six dessert Apples were secured by Mr. Marsh (first), and Mr. Sutton (second). Certificates of Merit were awarded to Messrs. McCulloch and Clark. A special feature of the exhibits was a fine collection of Apples staged by Mr. Bannister, of Cote House. It consisted of nearly thirty varieties of choice fruit, and was much admired by the members.

Royal Caledonian Horticultural Society.—The annual general meeting of the above society was held on Wednesday, January 10th, in Dowell's Rooms, Edinburgh. Mr. Buchanan, Penicuik, occupied the chair. The secretary (Mr. P. Murray Thomson) read the report of the council. They regretted that at neither of the two shows, spring or autumn, was the public attendance such as could be wished. The exhibits were on both occasions of a high order, and so numerous that all available accommodation had to be utilised. A high death record of the society's members had to be recorded, as many as twenty-one having been removed, including Mr. M. Dunn and Mr. W. M. Welsh. According to the abstract of accounts the ordinary receipts came to £1,185 3s. 0d., and the payments to £1,269 18s. 2d. On November 30th last the funds amounted to £758 19s. 11d., showing a decrease of £91 18s. 7d., as compared with the corresponding period of 1898. The chairman moved the adoption of the report, seconded by Mr. Alex. Milne, and agreed to. Lord Lothian was unanimously re-elected president, and sympathy was expressed with his lordship in his illness. Mr. D. P. Laird was appointed vice-president, receiving twelve votes, as against five for the Earl of Moray. The following were chosen as councillors:—Messrs. George Mackinnon, Massie (Dicksons & Co.), Adam Bryden, Innerleithen; and James Morrison, Archerfield.

Tea Duty Payments: Smashing Records!—The Mazawattee Tea Company, Limited, paid on the 15th inst., to Her Majesty's Customs, the sum of £85,862 8s. 8d., representing over 5,000,000 pounds of tea. This is the largest duty payment, and the greatest clearance from bond, in the history of the tea trade. This great bulk of tea is being deposited in the Company's new warehouses at New Cross, which have a cubical capacity of over 2,000,000 ft.

Cinematography of the Growth of Plants.—Many propositions have already been made to photograph a growing plant, from certain stages, upon a strip or band of sensitised paper, always unrolling, and to project upon a partition of some sort, by means of the cinematograph, the succession of photographs obtained, so that one can in some minutes have under the eyes a series of phenomena which have taken place during several weeks and even several months. In the United States of America these experiments have actually been carried out. The Department of Agriculture has placed in one of its greenhouses an apparatus which photographs automatically, every hour, a plant from the time of its germination. The apparatus ought thus to remain in activity during several weeks. If that experiment succeeds, all the important phenomena of that plant ought thus to be recovered or secured. The aim of those experiments is not for science but rather for the study of plants and their success, which would be of great value from an educational point of view.—*Wiener Illustrirte Garten Zeitung, Nov., 1899.*

Messrs. Barr & Sons' Seed Catalogue.—With others to hand, we have received the Seed Catalogue and Guide for 1900, from the above firm, 12 and 13, King Street, Covent Garden, London. The catalogue is not so bulky as some, but from being splendidly arranged, and closely, and clearly printed, the designation of "Multum in Parvo" may be passed upon it. A large number of woodcuts illustrate its pages, specially fine being those of some of the newer Asters and Primulas. A passing reference must be accorded the novelties commencing on page 25. They are arranged (as is the catalogue generally) in alphabetical sequence. Glancing down the list we choose the following as worthy the attention of those into whose hands the catalogue will be delivered:—*Canna variegata*, *Caryopteris Mastacanthus* (the Blue Spiraea), *Centaurea americana alba*, "like a Giant White Sweet Sultan," the *Eremurus elwesianus*, &c., which are so stately in May; *Incarvillea Delavayi* (figured in *GARDENING WORLD*); Barr's new Dwarf Lantana, *Nicotiana sylvestris* a valuable new decorative Tobacco plant and other subjects to the number of 194 distinct specialties. A four page leaflet of interesting alpine, perennials, &c., and seeds of a few interesting Australian plants, together with the flowers and vegetable seed lists and so on, are comprised in this catalogue, which are of the utmost interest and use to all classes of gardeners.

Ontario Fruit Growers' Association.—The thirtieth annual report of the above renders the account for 1898. It has always been the mission and aim of this association to advance the interests of fruit-growing, and to encourage any object or project calculated to benefit the fruit grower. The association is under the direction of a body of annually appointed officers, who are chosen from various districts in Ontario. Papers are read at various of their meetings, discussions take place, exhibitions are held, and new fruits certificated by the association. Such subjects as "Frauds in Fruits at Fairs," "Peach Borer," "Export of Fruit Pulp," &c., &c., are typical of the subjects treated upon. The notes on experimental spraying are useful, and the method of teaching the fruit farmers, by ocular demonstration, how to mix the sprays, and how to apply them, and of detecting the insects which do harm, is worthy of commentary. Only one solution was used in the spraying—Bordeaux mixture, according to the following formula:—copper sulphate, 4 lbs.; fresh lime, 4 lbs.; and water, 4 gallons. To this in every case was added 4 ozs. of Paris Green. In all cases where orchards were sprayed the percentage of clean fruits was much increased. This booklet or report of the transactions contains a deal of information, and we feel sure that the association is doing capital work in the interests of the Ontario fruit commerce and industry.

Early Freesias.—The earliest batch of *Freesia refracta alba* at the Royal Gardens, Kew, has just gone over. These came into bloom just before Christmas, having been potted up in September, and brought on by gentle forcing. Their fragrance is much appreciated at any time of the year.

Botanical Society of Edinburgh.—At the latest meeting of this society, held on Thursday, January 11th, at 5, St. Andrew Square, Dr. W. Craig reported on the excursion to Kirkby Lonsdale, Yorkshire, of the Scottish Alpine Botanical Club. He described the plants discovered. Dr. Craig also gave a list of the principal plants found since 1870.

Wirral and Birkenhead Agricultural Society.—At a meeting of the Executive Committee, held on Tuesday last, it was unanimously resolved on the motion of Alderman Getley (Birkenhead), seconded by Mr. Thomas Davies (Bebington), that this society's next show be held in the present show-yard, Birkenhead, on the 3rd, 4th, and 6th of August.—*Arthur H. Edwardson, Secretary, 6, Hamilton Square, Birkenhead, January 11th, 1900.*

French Horticultural Society of London.—On Saturday last, the 13th inst., the annual dinner of the above society was held at the Imperial Restaurant, Strand. M. Geoffroy, the French Minister, occupied the chair, being supported by Messrs. Schneider, Leclerc, Tucker, Gaskell, Harman Payne, George Gordon, T. Bevan, W. Howe, and other members and friends of the society. When the time for speech-making arrived, the chairman proposed the health of the Queen and Royal Family. In return, Mr. Harman Payne proposed that of the president of the French republic. Mr. Schneider gave some interesting statistics, relating to the progress the society had made during the past year, and also referred to the satisfactory state of the funds of the society. The chairman proposed the health of the officers of the society, to whose efforts much of its success was due. "The Guests," proposed by Mr. Schneider, and replied to by Mr. Harman Payne, afforded an opportunity of referring to the positions many of the absent members had taken up in various parts of the world, many of them positions of responsibility and importance. Before concluding, the company sang the Marseillaise and God save the Queen, and a collection was made for the widows and orphans fund of the English troops now engaged in South Africa. Music, recitations, &c., enlivened the proceedings.

New Year Conservatory Decoration at Kew.—The show conservatory or greenhouse at Kew is at all seasons of the year a very fine centre of floral display. The conservatory set specially apart for a show house is a large "cross" shaped structure, having a central bed. To keep this enlivened during winter and spring, Mr. Garrett, the foreman of this department, employs lots of plants which private gardeners do not usually think of, or regard them as too common in other cases. In a visit about Christmas time the following plants were seen in the house:—*Chrysanthemums* in variety, Chinese *Primulas*, Star *Primulas*, *P. obconica*, and *P. floribunda*, the latter flowering in small pots, and arranged as a grounding to taller pots of *Lily of the Valley*. *Begonia Gloire de Lorraine*, fine plants in quantity, *B. semperflorens gigantea rosea*, Indian *Azaleas*, *Acacias* in the varieties *A. penninervis* and *A. hastulata*, besides which were *Heaths* in greater or less selection, *Lilium Harrisii*, *Tuberoses*, Paper-white *Narcissus*, Roman *Hyacinths*, *Eupatoriums*, *Bouvardias*, *Salvia splendens*, fragrant *Freesias*, *Cinerarias*, and the various forms of *Cyclamens*. A fine hatch of *Peristrophe speciosa* did much to lend brightness to the place. *Saintpaulia ionantha* was also used in the house. *Reinwardtia trigyna*, a bright yellow, and *Centropogon Lucyanus* were shown in capital style. Then there were *Rhododendron Taylori*, *Daphne indica*, *Viburnum Tinus* (the common *Laurustinus*), the giant *Groundsel*, *Senecio grandifolia*, *Crassula lactea*, and Christmas Roses. The Otaheite Oranges were finely fruited and brilliantly coloured, adding greatly to the general effect, as likewise the fruited plants of *Solanum integrifolium*. *Datura suaveolens*, *Cuphea eleanthina*, and other taller plants were planted out in beds and flowering. Trained to the roof were specimens of *Jasminum grandiflorum*, *Tibouchina macrantha*, *Ligustrum lucidum tricolor*, *Cestrum elegans*, *Lonicera sempervirens*, &c. Various ornamental foliage plants dotted about added relief and freshness to the blooming plants.

Tree for Cities.—The Carolina Poplar, a tree of quick growth, is recommended by an American paper for street planting in cities, from its power to withstand smoke and gas.

Various Washes or Condiments for painting young trees as a preventative against the gnawing of rabbits, &c., have at times been given. The latest is a mixture made from blood and lime, and used extensively in New South Wales.

Productive Crops of Tomatoes.—From a very limited piece of ground we have found a spiral method of Training Tomatoes a very economical one. Five stout stakes, placed to form a circle, constitute the support. Three plants are planted at distances apart around these stakes, and are made to wind spirally upwards. Some say that heaviest crops are thus secured from the individual plants, but there is no need to make comparisons in this direction. One thing can be demonstrated, and that is, that the greatest returns in the least space are got thus.

Our French Fruit and Vegetable Commerce.—From *The Fruit Grower* we take the following figures to show our custom in fruits, &c., with hot-headed France:—"In twelve months we take on an average about 180,000 bushels of Apples, 21,700 of Oranges, 193,000 of Cherries, 6,500 of Grapes, 296,150 of Pears, 509,930 of Plums, and various other fruits to the extent of 133,400 bushels. At the present time, choice Pears, Walnuts, Chestnuts, Apricot pulp, Prunes, and crystallised and bottled fruits, are being sent into our ports weekly in enormous quantities. In regard to vegetables we buy each year 1,150,000 bushels, and of Onions, 400,000 bushels." After which nothing need be said.

Storing Potatoes.—The following appears in a weekly newspaper. It is a reference to an experiment which has been made in the storing of Potatoes:—"After digging the Potatoes, those which show evidence of decay, should be rejected, and the sound Potatoes packed in boxes with dry sand in a sufficient amount to just prevent the Potatoes from touching each other in the boxes. The boxes should be placed in a cool, dry cave, freedom from moisture being particularly desirable." Fancy any experimental body wasting time and money to discover such impracticable methods. Any novice knows without telling that a Potato if kept dry, cool and free will last undecayed so long as it has any vitality in it. The system, too, is advised on an extensive scale! It is time common sense came to the rescue.

Water in Pleasure Grounds.—Water always forms a charming feature of a park or private pleasure grounds. It gives rest and variety to the landscape and affords great opportunities for the landscapist's art. In *The Canadian Horticulturist* for December there is a beautiful plate showing the effect of still waters, at whose sight the song of David ushers itself upon us, "Thou makest me to lie down in green pastures, Thou leadest me by the still waters." The heightening effect of a bridge and other simple architecture is given, between the combinations of which is formed a most pleasant view. It is an instructive picture. Streams existing within many pleasure grounds are often allowed to remain with unsightly banks which, with the exercise of care and some money, could be made beautiful and comfortable.

In America: School of Horticulture.—A proposition, or promise rather, has been made that if there is a sufficient number of applicants, a school of horticulture will be inaugurated at Rhode Island College, Kingston, R.I. The term will only last for one fortnight, beginning on February 26th. The plan is to crowd all the clear cut practical horticultural instruction possible into this brief space of time. Special effort will also be made to familiarise students with horticultural literature in order that they may know where to look for information when needed. The work will include a study of soils, fertilisers, plant life, fruits, vegetables, ornamental gardening, propagation, spraying, &c. Special attention will be given to bush fruits. We do not know whether a like course would be successful if tried in our own land; we should think so. A months' teaching, however, is short enough. The Highland and Agricultural Society has such a scheme. Students can have one month's theoretical instruction in Edinburgh.

The Canned Fruit Jellies in common use are said to be mostly made from Apples boiled down in diluted sulphuric acid and flavoured to resemble the jellies of the various fruits. Sayings, however, should be found proven before being accepted as gospel.

Carnation Bed Fertilisers.—For a dressing to a Carnation bed, wood ashes are beneficial, but bone meal is even preferred by some growers. A peck of wood ashes per yard of soil before planting takes place is "all right." A solution of nitrate of soda (1 lb. to 50 gallons of water) applied occasionally as a watering is beneficial.

Apple Storage.—In Grand Isle County, Canada, the storage houses of Apples are becoming common occurrences. These houses are built without means of artificial refrigeration. They can be kept cool enough from the outside atmosphere; and can usually be kept warm enough if the walls are carefully built. A small stove is usually kept burning on specially cold nights. Old barns or graneries are sometimes used to advantage. Adequate protection from the cold weather and suitable ventilation are the principal requisites. The storage room should be kept at a temperature of from 33° to 35° Fahr. The same cellar which keeps vegetables perfectly will not give the best results with Apples.

Trees Struck by Lightning.—Under this title, Mr. Howard B. Little, in *Knowledge* for January, discusses

as the eye can reach north and south, with Vines of a certain black Grape, from which is made cider, by boiling, sieving, and fermenting Grapes, together with the skins. It is estimated that a million gallons of good, sound, wholesome claret could be made yearly from the Grape crops. The whole region along the Aconcagua is rich in Grapes, vineyards being everywhere.

OLD OAK AT TEWIN WATER.

THE garden and mansion of Tewin Water, Welwyn, Hertfordshire, the residence of H. Tower, Esq., are situated in the bottom of a deep valley by the River Maran, and on either hand the ground rises with a steep slope, laid out in pasture or arable fields, with several plantations of timber trees, some of which are very old. In several of the grass parks are clumps of trees of considerable interest. The Oak under notice is a solitary one of no great height, but evidently of great age. In its youth it must either have been blown down, undermined with rabbits, or met with some accident. Whatever the misfortune, the tree proceeded to establish itself on the fresh basis, uprearing its head, and thriving vigorously. The bole still decidedly shows the result of the accident in the strong curvature below the straight, upright portion. It measures close upon 24 ft., at 4 ft. from the ground, and presents a rugged and massive appearance, while it possesses a broad,



OLD OAK AT TEWIN WATER.

some remarkable cases of trees shattered by the dread stroke, for particulars of which the original article should be consulted, but we may quote here a single passage:—"P. de Jersey Grut gave particulars of a case which is perhaps more interesting than any yet cited. In this instance the tree struck was encircled by a rope some 25 ft. from the ground, and it so chanced that an end of the rope stood out from the bark of the tree, so that during the earlier part of a rain-storm the tree was damp from the top to the rope, while the lower portion of the trunk was kept comparatively dry. The tree in this condition was struck, the lower part only being damaged. And the damage followed, downwards, a path which the twist in the fibre of the wood made easiest."

Chilian Agri- and Horti- culture.—About three quarters of the people in Chili, South America, are engaged in agriculture and the producing of fruits and minor food crops. On each farm live a number of farm labourers, who are allowed a house to live in, and a piece of land sufficient to cultivate enough Maize, Pumpkins, Potatoes, and Onions for the feeding of their families. They also grow Grapes, Oranges, Peaches, Quinces, &c. The valley of Aconcagua is celebrated for its fine quality of Walnuts, honey, wax, Potatoes, Onions, &c. About 3,000 tons of Walnuts are gathered yearly in Chili. The Papa Colorado, or red Potato, is largely grown to supply their own provinces. The same broad valley is planted with leagues upon leagues, as far

spreading head of branches, as if it had been pollarded at an early stage of its existence. The accompanying photograph of it was taken by a son of Mr. F. C. Thomson, the gardener.

PINGUICULA CAUDATA.

WHILST we have dwarf flowering plants for our cool houses in fair abundance, this little Butterwort from Mexico has, besides the beauty of its flowers, an interest from the fact of its structural adaptation. It is classed as a carnivorous plant. All over the epidermis of the flat, creamy leaves, tentacles arise, having slightly swollen heads, from which a gummy excrescence is given out. Small flies alighting upon a leaf are caught and held fast, held, indeed, until the exuded gummy and other matters have done the work of dissolution. The flowers are somewhat in the shape of a small *Mitella*, pinkish, and borne on short stalks. The compost in which they are found best to develop is one formed largely of peat and clean sphagnum, with a plentiful supply of coarse sand, some pounded charcoal, and a slight addition of fibrous loam. The plant likes an Orchid house or cool fernery, somewhat shaded, moist, and for water it must have an abundant supply. Knowing this, good cultivators always provide abundance of drainage material. It may be increased from seeds, cuttings or leaves. A very fine batch is to be seen in flower at Syon House.—H.

PROPAGATION BY THE AID OF WATER.

It is seldom one reads in the gardening periodicals that plants (flowering and foliage) can be easily increased by the above method, but such is an undoubted fact, especially among stove occupants, and to those who may not possess a very suitable propagating pit or frame this water assistant may prove of some service.

Half-pint glass bottles, with the neck broken off, and one or two pound jam or marmalade pots make capital recipients to hold from one to two inches of water to place the shoots or cuttings in. The jar or bottle should be emptied and rinsed out once a week, as the water soon gets foul in a warm house. I have been successful in rooting Crotons, Ixoras, Dieffenbachias, Begonia Gloire de Sceaux, and Dracaenas in variety; in fact, I find this the most expeditious way in rooting the latter, either the side shoot, after being cut down, or tops of plants that have got leafless at the bottom, considering that one can place fair sized tops in a jar or bottle that would be rather inconvenient to get in cases, which are usually more or less shallow.

Care must be exercised in potting those plants up, as the roots are rather tender, and should be taken in hand when the said roots are about half an inch long, using rather fine soil, and not pressing too firmly. A little bottom heat given afterwards soon establishes them.—*J. Mayne, Bicton.*

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 9th inst.:—
Orchid Committee.

CYPRIPEDIUM SIR R. BULLER.—In this we have a magnificent hybrid of which the parentage is said to be *C. Smlthii* × *insigne*, the latter being pretty certainly one of the parents. The dorsal sepal is very large, orbicular, and richly blotched with crimson-brown, particularly along the course of the nerves, on a greenish yellow ground, while the broad margin is white, spotted and marked with dark purple. The petals are spatulate and blotched with black on a yellowish ground, while the tip is pale purple. The large lip is pale purple. (First-class Certificate.) *W. M. Appleton, Esq., Tyn-y-Code, Weston-super-Mare.*

MORMODES BUCCINATOR ROLFEI.—The ordinary or typical form of this *Mormodes* has pale reddish-brown flowers mottled with a darker colour; but the sepals and petals of the variety under notice are of a rich cinnamon-brown and unspotted. The half funnel-shaped lip is intense purple, and the curved claw is shaded with brown. (Botanical Certificate.) *Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.*

ZYGOCOLAX LEOPARDINUS WIGAN'S VAR.—This beautiful, bigeneric hybrid was derived from *Zygopetalum Gautieri* × *Colax jugosus*. The sepals and petals are richly banded with brown on a pale yellow ground. The lip is rich blue, and the half cup-shaped crest is violet. It is quite a gem or a pet of a plant in its way. (Award of Merit.) *Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.*

ZYGOCOLAX WIGANIANA was derived from *Zygopetalum intermedium* × *Colax jugosus*. The sepals and petals in this case are heavily blotched with brown, and transversely banded with greenish-yellow. The lip is larger than that of the previously named hybrid, and richly lined and netted with violet-blue on a white ground. (Award of Merit.) *Sir Frederick Wigan, Bart.*

LAELIA ANCEPS LEEANA.—The flowers of this chaste and beautiful variety are of great size and good substance. The sepals and oblong petals are white. The lip is white and yellow in the tube, and lined with purple on the side lobes, while the median crest is golden-yellow.

Floral Committee.

PRIMULA SINENSIS GENERAL FRENCH.—This belongs to the plain-leaved or ordinary type; and is of robust habit with deep red petioles. The flowers are semi-double, and of a rich fiery-crimson. It is raised from seeds, comes true to name, and is a great acquisition to the dark varieties. (Award of Merit.) *Messrs. Sutton & Sons, Reading.*

PRIMULA SINENSIS THE DUCHESS.—The Award of Merit in this case was given for the strain of single varieties of which a number were shown; but The Duchess well merited the award for itself, for it is the most distinct break which has appeared amongst Chinese Primulas for many a year. The flowers are silvery-white, with a rosy-purple zone round the greenish-yellow angled eye. It comes true from seeds, and is bound to become popular. Others shown were *Crimson-King*, intense, glowing crimson; *Maud*, rich dark blue; *The Sirdar*, carmine, and white edges; and *Lord Roberts*, salmon-scarlet. *Messrs. Sutton & Sons.*

The Orchid Grower's Calendar.

It is early days to talk about repotting Orchids, yet it is very important with these as with other things to take time by the forelock by getting things ready; for it is half the battle to be prepared, a statement, the moral of which is just now only too apparent. We would advise the getting ready of plenty of sphagnum moss by having the same thoroughly washed so as to get rid of as many slugs and their eggs as possible, and by picking out all the refuse, &c. Peat, too, may be pulled to pieces, saving the bracken rhizomes to be used instead of crocks for *Odontoglossums*. In mentioning the use of bracken rhizomes instead of crocks, I ought to say that the idea originated with my friend, Mr. J. Howes, "Dulcote," Tunbridge Wells, who has used it for several years with good results. He recommends that the roots or rhizomes be thoroughly dried before use by putting it on the top of the stoke-hole furnace, otherwise if used in a green or live state there would sure to be some fungus spring up which would soon permeate the whole of the compost, causing no end of trouble.

The advantages derived from its use is lightness, a consideration when the plants are suspended when in spike. It is warmer, too, than crocks, and the roots show their appreciation of its use by running down through the bottom of the pot.

The fine dust that is sifted out of the fibre comes in finely for bedding in single bulbs of imported *Odontoglossums* or plants that do not appear to have a chance of making a growth. You will be surprised to find what a lot of apparently useless pieces will push a growth and make plants, it is from these scraps, too, that you sometimes get hundred guinea plants. For convenience sake we make shallow trays in which to bed the doubtful pieces, putting them as thick together as possible.

Take advantage of frosty or wet weather when outside operations are at a standstill for cleaning pots and pans, also potsherds for crocks, this saves time later on when there are a hundred and one jobs that require immediate attention.

The peat, too, will most likely require looking after, for oftentimes through being stored in warehouses for a considerable time it has become too dry for use. In cases like this we always soak the turves for a short time and then lay them on the top of the furnace. As they become warmed the moisture will penetrate the whole mass so that when picked it is nice and moist, without being wet, and in just the right state for use. With the sphagnum moss an opposite course should be adopted, for we never use it very wet. To get it dry at this season it is a good plan to shake it thinly over the floors of the warm division at night. This not only dries it but makes it of the same temperature as the house, and therefore ready for use.—*S. C.*

THE PLANT HOUSES.

The Stove.

REIDIA GLAUDESCENS.—This is a neat little stove member, taking after the *Mimosa* in appearance, and easy to cultivate. The habit and growth may also be set down as being like that of *Aralia gracillima*, *A. Veitchii* and others of this stamp. Though the flowers themselves are insignificant, they yet produce a peculiar and charming effect on the plants. Whenever the plants gain more than 15 in. or 18 in. in height, they may then be dealt with, as are other like subjects, that is, cut down and made into

cuttings. A 5-in. pot is a nice size. After the cutting stage, the plants in all respects may receive the same treatment as stove *Aralias*.

OUVIRANDRA FENESTRALIS.—The Lattice Leaf plants are fairly well known, yet not at all frequently grown in gardens. Yet to those who are visited times and again by friends whose knowledge of and liking for flowers or plants is of that order which fixes only on the "curiosities" of plant life, the presence of a number of "peculiar plants" in garden collections, represents to their minds its value and interest. Therefore, even for others' sakes it would be advisable to have, and to be able to explain the points of novelty in lesser grown or known plants. Being a native of Madagascar, the *Ouvrirandra* enjoy water of a medium temperature, for they grow always submerged. The water must be perfectly clean, and should always be renewed or renewing itself. The net-like leaves, which are the attraction, must be kept clean. A small tub or tank can be made to suit them; 2-ft. tubs are deep enough. Into the bottom place a goodly mound of loam and insert the plant. A few inches from the surface of the water is quite deep enough for their successful growth. Place the tub in a very warm corner, carefully filling it with water at 80°. Clean, warm water may repeatedly be added. Little more than constant seeing to is afterwards required.

The Greenhouse.

HYDRANGEAS.—Though *Hydrangeas* are everybody's plant, and on that account may be limited in their admittance to first-rate gardens where indoor space is valuable, still, a résumé on their needs may be serviceable to a few. Down in the south coast of Devon we learn from Mr. J. Mayne of how flourishingly the *H. hortensis* grows, without more protection than a wall, in a warm position. In such winters as that of five years ago protection, as a matter of course, had to be afforded them. I have seen the *H. hortensis* growing for a number of winters out of doors in a garden at Edinburgh, but the plants never flowered. Whether the wood required more thorough annual ripening, or what the cause really was, would be beyond me to state. Where plants receive a liberal supply of sulphate of iron, this has the effect of producing that beautiful pale blue colour of the flower heads. This certainly is not the only cause, but I believe the chief one in developing this tint. The soft pink heads are much to be preferred, however, and these are gained by a careful selection of soil compost, and the use of soft water for watering. A good compost to use is three parts dark brown, mellow loam of the kind that easily crumbles between the fingers when squeezed; one part of hen-house sweepings in the dry state, slightly over one part of leaf mould and a fourth of sand. Cuttings can be taken after the flowering period and when rooted kept either on shelves of a cool greenhouse during the winter, or near to the glass in cold frames. They grow moderately the first year. The treatment should be such that the season's growth becomes thoroughly firmed, and with young plants it is well to let them carry one good head. Plants in 6-in. pots can do this. After resting for some time during the autumn and winter, they should be potted on in February and grown for a while in a cool house, where they ultimately develop fine heads. They must be fed when their roots are confined. Another plan is to take cuttings in August, from shoots which may have, or may not have, formed flower buds. These may be struck in small pots, in close cases, with gentle bottom heat. In the springtime they may be potted on for flowering during the summer. Should large bush specimens be desired, cut back the single stemmed plants after flowering, to about five good buds. Rest the plants, pot them on in spring, treat them liberally, and allow them a cool, somewhat moist atmosphere, by shading in the height of summer, care being taken to train up the shoots in a regular fashion. The wood must be well ripened in the autumn and pruned back, thinned out and regulated always after the flowering. A process described last spring in *THE GARDENING WORLD* by Mr. Angus, late of Aberdeen, was on how to obtain a number of fine trusses from one short stem. After cutting off the withered corymbs of flowers, he notches the stems about 8 in. down. This leaves space above the base for a number of shoots to develop, each of which carries a flower head. Thus he obtains very dwarf, bushy, well-flowered plants. *Hydrangeas* are at times troubled by green flies.—*J. H. D.*

HINTS FOR AMATEURS.

Campanulas.—We have in the quick-growing hardy kinds, plants typically useful for the amateur's garden. The tall Chimney Bell-flower (*C. pyramidalis*) and some few others require some careful treatment. The common Canterbury Bell also pays for any extra watchfulness. Confining attention in the meantime to the biennial varieties of the Canterbury Bells and the Chimney Bell-flower, the following treatment is to their liking. They germinate freely and safely from out-door sowings made in April, or from earlier sowings in frames. A gentle under-heat is all the more necessary, according as earlier sowings take place. It is of no purpose, however, to sow before the entry of March, as one has to give the plants much needed space when more use could be made of it. The plants should be pricked out early, to be stout and strong. A light, rich soil and thorough drainage is necessary. They must never suffer from want of water; disregard of this brings to the plants the additional drag of sucking green-flies and red-spider. Whenever the plants attain to a few inches in height and after their first transplanting, about the month of August, those to be potted up for spring-flowering may be selected, while those for planting out may be put into rows, being placed in their permanent quarters in spring. The *C. pyramidalis* after development, and after flowering, only requires the protection of a frame during winter and an annual top-dressing. It must have steady and varied feeding. Thus we have from spring sowing plants fit for potting in August, or for transplanting, and, in the former case, by careful greenhouse treatment through the autumn, winter, and early spring months, fine blooming plants reward one by the next May.

Achimenes.—For those who have a warm house at command a few tubers of *Achimenes* can be started now. Others may be brought on in succession. A stove temperature or that prevailing in a warm greenhouse must be accorded to them. 5-in. pots and a compost of sandy loam should be given.

Cannas.—For planting out-of-doors in June the sowing to furnish plants must be made during this present month. Indian Shot is the popular name of *Cannas*, from the fact of the seeds being extremely hard and spherical. Before sowing they should be steeped for twelve hours in water. A brisk temperature is necessary after sowing, but once the seedlings are up and doing well a more moderate heat is to their liking. They will require one or two shifts, using a rich and solid compost, whence they will be fit for the subtropical garden in June.

Petunias.—As each spring or early summer comes round, and we visit gardens wherein are *Petunias* arranged in the houses, do we not just wish we had thought of a sowing in time? Prepare them, and any time now the indoor batch may be sown. Use pans and fill these with porous soil, placing them in a shady, close part of a house with a temperature of 60° at least. The seeds should merely be covered with fine soil. Allow a period of five weeks for the germination and growth of the seedlings; by that time they should be large enough to transfer into small pots. Care is demanded in the watering at this time, and in airing and regulating of the temperature. They must not suffer draughts, and from now a temperature of just over 50° should be maintained.

Subsequent pottings will be regulated by the advance of growth. All *Petunias* are impatient of being potbound, particularly the double varieties. At each shift the soil should be somewhat warmed, and the plants placed for about ten days in a warmer house and kept close. Five-inch pots are usually quite large enough for them. Drainage at all times should be thoroughly good. When the plants are about half a foot high they should be pinched, and as they grow they must repeatedly be kept bushy. For early flowering they must, of course, be allowed to grow ahead without pinching for some time previous to coming into bloom.

Antirrhinums.—An early sowing can now be made in pans, and these placed in a warm house. When the seedlings are fit for transplanting they should be transferred to a frame, and about the month of April they may be planted out to sheltered beds or borders. *Antirrhinums* are, all the same, perfectly hardy, as is proved by the numbers of self-sown

seedlings, which stand out all winter. What these handsome summer flowering plants specially enjoy is a warm, sunny position in sandy soil. If the soil be rich as well as sandy so much the better. When really meritorious varieties originate they should afterwards be propagated by cuttings, as otherwise they cannot always be relied upon to come true. A dwarf, pure white variety, and a deep glowing crimson, when planted in lines in borders, give a capital contrast, and are specially desirable from the fact of their colours. There are two sections of the *Antirrhinum*, the major and the minor. Plants of the former division attain sometimes seven or more feet in height. These flower for a long period, beginning at the bottom of the raceme and continuing upward.

Marguerites or Paris Daisies.—The Paris Daisies are typically useful amateurs' plants. They are easily grown from cuttings, which are more or less often taken in September, and kept slowly advancing through the winter. But cuttings, if they can be got, may at any time be put in. Pot plants yield cuttings in early spring, and these, if grown on, furnish flowering plants for the following winter. After making the cuttings cleanly and well, put them into small pots firmly and well down. A gentle heat may or may not be used. Personally, I think it advisable. They require some amount of care as to watering, both in the early and later stages. A rich soil consisting of two parts of good fibrous loam and one of Mushroom-bed manure, with some soot and sand, may be made up. Pot firmly, always having large plants in comparison with the pots used. When the plants have reached 4 in or 5 in. in height pinch the leading shoots, and do likewise with the side shoots when they extend outward to about 5 in. Feed with artificial and other manures whenever the plants show signs of needing such a stimulus. During the summer they may be grown either in frames or out of doors. The Composite Leaf-miner, which so disfigures the leaves of the Paris Daisies (*Chrysanthemum frutescens*), is difficult to suppress. The female shows herself about the middle of February, so that from this period it is well to persistently spray the foliage with a paraffin and soft soap solution. Dusting the leaves with soot and lime also acts in the measure of a preventive. On the first signs of a larva within the leaf crush it between the fingers. Spraying with tobacco water is also a preventive, and does not soil the foliage.

Cinerarias.—Plants in bloom whose roots are now sorely cramped, and which find a difficulty in getting the supply of nourishment, should have weak supplies of liquid manure given to them. This heightens the colour and brilliance of the blooms, and causes them to last longer as well. Any suckers from the base should be taken clean away. A cool room or greenhouse suits them; heat soon causes them to wither.

Window Plants.—The notes already given referring to careful watering, and not to use very cold water, the removal of decaying flowers and leaves, and the prevention of draughts from the window need only be re-called here. Potting or top-dressing of various soft-wooded plants may soon be done.

Present Work.—Fruit houses not previously put in order should be seen to and got straight without delay. After the month of January the amateur and the professional gardener both find their hands kept busily employed. The trees in the Peachery should be washed with any of the advertised compounds for washes, and the main branches may afterwards be painted with a home-made preparation of soot, sulphur, dissolved soft soap, clay, and cow dung, made of the consistency of paint by the use of water. Many condemn the painting of the trees, just as others censure the scraping of Vine rods. There seems to be no harm from the process; however, and there is no question but that pests are destroyed by the practice. Indoor borders of mid-season fruit houses may yet be renewed. Vineries when "started" should merely be kept closed, and without heat. The surface of the borders and paths ought to be slightly damped. By and bye heat may be applied, and should gradually be raised, according as the season advances. Active preparations are now in progress for the renewing of indoor plant borders, and for top-dressing and potting stove plants. Soil should be collected, mixed, and warmed. Warm plant houses may be well damped down twice a day. Ventilate the greenhouse on all occasions of mild

weather. Allow the plants plenty of room, and shift them about, so as to develop evenly balanced plants. —Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Propagation of Herbs.—*Stanley-Watts*: Lavender (*Lavandula spica*), Rosemary (*Rosmarinus officinalis*), Sage (*Salvia officinalis*), Tarragon (*Artemisia Dracunculus*), and the Lemon Thyme (*Thymus citriodorus*) and Marjoram (*Origanum Marjorana*) are readily propagated from cuttings, slips, sometimes division as in Thyme, and by layering. But given a porous soil and a warm, sheltered border, or a frame, any of them propagate by cuttings of half firmed wood in August. Mint is increased by division. Seeds of any of the above may be sown in the open from April till June. The following are also included among herbs, and may be raised annually from a spring sowing:—Sweet Basil and Basil bush, Horehound, Fennel, Chervil, Rue, Angelica, Borage, Balm (by cuttings), Savory, and Tansy.

Planting Honeysuckles.—*A. S. G.*: All the *Loniceras*, as the Honeysuckles are called, are of easy growth, being propagated by cuttings, layers, or seeds. *L. fragrantissima* and *L. Standishii* are two very odorous varieties which flower in early spring. They force in gentle heat. Do not prune these until after flowering, when you may cut them back rather close. Secure plants, if possible, with good balls and plant during mild weather, mulching the surface soil. *L. sempervirens* is suitable for indoors.

Pot Auriculas.—*A. E. C., Bristol*: We advise you to wait until next month, when you may topdress your plants with some rich material. Loosen a goodly quantity of the top soil, but be careful with the roots. In June or July you may repot them, placing them then in a frame facing north. It would certainly be to the advantage of the plants to have the benefits of a cool house at the present time. Shade and a slightly moist condition of the atmosphere is to their liking in spring when in full growth. They enjoy a liberal supply of water at that time.

Fragrant Flowers for Outdoors.—*Critique*: Many beautiful flowers are more or less scentless, others are too strongly aromatic. The following are pleasantly odorous and may suit you:—Sweet Peas, Mignonette, Clove Carnations, Wallflower, Stocks, Lily of the Valley, Violets, Primrose beds and Auriculas, Hyacinths, Heliotropes, *Alstroemerias*, Paeonies, Pansies, Phloxes, Pinks, *Tropaeolums*, Roses, &c., &c. These, especially when in masses, are all more or less conspicuously and pleasantly fragrant.

Primula Sieboldi.—*D.*: Of the Japanese Primroses there are very many fine varieties. For a selection you might commence with the following:—Grandiflora, creamy-white and rose; Vivid, very bright magenta; Bruce Findlay, blue; Delicata, lilac; Queen of Whites, one of the best white sorts; Lacinata, reddish-crimson, and fringed; Alba Magnifica, pure white; and Magenta Queen, bright magenta.

Increasing Gladioli Corms.—*Alex. Johnson*: So successful have we been with corms, which we split up, that we might go so far as to say they do better that way than whole. If a clean cut with a sharp knife is made exactly between the eyes or buds, and the half corms then planted about 4 in. deep in a rich, sandy bed, there is reason to hope for the best results. A warm sheltered position does a lot for the production of handsome spikes. Plant in March. The halving system is recommendable where the finer varieties are wished to be speedily increased.

Moss on Fruit Trees.—*G. F. D., Stow*: Moss and Lichens are all too common on Orchard trees. Planters at the present time are using more precautions at the time of planting, preparing the soil more thoroughly, draining more adequately, and altogether

taking more pains. So that these certainly are reasons why the younger trees bear cleaner fruits and are healthier in branch, root, and stock. Their youth also helps them. You must scrape the moss and lichen off and then wash the branches all over with freshly slaked lime. This may afterwards require to be cleared off with clean water. Secure the advice of an expert as to whether it would not be better to cut back the main branches of the older trees and have them grafted with superior kinds.

Hollyhocks.—*Jas Chisholm*: A sowing can be made now in shallow pans, placing these in a temperature of 60° to 65°, covering them over and keeping close. When the seedlings begin to appear gradually inure them to a freer and freer atmosphere. Finally prick them out 4 in. apart in boxes, and later on either into pots or into frames. They like a goodly supply of water at all times. Above all things, however, guard against coddling them at any stage after germination. Through too much nursing the disease so dire among them a few years ago was stated to have been brought on.

Standard Roses.—*D. McKenzie, Ratho*: Standard Roses are grafted or huddled upon the Common Brier. A rich, well-worked soil and topdressings, liquid waterings, mulchings, &c., all are required to sustain the full vigour of fine specimens. Stout and neat supports must be given to the stems and a somewhat protected position chosen when planting. A good plant can be got for 1s. 6d. The summer's growth of the heads of standards should be well thinned out in autumn, leaving the harder and more exact pruning till the spring. Budded H.P. varieties of strong growth usually succeed as standards.

THE SPANISH CHESTNUT IN GREENWICH PARK.

THAN the Royal Park at Greenwich few in this country surpass it for beauty, certainly none for the historical association connected with it or for the grand old timber scattered over the fully 200 acres that are contained within its walls.

Spanish or sweet Chestnuts were wisely chosen by Charles II. or his advisers as being most suitable for the deep gravelly soil, of which most parts of the park are composed, a fact that is clearly brought home to us by the many prodigious specimens of the tree that confront one at every point from Blackheath Gate to the Royal Observatory, and from there to Vanbrugh Castle, and downwards towards the Royal Naval College.

Possibly the finest specimens may be seen from Blackheath entrance, one of which is truthfully reproduced from a photograph taken by Mr. H. T. Potter, of the Rean School, Greenwich. Miss Airey, daughter of the late Sir George Airey, who, as astronomer Royal resided long in the park, has pointed out to me a semicircle of large Chestnuts which, possibly fifty years ago, were the sole occupants of that portion of the park immediately within Blackheath entrance, but which are now partly lost sight of by younger trees of recent introduction.

The stems of many of these are from 20 ft. to 30 ft. in girth, and each contains from 150 ft. to fully 200 ft. of timber, with curious spirally arranged bark and immense protuberances near the base.

Generally speaking, from their great age and unhealthy surroundings, the older trees are not in what might be considered a very satisfactory condition, disease arising from wind-broken limbs and poverty of soil having told somewhat severely on these aged and gnarled monarchs of the forest. That the Spanish Chestnut will not be the tree of the future in the park I am well convinced, for with vastly changed atmospheric conditions the Plane, Acacia, and Ailanthus will be found far more suitable for withstanding the deleterious effects of the smoke and chemical fumes to which, at the present day, Greenwich and its neighbourhood are almost constantly subjected. But we need not lose heart or suppose that our grand old park will ever become denuded of timber, for happily the list of trees which can succeed under very adverse circumstances is by no means a short one. Gradually, but surely, many of our finest English trees are being driven further and further back from the great metropolis, and such species as positively flourished, say, at Lambeth a century ago, are now, through impurity of the atmosphere, quite unfitted for cultivation.—*A. D. Webster.*

BRITISH FERNS AT CHRISTMAS.

THE Christmas of 1899 was ushered in, in this district, with some trepidation. The morning broke cool and comparatively clear, although there was some tremor in the clouds overhead. The fog, however, had lifted during the night, so that when Phoebus 'gan to rise and display his charms on the horizon of our vision, we had great expectations of his potency and power. We were not disappointed ultimately, for he subsequently shone forth with great ardour and persistency as if to make amends for past delinquencies. It is true there was a little ice here and there, and a great deal of filth everywhere, the result of fog deposits, which, unfortunately, the liquid brilliance of our solar orb only tended to intensify. Still, we were thankful for such a gracious act on the part of our loved luminary; for, doubtless, the dullest and dirtiest weather conditions of all our year ranges round the period of the winter

those outside and those under glass protection is simply marvellous! In the one case they have disappeared either altogether, or are so utterly demoralised—so tattered and torn and tumbled—as to be but the merest remnants of their former selves; whereas in the other case, even the hardy ferns still persist and exhibit a beauty of outline and a delicacy of cutting, which their sisters of exposure have parted with two months ago. This, however, may be partly due to economy of procedure; for, like the domestic piece of furniture that did duty as "a bed by night" and "a chest of drawers by day," I adopt my roller blinds to winter work. And thus they form—

A shade umbrageous when old Sol's sublime,
And pert protectives 'gainst the frost and rime.

But as it is desirable in the interests of the plants, to remove the sooty and greasy deposits, as often as possible, which the fogs invariably leave behind



A SPANISH CHESTNUT AT GREENWICH PARK.

solstice, a period when the days are shortest, and the sun appears to stand still.

But, what has all this to do with the subject of my theme? Only this, that among hardy plants, which are cultivated under glass, I know of no better material for the ordinary amateur to take up for the decoration of his greenhouse than the numerous and beautiful varieties of our native Ferns. They also appear to me to be adequate to foul conditions, as they are particularly suitable for amateur work, and are, moreover, practically unrivalled as ornamental foliage plants. They require no artificial heat; in fact, they are better without it; although, in my own case I deem it desirable to give a little portable hot water stove full play when the weather partakes of a severe character. The object, however, is not for fear of the Ferns, but rather to induce a buoyant condition of the atmosphere, and to preserve the colour and characteristics of the plants as long as possible. The contrast, in consequence, between

them; so on this occasion the application of water and friction produced such a transformation in the crystalline covering, that quite a flood of light was admitted, the result being an illumination of the Fern contents.

Amongst those which are specially attractive are the Polypodies, both in baskets and pots, a wild Welsh find, after the manner of *Polypodium vulgare* var. *acutum*, being especially verdant; *P. v. var. cambricum* also occupies a basket, and is self-recommending on account of its cuttings and beautiful plumose character. Other varieties of the "many-footed" species of old walls and tree stumps, which call for remark, are *cristatum*, *semilacerum*, and *elegantissimum*, all of which exhibit elegance even in their nomenclature.

The Polystichums, too, are evergreen plants of much merit, and are also very fertile in varieties. They make good decorative subjects, and sometimes attain large proportions. There is one here with a

dozen 2 ft. 6 in. fronds, which are not only like huge feathers, but the colour—enhanced, perhaps, by the playful sunbeams—is a pale golden-green. Its name is *P. ang. plumosum*, and was found in Devonshire by the late Mr. Wollaston. Another fine soft Shield Fern, is Pearson's decomposition, pale green colour, with soft, loose, much-divided, drooping fronds. The variety called *proliferum* is more common, but most useful, and is likewise one of the best of British Ferns for hanging baskets. The creams, however, of this section when seen in proper form are the *divisilohums*, the leafy parts of which are enormously developed, giving to the plants a rich, luxuriant, and moss-like appearance. The sole representative here rejoices in a choice combination of fitting adjectives, not one of which I would willingly waste, because they are so expressively characteristic, viz., *Polystichum angulare plumosum divisilobum laxum*.

Of the Hard Shield section (*P. aculeatum*) *cristatogratile* is slender and pretty; *rotundatum* is also a narrow form; while *P. cristatum* possesses in addition to its rounded pinnules pretty crests. But the variety of this division of Ferns is, I think, *pulcherrimum*, a name which exactly accords with its slender, stately, silky appearance.

The Lastreas or Male Ferns are sure to be in evidence, but the "King" of these is, perhaps, the old but well-attested *L. pseudo-mas cristata*. Quite a different Fern to this, although a seedling of it, is the narrow-fronded, pinnae-congested, apex-crested form known as *angustata*—an excellent little Fern for Christmas decorations. The polydactylous forms in this group also excel, *Wills'* variety being especially fine. The crested and foliose Buckler Ferns form good foliage plants at this season; so do the serrated, ramose, or crested *Blechnums*, but for general effectiveness, for variety of colour, and for adaptability to all classes of decoration the *Hart's-tongue* must take a leading place. The species (*Scolopendrium vulgare*) is quite unique in itself—it cannot possibly be mistaken or ignored, but when we pass from parents to progeny the result and divergencies are very confused. Normally, strap-shaped or fancifully like the tongue of a heast, the developments have so increased and accumulated that we have horns and files as well as tongues; we have also in addition to crests, clefts, claws, prickles, arrow-heads, pockets, frills, scollops, and a dozen other curious appendage-like extensions, some with Parsley-like divisions, Endive-leaved fronds, corymb-bearing tips, &c., &c., and one with a broad head, 9 in. across. Not much like *Hart's-tongues* these, nor very suitable for lingual purposes. For cold greenhouse work or room culture, however, they can hardly be surpassed, but if I were requested to cut down this mixed medley to a single plant, I should unhesitatingly go for one of the *crispums*, say *S. v. crispum* (*Wills*). But having regard to time and space, and without going further into detail, I hope I have made it sufficiently clear that British Ferns (of which there are about 2,000 varieties) are particularly suitable for amateur handling for town and suburban culture, and for prominent participation in the foliage effects of the Yule-tide season.—*C. B. G., Acton, W.*

FORCED VEGETABLES.

For the sake of those who may desire but have never quite attempted to force an extra early supply of dwarf Beans, Potatos, Carrots, Turnips, and saladings, the following hints are offered as a quickening. The interest in the garden by employers cannot but be increased by every fresh venture which a skilful and energetic gardener may attempt. Likewise, the status of those gardeners who put their shoulders to the wheel and mount over obstacles along the path is raised in proportions to the difficulties conquered. A very common remark, one which is too common and also untruthful, is that "the more one does the less they are thought of." There are those who would even present the phrase in the sense that "the less one does the more they are esteemed." As a matter of fact when I come to think of it, I recall an instance where a head-gardener "got the sack," because he *did* do too much. His employers wished to have "a hig, hraw chiel," with a tall hat and kid-gloved hand, instead of which their man was a chap for hard work. So Adam had to go.

However, "ye'll each hae your ain ken." In such an uncertain land as ours is, I deem it very

proper to make certain of an early supply, and this can only be done by means of hotbeds, frames, and houses. A few gentle and lasting hotbeds are of immense assistance. By collecting fresh stable manure and mixing at least an equal portion of rough leaves from the year's rakings, the permanency of the fermentation is secured, and its degree of strength greatly tempered. When the mass has become hot through and through, it is well to get it placed within the frames at once. Tread it very firmly, for the closer it is pressed the more persistent and regular will the after-heat be. Deeply built brick or cement work frames and pits are by far the better for the conservation of the heat. Shallow wooden frames do not contain body enough of the dung. To rake up a bed and place a frame on the top of it is a regular practice, but it is a necessary evil; for it requires almost a double quantity of dung and labour in preparations. Place the requisite depth of soil over the surface of the fermenting material, so that it may be warmed by the time the bed has sunk. The soil should be within an inch or two from the glass at first, the surface, of course, being lowered when all the bed has become completely firm. Thus we shall have a frame ready for Carrot or Turnip sowing, or Radishes it may be. Potatos, too, may be planted, or they may be grown in pots, as we have perforce to grow Kidney Beans and Peas.

Once in, the after-treatment resolves itself into carefully giving ventilation, thinning, stirring the soil, and watering. Potatos in pots are a simple commodity. One grave point is to prevent too etiolated growth. Bottom-heat also is requisite. Culinary Peas may be treated much as Kidney Beans, only that before they fully expand their hlooms it is well to shift them to a cooler house than that in which they previously grew—one with a temperature not to exceed 55°. When a number of pods have set they can again be treated to a warmer temperature. Choose dwarf varieties, such as *The Daisy*, *William Hurst*, *American Wonder*, &c. Roots of herbs, such as Tarragon, Mint, &c., and a constant supply of Seakale crowns may be placed regularly into heat.—*N. Howe.*

THE HISTORY OF GARDENS.

(Continued from p. 315.)

OUR report of Mr. Sieveking's lecture concluded three weeks ago with a reference to the Hanging Gardens of Babylon. The lecturer then brought to his audience a consideration of the gardens of mediæval times. The finest descriptions of the English garden of the middle ages are found in the writings of famous old Chaucer, Lydgate, and the poem of James I. of Scotland, the "King's Quhair," written from his prison in Windsor Castle. But good as they are, these descriptions only add the addition of "wands" or railings around the flowerbeds as a novelty not found in previous references to earlier gardens. Sanded alleys, and perhaps a little more of the hrightening element, not in the form of flowers, however, but from stones, tiles, and coloured earths, may be added as characteristics of the early English gardens.

The audience had the benefit of seeing a print of the earliest sample of Flemish engraving, representing what was termed the "Garden of Love," a pleasure-garden wherein was portrayed everything wonderful and unearthly, so grotesque were the characters. This plate dated back 450 years.

Grottoes have always played a conspicuous part in the composition of gardens from the earliest times downward. There were wonderful examples of grotto construction in the French gardens planned for Henry II. These were laid out in a series of terraces, beneath which were the grottoes, shell-work and figures in water; the whole being so sumptuously arranged that the gardens were regarded as one of the marvels of the age. The most distinguished Tudor gardens in the reign of Henry VIII. were those of Nonsuch, near Ewell, in Surrey; and greatest of all, those at Hampton Court. The peculiar points in garden designs and compositions at that time was the lavish introduction of dials, "mounts" at the corners, columns and pyramids of marble, topiary work, fish ponds, moats and walls. Vines, and Vine culture, about which we periodically burst forth to sermonise upon in these latter days, as a profitable enough crop to handle, were common in the Tudor gardens.

The gardens of Hampton Court at that time

covered 2,000 acres! This area was divided into sections, part of which was known as the Mount Garden, the King's New Garden (now called the Privy Garden), and the Pond-yard, or garden which alone now remains, and of which an illustration was shown. Visitors to this Pond Garden will have some idea of the Tudor style—the low walls covered with creepers, at the corners of which may be observed what were the bases of stone piers, that supported the "heraldic beasts" bearing the King's arms and badges.

It is regrettable that an insight to the plants used, or contained in these early gardens, was not given by Mr. Sieveking. This, of course, would have added too much to the length of the lecture, besides being beyond the purpose.

Coming down to a later period, that of Queen Elizabeth, it was necessary to go back to the mediæval Italian style of design. The Italian gardens were founded upon the Roman villas, mentioned earlier in the lecture. The Library of the Vatican (the Pope's Palace) occupies the site of one of the oldest of the mediæval Italian gardens, that known as the Vatican Garden of Bramante. Very interesting was the lantern illustration of a garden of this special period and country, which also was laid out by Bramante. It was that of the Villa d'Este at Tivoli, wherein were to be observed Cypresses which were planted by the renowned sculptor Michael Angelo. This represented a massive straight-lined mansion with a pagoda-like tower rising from it, situated centrally on high rising ground all round. Sloping, and from it, were the terrace gardens, each walled, or hedged in, the walls being in many parts bedecked on the top along their whole length with vases. Long flights of steps, bordered on either side with rows of guard-like statuary or architectural carving, were conspicuous features. Elaborate fountains, and sunk geometrical gardens, with here and there tall dark Cypresses towering up like great flames, were also included in the composition. Olives, Vines, and Myrtles, were recorded in the list of trees and climbers.

The elegant Italian gardens were summarised as being "a happy fusion of the early Tudor garden with the styles of Italy and France, borrowing from the former its terraces and fountains, and from the latter its parterres, alleys and labyrinths."

And now to the Elizabethan garden proper. The mighty Francis Bacon wrote an essay on the gardens of his time (sixteenth century), which is one of his best productions, and is understood to be the "crown and flower of garden literature."

One typical Elizabethan garden was specially cited, that of Theobalds, belonging to Lord Treasurer Burleigh, and of which there is a plan by Thorpe in the Sloane Museum. It was square in form, the walls being dressed with Phillyrea, and throughout the garden the usual little fountains, topiary specimens, statuary and so on.

Hatfield, Holland House, in Kensington, which retains much of its old character; Wilton Garden, which was shown through the lantern as representing its style about 1640 when designed by Isaac de Claus, are others of this period. The description of the original Wilton was given, but this need not be repeated here.

About this period we have the first mention of Physic Gardens which were attached to such colleges as Oxford; others belonging to private individuals, such as Turner, Gerard, and others known by repute in our literature. (We favour the view of those who believe that Physic Gardens of a sort, and gardens for purely utilitarian purposes were in our own land at an early date, even before the Roman invasion—at least in the southern part. Ornamental gardens doubtless evolved from acquired taste for beautiful plants and flowers, even though they had no domestic or other usefulness). The title page of Gerard's "Herball," first edition, published in 1597, was shown and proved interesting. References were made to records of well-appointed Physic Gardens, said to have existed on the Continent as early as 1316, 1334, and other periods of that century.

(To be concluded.)

Cutting Prices.—An American weekly paper says, in commenting on florists there, "People are willing to pay a good price for well-grown stock, but, of course, some folks seem to live *only to cut prices*, and we have to stoop to recognise their acts once in a while."

LIBONIAS.

THE above are valuable flowering plants for the greenhouse during winter and early spring, where a day temperature can be maintained about 50°, while no harm will be done if the glass registers 10° or 12° less of a cold night. In fact to cut matters short they thrive and bloom abundantly in company with *Salvias*, *Eupatoriums*, and *Coronillas*, cultural notes of which have recently appeared from my pen in *THE GARDENING WORLD*, and like the other plants named they must be grown on during spring and summer so as to get the wood, or rather growth (as they are not over robust), well ripened by October, or very little bloom will show itself.

Nice little plants in 5-in. pots from cuttings put in early in February can be had in flower under the year with judicious treatment, and placing the cuttings in a slight bottom heat, potting them off into thumb pots before too crowded, and pinching out the leading shoot as soon as established. By keeping them on a shelf or near the glass in a vinery at work, they soon make headway. As soon as the pots are filled with roots the strongest plants should be placed in 5½ in. size, the weaker going into 4¾ in., using loam, leaf soil, and enough sand to keep the same porous, returning them to the same position until you can see a fresh start has been made, when cooler quarters will do for them. Ours are usually put into cold frames early in May, and kept here for two months or so, when they get placed outdoors with a view of ripening the growths, which should be studded with flower buds by housing time or the end of October. Early in the new year the successful grower will be rewarded with useful little plants, with tube-like flowers of orange-red and yellow.

L. penrhosiensis has the larger foliage and flowers, but I prefer *L. floribunda*, which is a taller grower with us, though both are well worth cultivating. Old plants can be served the same as *Solanums*, *Coronillas*, &c., by being cut down after flowering, repotting them and growing them into larger plants for several years. Only the shoots that appear taking the lead need be stopped. The newly struck plants should be pinched twice. Feeding should take place as soon as the pots are full of roots.—*J. Mayne, Bicton.*

PARISH COUNCILS AND FOOTPATH PRESERVATION.

BY JOHN MILLER.

ONE of the many expressions which is fast becoming obsolete, is that which speaks of the public road as the "King's Highway." The phrase was originally both beautiful and suggestive. It did not signify that the road was in the ownership of the King; but it signified that the sovereign, as protector of the commerce of his subjects, was empowered to make regulations for the traffic. A "highway" once opened is the indispensable property of the people, and no better illustration can be given of the right of the public to the possession of the highway than the words Shakespeare puts in the mouth of the unfortunate Richard II:—

"I'll be buried in the 'King's highway.'"

Somewhere of common trade, where subjects' Feet may hourly trample on their sovereign's head."

Perhaps there is no subject that affects the convenience, and very often the welfare and happiness of dwellers in rural districts, more than the preservation of footpaths for public use. One has but to reflect what the country would be without them to appreciate them: the discomfort of having only the dusty road to walk on in the heat of summer, all access to cool and shady woods having been barred by the time worn, but empty threat, "trespassers will be prosecuted."

The act which has just come into force, making a parish councillor's term of office three years instead of one, as provided by the Local Government Act of 1894, is a very welcome one. The parish council has vested in it many important powers with reference to the preservation of our national footpaths. Under the Act of 1894 it is the duty of the district council, whether they are the highways' authority or not (sec. 26 (1)), to protect all public rights of way; but it would appear that the legislature felt that in many cases the parish council would be more vigilant to detect any obstruction than the district council which governs a much larger area, and power was therefore given to the parish council to investigate

such matters, and no part can be legally closed or diverted without the consent of the parish council. Now that parish councillors will have to serve three years instead of one, there is every reason to believe they will be able to make themselves acquainted with their powers on this subject, and prevent any further encroachment by land grabbers.

CULTIVATION OF CARROTS.

I READ with interest in your issue of January 6th the article on the preparation of ground for Carrots and Onions (p. 300).

A good many gardeners and others have the idea that Carrots require a special bed composed of sand, leaf-mould, &c. I have undoubtedly grown excellent Carrots in beds so prepared, but for a general crop or for market purposes the method is too expensive. Good Carrots can be grown in any ordinary garden soil, dug or trenched in the usual way, but the piece of ground selected should be old Strawberry ground. Most gardeners allow their Strawberry plants to remain three or four years. Herein then lies the secret for a successful crop of Carrots. The Strawberry ground having been trenched in winter, some good farmyard manure should at that time be put in the bottom of each trench.

At sowing time, March or April, fork in a good sprinkling of soot, and tread the soil firmly. Sprinkle a little more soot and stir the surface well with a rake, again tread the surface firm, and sow in the usual way, but not too thickly. Partly thin the plants while quite small and be careful not to loosen the soil around those that are to remain; finally thin to about six inches apart. Fourteen inches between the rows will be found a suitable distance for large growing sorts.

Your readers will find the above a thoroughly reliable system for the successful cultivation of Carrots. The Strawberries leave in the soil all that is required to produce heavy Carrot crops. If the soil is rich, having been well manured for the Strawberry crop, no manure is needed. If, on the other hand, the soil is very heavy, some wood ashes forked in with the soot in spring will be found beneficial.—*Walter Grant.*

MEMORIAL TREES.

I THINK it would be well for the public at large if the planting of these became more general than it is. On several grounds, for instance, so far at least as the trees themselves are concerned, the first cost as compared with artificial memorials of any kind would be most trifling, and the charge for maintenance almost nil. The ground they may be destined to occupy would possibly in some instances be a somewhat costly item, my idea being that sufficient space being allowed for the full development of each tree with a margin beyond, so that to whatever proportions they may attain there will be space for a good view of them from all sides whether planted singly or in groups. One other consideration is their great durability. We have, for instance, Oaks and Yews some six and eight hundred years of age. Then again, the space of ground they would cover would endure for ages as open spaces to the community, which might otherwise become congested centres of population. They would be a powerful reminder to coming generations of the men and bygone scenes in both political, religious and social spheres, which their planting was designed to commemorate.

There is a large Oak in Holwood Park, Keston, under which Pitt and Wilberforce sat and discussed the coming Bill for the Emancipation of the Slaves in our colonies. True, a stone seat has been placed there with an inscription testifying to the fact, but, unlike the tree, it cannot be said to be a thing of beauty and a joy for ever. I was pleased when passing under it recently that some care is taken with a view to its preservation; and it bids fair to last for many a decade to perpetuate the triumph of the anti-slavery movement; and although its days far outnumber those of the stone seat, it may yet present a respectable appearance when the latter has succumbed to the influences of time and climate. In this instance the tree was already there when the event took place, which to some extent it may be said to commemorate; and again, although a public footpath passes under the tree, it stands on private property. I think that this or any other tree with a similar history attached to it, ought on public grounds to be preserved, and that when private

property on which they stand changes hands, steps should be taken to secure them and the ground on which they stand to the public. In the event of their ultimately decaying, or before, young ones should be planted near the spot to take their place.

Both national and local benefactors might well have their memories kept green in this simple way, and by this simple method something would be done towards making the neighbourhood a wholesome and better place to live in than it otherwise would be for those who come after us. Though when planting a sapling or seed your right hand may not know what the left is doing; that power which works in secret will openly reward the memory of the departed ones, who committed their one talent to the mantle of Mother Earth. The grateful remembrances of unborn generations which will seek shelter from both sun and rain beneath the umbrageous shades of the giants which have grown up from the small beginnings will bless the memory of the men or women to whose honour they were planted, and contemplate with either joy or sadness the events of which the trees under which they may be resting were planted to commemorate.—*W. B. G.*

WHEN DOES THE FURZE BLOOM?

FROM the number of authorities quoted by "C. B. G." in his endeavours to illuminate the above question, none seem to record the month of April at all specially as the inaugural flowering advent of the Furze. With us, in the south-east of Scotland, this is the re-awakening period. The plants, growing—clinging rather—in precarious rootholds on the top of dry stone dykes, of the sunken fence style—a bank at the back—are generally the earliest members to respond to the spring showers and sunshine. Out on the open hillsides, and wherever there are a few scattered subjects, the "pyramids of bloom" begin to glow forth, and continue to do so, more or less, during the summer months.—*Roxburghshire.*

WHEN replying to "Sigma" (p. 311) "Alex. Wright" may be to some extent right when he says that Epping Forest is not far enough removed from the contaminating breath of London, but if he comes over here he will find some flowers on the Furze on Putney Heath. He should also remember that some parts of Epping Forest have a high elevation above sea level. It may interest "Sigma" to know that I have seen a good sprinkling of blossom on the Furze bushes in Epping Forest at elevations between 200 ft. and 250 ft., and that, too, on Boxing Day not long ago. He may even at present find some blossom on bushes well exposed to the sun (when there is any), but in places sheltered from cutting winds. "C. B. Green" quotes an authority for saying that the yellow Gorse was still in full bloom in October in North Wales. Was that early or late? I venture to say it was early, because the flowers are produced on the young shoots just made up during the previous summer. The October flowers are thus anticipating spring.—*Quo.*

A SEPTEMBER VISIT TO SHOBROKE PARK, nr. EXETER.

SOME may think this a somewhat stale notice, seeing several months have elapsed since I saw the place. This is true. All the same the facts remain, and when I say that as a working gardener (I do not know any gentleman gardeners, I have been forty years trying to find them, and all in vain), having my time fully occupied, I could not spare time to pen them at that season. Now the evenings are longer I will devote an hour to pen a few lines on this interesting place from some garden points of view.

Shobroke Park belongs to that type of place that makes gardening known in some degree. Added to this it is one of those fine old English establishments that English people may be proud of. Here can be seen the work of many an owner who has cherished a love for arboriculture, and a place that has not been disfigured by ruthlessly cutting down good ornamental timber to raise £ s. d.

In the park is to be seen some very fine timber. The holes are straight and clean, the ground being much broken, many good views can be had of the beautiful country, as this part of Devon is noted for its scenery and delightful lanes.

I had heard of this place many times through black and white, when I look over the report of the Exeter shows in the columns of *THE GARDENING*

WORLD for several years past. Some few years ago Mr. Main, the courteous gardener, called on me, and although I am far removed from him, I then promised to give him a call the first chance I had.

On a fine Saturday morning, starting with a view to spend Sunday at Exmouth with my friends, I resolved to fulfil my promise, and in due course found myself at Crediton Station, asking how far it was to Shobroke. Being told a mile and a half, I must say, and the rest. As I plodded on the road, I viewed the fine crops of roots and fat cattle (or on the way to be fat), as in these fat pasturages the cattle do not show more bones than flesh.

When a cart came to give the weary wanderer a lift, and when he stopped I found myself in front of Mr. Main's door. Finding him at home, and after having a chat for a few minutes, Mrs. Main invited me to refresh the inward man, and here I must say no more on this point, or Mr. M. may have more callers than is profitable for his pocket, so kindly was I treated.

We went then and had a look at the kitchen garden, and from the lodge to the kitchen garden door are low sloping banks of shrubs kept in this way to associate with the surroundings. Outside the garden is a slip where many useful shrubs and common vegetables are grown.

The kitchen garden is not large, but every inch cropped to the best. The soil is good, and on the side of a hill facing the sun.

An Apricot wall first caught my eye. Here was to be seen a fine lot of trees in the best of health. I noticed a glass coping over it. This induced me to ask Mr. Main's opinion on this, and found he was a strong believer in its usefulness, remarking that when he took charge here they could not grow this fruit.

After some time, and trying some experiments to convince the owner of its usefulness, then the frames of a coping came, and in a short time it was put up. I was told that after doing the root medium well, and adding the coping, there has never been a season when the crop has been nil.

On a low wall, 18 in. high, where is to be seen an enormous crop of Tomato Perfection, so much so that the fruit rested on the ground, Mr. M. believes in putting out strong plants in spring.

It was evident that good vegetables as well as hardy fruit were grown in this place when you looked at the tall rows of Runner Beans, 16 ft. to 18 ft. high, with pods of the most handsome type. Carrots and roots were in strong force, with grand breadths of Cauliflower, adjoining which were rows of enormous Leeks.

In one of the sheds I was shown a big lot of Excel-sior Onion, that fat bulb type, these show men grow. You can speak of them by the pound better than by the ounce. It was not a few fine bulbs, but the whole lot. The shape was more flat than the general type of Ailsa Craig, although one often sees two types of Craig come out of the same head of seed. Although the major portion were somewhat flat there were a few globular, and three or four like a cocoanut.

Before speaking of Apples (a strong feature here) I must not omit to mention some grand bunches of Golden Queen Grapes in the vinery. As seen here this was golden, and it has a good name here, and deservedly, the berries being large, even, and of grand colour.

Adjoining this was a cold Peach house (lean-to), with a sharp pitch. In this the trees showed signs of having given grand crops. Many had been cleared, although there remained some to tell the tale of good cropping, large fruit, and healthy foliage, with no spider on them.

I was surprised to be shown large fruit of a Peach with the flesh blood-red and orange, deep flesh, flavour fairly good, name Red Dragon. This was quite a novelty to me, not having seen it before.

At the back of the houses facing north, on a wall 14 ft. or more high, were trained Plums, Victoria and Pond's Seedling. This last was coming near the ripening stage, and I never remember seeing such a grand crop of this handsome Plum before. The greater portion of the Victorias had been gathered.

When remarking on the thin Plum crop generally my guide added he had scarcely any in other positions, although there was plenty of bloom. This corresponds with my own experience in my own garden, showing that the bloom on north aspects,

being so much later, was why it escaped the frost, and this should induce growers to plant this fruit on all kinds of aspects, as many kinds will thrive on cold coasts and north walls.

Apple growing is a very strong point in this garden, and the grand samples shown at the autumn exhibitions at Exeter go to show the interest displayed, as well as expense incurred in this fruit. One often hears remarks made as to the bad state of the orchards in the west, and deservedly so. Illustrations of this you need not go far to see, and it is puzzling to every thoughtful mind why such people go on in this way when such grand fruit is grown hard by. Such is old English conservatism.

In the kitchen are to be seen trees growing in almost every form that is suitable for a garden. Some young espaliers had big crops of fruit of the first size and colour. Many were grown in this form, and especially the large fruited kinds, as in this way they are not affected by the wind.

At the back of the kitchen garden I found a large piece of ground devoted to the growth of Apples on the tree bush form. The site was well chosen, sheltered from the cold winds in spring, and shut in by a big belt of high trees at a distance.

The soil had been trenched deeply, and this is of a red, free loam. These were from 6 ft. to 10 ft. high, 6 ft. to 8 ft. through, and mostly worked on the broad-leaved Paradise stock. Mr. Main works his own trees in a nursery near at hand. All trees were alike good, and the major portion well cropped. With a collection of kinds that it would be difficult to excel I must refrain from giving names (although I have them before me), as space and time will not permit. It occurred to me what a quantity of fruit would come from this space, and see the value compared to the miserable rubbish generally grown by farmers. The secret of these fine and highly coloured fruits is maintaining young trees. This notice would not be complete without mention of a very large hedge of *Kalmia latifolia* in the pleasure ground. Space will not allow me to add more on this fine place.—*J. C., F., Chard.*

GARDENING MISCELLANY.

PERISTROPHE SPECIOSA.

IN this we have a capitally suitable plant for the winter greenhouse. To all appearance it closely represents a species of *Eranthemum* or *Justicia*, belonging, of course, to the same natural order, the *Acanthaceae*. The curiously twisted mauvy-violet-coloured corolla suggested the name of *Peristrophe*, meaning, to turn round. The genus inhabits temperate parts of the world, such as in South Africa, Madagascar, China and the higher altitudes in the East Indian Islands. The culture is quite similar to that of other taller-growing, soft-wooded, temperate plants. Winter flowering plants yield nice spring cuttings. These should be inserted singly in thumb pots, and struck in propagating cases. The plants should be kept pinched and during summer they may be grown in cool frames. They must carefully be seen to so as to combat any early attack of insect pests.

COCOS CAMPESTRIS.

THE species of *Cocos* are none too numerous. We can have too much of a good thing, but a fair deal of anything which is good can well be received. The *Cocos*, as a whole, are very necessary in most arrangements of plants; nothing else except the *Geonomas* are at all so serviceable and necessary where lightness of greenery is used. *C. campestris* is almost identical with *C. weddelliana*, being slightly larger in its parts. In very large, heated houses this *Cocos* when it has developed a tall stem and is poised in any commanding position planted out, lends a most distinctly tropical air to the place. The *Cocos* (Cocoa-nut trees) thrive in a loamy compost, having some peat and sand, &c., incorporated. They flower seldomly from the axils of the leaves and from the seeds they are propagated.

CHRYSANTHEMUM W. H. LINCOLN.

GROWN as a bush without stopping, from late struck cuttings, the above comes into flower about New Year time. The blooms are decidedly poor in quality, but as flowers at this period are reckoned

scarce, they are yet acceptable. Mr. Jones lately showed us a yellow sport from *Etoile de Lyon* which also blooms late and is good. More may be heard of it. A fine batch of late *Lincolns* is to be seen at Kew.

LEPTOSPERMUM SCOPARIUM.

ABOUT the qualities as greenhouse decorative plants of other species and varieties of *Leptospermums*, I can say nothing, but of *L. scoparius* I can speak very favourably. The plants are neat and bushy or can be made so by pruning, bearing numerous white or lilac flowers. It is a New Zealand shrub growing from 4 ft. to 6 ft. and bears small egg-shaped leaves, which it is reported are used as tea. Cool treatment throughout the year suits it. It likes a compost of peat, loam, charcoal, and sand. Cuttings of the young wood should be placed in a close frame either in August or in spring.

MULCHING TREES AND SHRUBS.

WHERE the pleasure grounds cover a well drained area, or where the soil is extremely dry and the natural drainage also, such as conveys off the under moisture from the ground, a mulch becomes more than a beneficial factor, it is necessary. At Kew Gardens where trees and shrubs are placed out in conditions which comply with the above notes, a very large amount of mulching is necessary. Good farm-yard and stable manure is used, and all the finer young trees and borders of shrubs are liberally dressed.

CRINUMS OUT OF DOORS.

CRINUMS are planted out around the Palm house at Kew, and they stand the winter, the crowns merely being protected by hay from the biting frosty winds.

VIRGIN CORK ON PILLARS.

WHERE pillars are suitably placed of a kind that allows of virgin cork being placed around them, this material may be made good use of. Pockets can be fitted up and filled with a fibrous loamy and peat compost. Into these pockets *Nephrolepis* Ferns, *Pitcairnia*s, *Epiphytal* Orchids, and hanging plants can be placed, the growth of which forms a very neat dressing and ornamental feature to the house.

IVY FOR WALLS AND FENCES.

FEW will contradict but that Ivy stands pre-eminent as an all-the-year-round covering for walls. For fences too, especially those in prominent positions, such as those of 2 ft. high bordering terraces which encircle conservatories in places, or dwelling-houses in other instances. Whether these are linked in curved, chain-like, continuous flowing lines, between the numerous short posts, or are conveyed straight across between post and post, where Ivy robes them, they are perfect as an ornamental addition. For shady walls dark green Ivy such as *Hedera Helix lobata major* is very adaptable, while to lend brightness to the front walls of a villa or other residence, *H. H. algeriensis*, or *H. H. marginata aurea* may be chosen.

PINUS LONGIFOLIA.

WE may make many journeys to various gardens, and yet be unsuccessful in seeing a pot plant of *P. longifolia*. Even though, few plants are more interesting in large houses. It shows off best in large cool conservatories where it can be planted out. Plants, however, in private gardens are more or less entirely confined to pots, and *P. longifolia*, like the *Araucaria excelsa*, is excellent for the purpose of a corner plant among flowering batches. The leaves are soft and of a bright glossy green hanging down from the branches to over 1 ft. in length.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

ANNUAL GENERAL MEETING.

THE sixty-first annual general meeting of the above institution was held at "Simpson's," 101, Strand, London, W.C., on Friday, January 12th, 1900. The chair was taken at three o'clock prompt by Harry J. Veitch, Esq.

The committee in submitting their annual report for the year 1899, again have the great satisfaction of congratulating the members and subscribers on the

prosperous condition of the Institution and the marked progress which happily has been made during the year, not only in respect of its financial status, but also in dispensing its assistance to a greater number of old and worthy people whose circumstances and necessities have obliged them to seek its aid.

At the beginning of the year 174 pensioners—ninety-five men and seventy-nine widows—were receiving £20 and £16 a year respectively, entailing an annual liability of £3,160. Of this number, during the year nine men and one widow have passed away, while another man whose circumstances have changed has voluntarily relinquished his pension, thus leaving a total number of 163 on the funds at the close of the year. The committee propose to increase this number, and recommend that sixteen pensioners be added—ten by resolution under power conferred by Rule iii. 5, and the remaining six by the votes of members and subscribers, giving a total number of 178 pensioners, being four more than the number on the corresponding date last year. The number of beneficiaries will then be larger than at any period of the Institution's past history; and whilst keenly alive to the increased liabilities necessarily to be incurred, the committee are also confident they may rely upon the continued and increased support of the friends of the Institution.

The committee have to report that the anniversary festival dinner in aid of the funds, under the presidency of the Right Hon. the Earl of Derby, K.G., P.C., proved most successful, and they desire to place on record their grateful thanks to his lordship for his able and effective advocacy of the claims of the Institution, which resulted in such a substantial addition to the funds, as well as for his lordship's own generous contribution. In reply to the vote of thanks tendered by the committee, Lord Derby was pleased to send the following communication:—

Derby House, St. James's Square, W.

July 3rd, 1899.

My Dear Sir,—I thank you for your letter of this date conveying the kindly message sent by your committee with reference to the festival dinner of the Gardeners' Royal Benevolent Institution on the 28th ult. I am very glad to learn the result of the dinner is considered to have been satisfactory. For my own part I certainly say that I am very happy to have attended so pleasant a gathering, and that I am sincerely grateful for the assistance and support which I received as your Chairman from all present, and especially from the Treasurer and yourself.—I remain, my dear Sir, yours very faithfully,

(Signed) DERBY.

GEORGE J. INGRAM, Esq.

The committee take this opportunity of gratefully acknowledging their indebtedness to the stewards, donors of flowers, and the horticultural press, and to others who in any way contributed to the success of the anniversary. They likewise tender their best thanks to the honorary secretaries of the several auxiliaries for their kind services, and also to other friends throughout the country, who, by arranging concerts, flower stalls, opening their gardens, and in other ways have so materially assisted the Institution. The committee are glad to announce the formation of an auxiliary at Reading under the presidency of Charles E. Keyser, Esq., and the treasurership of Arthur W. Sutton, Esq., which they feel will be of great advantage in diffusing fuller information of the Institution and creating a wider interest in its work in that district. Their thanks are specially due to Mr. Sutton, to whose influence and indefatigable exertions the establishment of the branch is due.

To the Messrs. N. M. Rothschild & Sons, who have again contributed their generous annual gift of £105; to the anonymous donor who left four £5 notes at the office "In Memory of Robert Fortune," and to other friends too numerous to mention who have so generously given to the funds, the Committee offer their most grateful thanks.

The Committee are glad to be able to announce that the additional sum required to complete the "Victorian Era Fund" has been obtained, the total amount thus raised for this fund being £5,000, which has been invested in Great Western Railway 5 per cent. Consolidated Stock, the interest derived therefrom, it may again be stated, being devoted exclusively to the benefit of unsuccessful candidates who have been subscribers to the Institution.

During the year the following persons have bene-

fited from this fund, and the grateful letters which have been received from them show how much the help was needed, and how keenly it was appreciated:—David Benning, £8; Andrew Bryan, £10; Sarah Bullen, £5; George Chitty, £10; Jane R. Edwards, £10; Thomas Evans, £5; John Gibbons, £10; William Gould, £2; Elizabeth Hackwell, £8; Samuel Mills, £6; Lucy Mitchell, £7; Francis Nixon, £10; William Thomas, £2; Isabella Watt, £10; George Wills, £10. Two of the above have since passed away, and the timely aid thus afforded to them was doubly acceptable.

The committee have also to announce that the Good Samaritan Fund, which was inaugurated at the commencement of the year, has received contributions to the amount of £520 17s. Of this amount £520 has been invested in 2½ per cent. Consols. The object of this fund is to grant temporary relief in urgent cases of trouble and distress. The committee therefore very earnestly commend the fund to the practical sympathy and support of their friends.

In concluding their report, the committee have to refer with great regret to the losses the Institution has sustained during the past year by the death of many supporters, amongst whom they have to record with deep sorrow that of their valued and generous president, the Duke of Westminster. His Grace had occupied the office of president for a period of twenty-one years, and throughout the whole of that time had evinced a warm interest in its work, and was ever ready to afford it his powerful aid, both by his advice and practical support. His Grace will be greatly missed, and the committee deeply deplore his decease. They have also to refer to the death of their old friend and colleague Mr. John Lee. He had been connected with the Institution for sixty years, and as chairman of committee and trustee for many years, had taken an active interest in its affairs. He died at the ripe old age of ninety-six, beloved by everyone, and warmly appreciated for his devoted services to the Institution. The committee have likewise to record their great regret at the death of their colleague Mr. M. Dunn, of Dalkeith, and they desire to take this opportunity of expressing their high appreciation of his efforts on behalf of the Institution.

These many losses have created gaps in the ranks of the supporters of the Institution which it will be difficult to fill, and the committee, therefore, plead the more earnestly for new friends and helpers to take the places of those who have passed away.

BALANCE SHEET, 1899.

Dr.		£	s.	d.
To Balance	...	975	11	4
Amount on deposit	...	2692	10	0
Annual subscriptions	...	1574	5	6
Donations at Festival, &c., including collecting cards	...	1560	6	10
Donations, Victorian Era Fund	...	383	12	6
Donations, Good Samaritan Fund including leg. cy from the late Mr. John Lee	...	520	17	0
Return of income tax	...	24	11	3
Advertisements in annual list	...	38	17	0
Dividends and interest	...	912	7	9
		5014	17	10
		£8682	19	2
By				
Pensions and gratuities	...	3011	17	0
Expenses of annual meeting and election	...	14	19	9
Secretary's salary	...	£275	0	0
Office assistance	...	26	10	0
Rent of office, firing, lighting, &c.	...	67	3	1
		368	13	1
Printing, including annual reports and lists of subscribers, appeals, &c.	...	102	0	0
Stationery	...	26	7	6
Expenses Festival	...	£165	16	1
Less dinner deductions	...	90	6	0
		75	10	1
Wreath, the late Mr. John Lee	...	3	3	0
Advertisement	...	3	3	0
Postages, including reports, voting papers, appeals, &c.	...	50	14	6
Travelling expenses	...	9	4	8
Carriage, telegrams and incidental expenses	...	8	12	0
New office safe	...	7	17	6
Bank charges	...	0	3	0
		286	15	3
Transferred, Victorian Era Fund	...	383	12	6
Transferred, Good Samaritan Fund	...	520	17	0
Amount placed on deposit	...	3115	10	0
		4019	19	6
Balance with Treasurer	...	980	6	0
Balance with Secretary	...	0	8	7
		980	14	7
		£8682	19	2

VICTORIAN ERA FUND.

BALANCE SHEET, 1899.

To Balance	...	565	10	6
Dividends	...	£127	3	4
Donations	...	383	12	6
Returned income tax	...	3	19	4
		514	15	2
		£1080	5	8

By gratuities to unsuccessful candidates...	...	114	10	0
Purchase of £503 Great Western Railway 5 per cent. Cons Stock at £182½	...	916	14	4
Commission (reduced)	...	3	6	3
Stamps and fee	...	4	18	6
		924	19	1
Balance	...	40	16	7
		£1080	5	8

GOOD SAMARITAN FUND.

BALANCE SHEET, 1899.

To Donations	...	520	17	0
		£520	17	0
By Purchase of £523 15s. 8d. 2½ per cent. Consols at 99½	...	£519	4	0
Commission and stamps	...	0	16	0
		520	0	0
Balance	...	0	17	0
		£520	17	0

Having audited the accounts, we certify the same to be correct; the books are well and accurately kept. We have also satisfied ourselves that the securities of the invested funds are in the hands of the bankers, through whom the dividends are remitted.

THOMAS SWIFT,
THOMAS MANNING,
J. WILLARD, } Auditors.

January 9th, 1900.

The following resolutions were put before the meeting and adopted:—

"That the report of the committee, together with the statement of accounts, as audited and certified, for the past year now read be received and adopted, and that the best thanks of this meeting be presented to the committee for their able management of the affairs of the Institution for the past year." Proposed by chairman, seconded by Dr. Masters.

"That Mr. Harry J. Veitch be re-elected treasurer, and that the best thanks of this meeting be presented to him for his invaluable services to the institution for the past year." Proposed by Mr. W. Denning, seconded by Mr. Osborn.

"That Mr. George J. Ingram be re-elected secretary." Proposed by Mr. Geo. Monro, seconded by Mr. Geo. Wythes.

"That Messrs. W. Y. Baker, J. Hudson, S. M. Segar, H. Turner, and H. Tillman, who retire by rotation, be re-elected members of the committee, and that Messrs. John A. Laing and John Jennings be elected members of the committee in the places of Mr. John Laing, who retires, and Mr. M. Dunn, deceased." Proposed by Mr. H. J. Cutbush, seconded by Mr. W. Roupell.

"That Messrs. Thomas Manning, Thomas Swift, and Jesse Willard be re-elected auditors for the ensuing year, and that the best thanks of this meeting be presented to them for their kind services during the past year." Proposed by Mr. J. Hill White, Worcester; seconded by Mr. W. Denning.

"That Messrs. W. F. Besté, W. Crane, H. Higgins, W. Johnson, and R. A. Jack be re-elected arbitrators for the ensuing year." Proposed by Mr. A. J. Baker, seconded by Mr. W. Icton.

"That William Armstrong, Andrew Bryan, Thomas Chapman, George Chitty, William Hole, Francis Nixon, Samuel Smalley, Richard H. Smith, Joseph Willis, John Wilson, whose cases have been investigated and appear to be deserving and necessitous, be placed on the pension list without election under the power conferred by rule iii. 5." Proposed by Mr. J. H. Veitch, seconded by Mr. S. Osborn.

"That Mr. Edwin G. Monro and Mr. Thomas Manning be elected scrutineers, with full power to decide all questions arising out of voting papers." Proposed by Mr. W. Roupell, seconded by Mr. W. Icton.

THE ANNUAL FRIENDLY SUPPER.

In the evening about seventy members and friends of the institution sat down to supper in one of the dining saloons at "Simpson's," Strand. Arnold Moss, Esq. (of Messrs. Jacob Wrench & Sons, Ltd., London) occupied the chair, and no one is more adapted for the duty. After discussing a capital and well-served dinner the loyal toasts were given from the chair. The speeches which followed the propositions were fitting for the occasion, and loyally received.

Following these toasts Mr. Moss made a humorous résumé of the year's report, which had been read and passed at the meeting in the afternoon. The chairman urged the claims of the institution, pointing out with much wisdom the dangers to his health which a gardener has to bear against in the performance of his duties. Mr. Moss had a profound

respect for the men who are able to withstand the excessive and trying heat of forcing houses, and who, on the other hand, must suffer oftentimes the severest of cold weather. For men who did this, whose closing days were still bard, and who had not now their previous vitality, the Gardeners' Royal Benevolent Institution was upheld. Mr. Geo. Munro, of Covent Garden, seconded the remarks made by the chairman. Unlike many such like institutions in the country, the G.R.B.I. was superior in this, that every penny its officers received went direct to the subject to be relieved, and they had paid away £3,000 odd during 1899. The institution was progressing, too, for there had been £34 more in subscriptions, the total for the year being £1,574. They had given £383 to the Victorian Era Fund, a fund meant to support those needy cases who were not fortunate to be elected for a pension. Every applicant would get £1 for every year he had been a subscriber. Thus, if a man had paid his subscriptions for a number of years he would receive a welcome donation in pounds for the years. Of the Good Samaritan Fund £520 had been invested. More of a like reference was given, showing that the officers were doing their work conscientiously, and to the society's benefit. Songs were given between the toasts, and two very pleasing concertina solos from Mr. Harry Turner. "Our Country Friends and Supporters" was proposed by Mr. Owen Thomas, V.M.H., and responded to by Mr. Geo. Bunyard, V.M.H. "The Committee and Honorary Officers" came from Mr. E. T. Cook, being responded to by Mr. Geo. Wythes, V.M.H. "Our Chairman" was proposed by Mr. James H. Veitch, and accorded musical honours. The chairman afterwards proposed the health of Mr. Geo. J. Ingram, the secretary, in which he remarked very fully on the ability of that energetic officer. The gathering shortly afterwards dispersed after a very pleasant evening.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner only will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. C. P. Cretchley, for "Choice Basket Ferns," p. 311.

Would the sender of a communication for this week's competition supply us with his name and address? The parcel bearing the "Binfield" and "Bracknell" post marks got undone in coming through the post, and the note containing the sender's name (if there was any) must have dropped out.—Ed., G. W.

It is with great pleasure that I welcome your announcement of a prize in competition for short articles on any subject relating to horticulture. This is a question that I have been advocating among my young friends for some time past, and am delighted that THE GARDENING WORLD has taken the matter up. It will, I am positive, bring many points of considerable interest to the front from various sources. Wishing you the compliments of the season, I am, *An Old Reader*.

QUESTIONS AND ANSWERS.

Marica gracilis Producing Runners.—J. T.: It is no uncommon thing for this plant to behave in the way you state. Runner is hardly the right name for the phenomenon. When the flower stems are allowed to remain after the blossoms fade, they become proliferous, that is, they bear little plants in the axils of the spathes or bracts, by developing buds there which are usually dormant, at least in plants of allied or related species and genera. These little plants in course of time grow so strong that the old flower stems are weighed down by them unless supported. They are never very strong, but we may look upon this habit as an expedient of Nature for bringing the young plants in contact with the soil, into which they can root and so ex-

tend the area occupied by the mother plants. Something very similar may be met with in the common greenhouse plant, *Chlorophytum elatum*, and others.

Liquid Manure for Apple Trees.—A. M. K.: You could not do better than use the liquid manure at present rather than let it run to waste. The soil will retain a great deal of the nutrient properties of the manure, and the tree roots will soon be active if, indeed, they are really dormant at the present time. Even if it is diluted by the rain water it will still contain a certain amount of nourishment.

Moss on Lawn.—H. B. W.: If not naturally well drained the ground should be seen to in this respect, otherwise the grasses will do badly, all to the advantage of the moss. When this has been seen to give the moss a good raking with an iron rake, sweeping off the loose moss. Then top-dress the grass with some good rich soil wherever attainable, and in which you should put a good quantity of slaked lime. About the middle of March, before the ground gets too dry, sow some grass seeds over the bare spots, giving it a rake to partly hide the seeds from birds. Then roll it.

Young Trees Barked and Gnawed.—R. W.: The mischief has no doubt been done either by field mice or by voles, the latter often being termed short-tailed mice. You should set traps as for the common mouse; and also try other expedients for they are very wary. By digging holes in the ground near, or close by, the plants they torment by barking them, and plunging some old zinc pails up to the rims in the said holes, you will almost certainly catch some, perhaps a good many. Put four or six inches of water in these pails, and if you grease the sides of the same the marauders will be unable to get out after falling unexpectedly into the traps thus prepared for them. It is during the night principally that the mischief is done, because these mischievous rodents are not then so liable to be disturbed at their work.

Chrysanthemum Cuttings Forming Buds.—*Beginner*: Buds at this season of the year can be of no service and should therefore be removed to encourage fresh growth from the base or near the base of the stem. You state that you want to grow them for greenhouse decoration, and at the same time ask from which buds they flower best. If you want bushy plants you must pinch them several times to get a number of shoots, after which you should allow them to grow freely and form buds for autumn flowering. The hlooms will only be of moderate size with that style of treatment. To get large blooms of Edwin Molyneux, you should pinch the plants in the third week in March, and take the second crown bud. Lady Ridgway requires somewhat different treatment. The plants should be allowed to grow unchecked till the stem breaks naturally, that is, till it forms side shoots near the top. The second crown buds should be taken. Vivian Morel should also be allowed to break naturally and the late crown buds secured sometime between the 21st August and the end of the month. Niveus comes best from the second crown buds; but you must pinch the shoots about the third week of April. On the other hand, Florence Davis should be pinched about the third week in May, and the first crown bud secured. The above treatment for the varieties named is meant for the production of large blooms, about three or four on a plant, but sometimes less.

Names of Plants.—A. C.: 1, *Petasites fragrans*; 2, *Ligustrum ovalifolium aureum*; 3, *Jasminum nudiflorum*.—G. B.: 1, *Selaginella kraussiana* Browni; 2, *Adiantum Williamsii*; 3, *Davallia hirta cristata*; 4, *Adiantum amabile*; 5, *Aspidium* (or *Cytomium*) *caryotideum*; 6, *Davallia elegans*.—A. M.: 1, *Oncidium kramerianum*; 2, *Cypripedium Godefroyae*; 3, *Aloe mitraeformis*.—E. J.: 1, *Chlorophytum elatum medio-pictum*; 2, *Curculigo recurvata variegata*; 3, *Eupatorium riparium*; 4, *Cestrum* (or *Habrothamnus*) *elegans*.

Communications Received.—Ferns (next week).—D. Caisholm.—G. H. Cox.—Canny (next week).—J. C.—A. L.—T. B.—W. H.—R. G. W.—A. G.—R. L.—G. W. C.—A. C.

TRADE CATALOGUES RECEIVED.

CUNNINGHAM & WYLLIE, 98, Mitchell Street, Glasgow.—Seed List.

Geo. BUNYARD & Co., The Royal Nurseries, Maidstone.—Descriptive Catalogue of Home-grown and Genuine Seeds.

NATHAN SMITH & Son, Adrian, Michigan, U.S.A.—Chrysanthemum Novelties for 1900.

W. J. GODFREY, The Nurseries, Exmouth, South Devon.—Supplementary Catalogue of Choice Chrysanthemums, including Selections of the best Varieties and Novelties.

M. CUTHBERTSON, Rothesay, N.B.—Cuthbertson's Catalogue of Flower and Vegetable Seeds, Herbaceous Plants, Dahlias, Roses, Pansies, &c.

R. H. BATH, Ltd., The Floral Farms, Wisbech.—Catalogue of Select Vegetable and Flower Seeds.

JOSEPH MOCK, Trier, Rheinprovinz, Germany.—Price-list of seeds, Plants and Roses.

CHURCH BROTHERS, Chrysanthemum Nurseries, Swardeston, Norwich.—Catalogue of Chrysanthemums.

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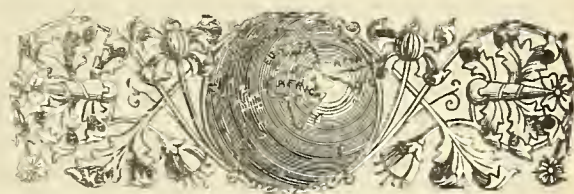
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JANUARY 27th, 1900.

FRUITS OF ONTARIO, CANADA.*—The beauty of Canadian Apples is often commented upon so that it may prove interesting to some to compare those described and illustrated by L. Woolverton, M.A., secretary of the Ontario fruit experiment stations. A considerable number are passed under review, including Apples, Pears, Cherries, Strawberries, Quinces, Currants and Grapes. The last mentioned are least known to gardeners in this country, and Strawberries come almost under the same category, most of them being confined to the western world. Many of the Apples, Pears and Cherries are well known here, though often under different names. The cultivation of fruit in the Province of Ontario has now become an important industry, so that no surprise need be felt that the Department of Agriculture has

*Fifth Annual Report of the Fruit Experiment Stations of Ontario, under the joint control of the Ontario Agricultural College, Guelph, and the Fruit Growers' Association of Ontario, 1898 Toronto: Warwick Bros. & Rutter, Printers, 63 and 70, Front Street, West, 1899.

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taken up the cause in order to disseminate a knowledge of the subject, and still further the interests of the industry. For this reason the secretary, under the auspices of the Board of Control, has commenced the work of illustrating and describing the fruits of Ontario. Original photographs of a large number of fruits have been taken, natural size, according to the samples furnished for the purpose. Exterior views are the most abundant, but longitudinal sections of Apples, Pears and Peaches have also been reproduced.

Apples are evidently regarded as the most important kind of fruit, no doubt for similar reasons to those accepted here. More or less familiar are Emperor Alexander, Canada Red, Early Harvest, Fameuse (Snow or Pomme de Neige), Cabashea (Twenty Ounce Pippin), Rhode Island Greening, Kentish Fillbasket, Lady (or Api), King of Tomkins County, Baldwin, Red Astrachan, Roxbury Russet, and Northern Spy, all of which appeared in greater or less number, sometimes in hundreds of entries, at the National Apple Congress held at Chiswick as long ago as October 5th to 25th, 1883. In the fruiterers' shops Baldwin is a common and familiar fruit. We are wont to talk of the superior appearance of these Canadian fruits, but high colour would be due to climate rather than kind. Splendidly coloured fruits are now grown, however, in many of the southern counties of England and in parts of Wales; so that we are not so very far behind even in that respect. Gideon is a highly coloured Apple, but liable to rot at the core, so that it is a bad traveller, though it might prove useful here. In Canada it is considered a fair cooking Apple. Mann is a good cooking variety of large size, though not very attractive in appearance. It is in season from January till April, as is Ontario, a large, and showy Apple suitable for any purpose. Wealthy is another variety of great repute, highly coloured on the exposed side, and in Canada, at least, suitable alike for dessert, cooking or market. If it would succeed here it would rank high for exhibition purposes.

Cherries are much the same as in this country and similarly classified. Botanically, of course, they are also identical, the sour Cherries being produced from *Prunus Cerasus*, and the Sweet Cherries from the Gean (*Prunus Avium*) both natives of Britain, so that practically they may be regarded as European Cherries. The Red Currants, Fay, Cherry and White Holland, are also European. Of Gooseberries, Downing (raised in the United States) and Pearl (raised in Canada) are the most popular and most widely cultivated, apparently on account of their suitability for the climate, and their immunity from mildew, rather than from quality and commercial value, for they are both regarded as third rate for market purposes. British varieties grown with more or less success in Canada are Catharina, Crown Bob, Duke of Sutherland, Whitesmith, Large Scotch Red, One of Them, and Two to One. No mention in this list is made of such useful and popular varieties as Winham's Industry, Warrington or Langley Green. The British Gooseberries are less able to resist the mildew than American raised ones. Though the fruit growing districts are cold enough in winter, it seems that the temperature is too high in summer for these essentially northern fruits to succeed in Canada. In Britain the wild representatives are most often found in shady woods, often where the ground is moist or even at times marshy, though the cool atmosphere, secured by partial shade, seems to be the most essential requisite.

Pears include such familiar favourites as

Beurré d'Anjou, Williams' Bon Chretien, Beurré Bosc, Beurré Clairgeau, Clapp's Favourite, Beurré Diel, Duchess d'Angoulême, Flemish Beauty, and Doyenné d'Été. Here it may be stated that the above names are not always adopted in Canada. There is an inclination to shorten them by saying Anjou, Bosc, Clairgeau, Duchess, &c. Williams' Bon Chretien was raised in Berkshire, England, in 1770, and was disseminated by a Mr. Williams near London. It was introduced to America, and put into commerce by Enoch Bartlett of Boston, so that all over America it is known as Bartlett, and enjoys a great reputation, being extensively planted and the most popular Pear in the markets during its short season, just as it is in Britain, more especially in the South. Of course, there are other Pears, not particularly well known here, whether of European or American origin.

The varieties of Strawberries grown in Ontario are very numerous, but few of them are much known here, and still fewer may be regarded as popular. By far the greater number of them are of American origin, where several varieties give a deal of trouble on account of the dioecious tendency of the blossoms, that is, the plants are often male and female, so that crops are liable to fail on account of the bad setting of the fruits. In any case there is little chance of their reaching our shores in the fresh state, so that they are likely to remain strangers to us.

Begonia Gloire de Lorraine is not a Century Plant, but it is the plant of the century, says a writer in *Gardening* (American).

Weather in London.—Saturday evening was very foggy; Sunday was dull but fair, raining heavily in the evening; Monday, Tuesday, and Wednesday were very mild, though dull.

Burns' Night.—Thursday, the 25th inst., being the anniversary of Robbie Burns' birthday, Burns' clubs all over the world met in social assembly to discuss the varied merits of this great son of a gardener.

Corrections.—In the article on "British Ferns at Christmas," p. 329, in the sixth line from the top of the third column, for "hardy Ferns," read "Lady Ferns." In the sixth line from the top of the first column, on p. 330, for "Pearson's decomposition," read "Pearson's decompositum."

Mr. G. W. Cummins.—We are sorry to learn that Mr. G. W. Cummins, The Gardens, Balmedie, Aberdeen, has not yet succeeded in getting an appointment in the South. The climate of Aberdeen has not been at all suitable to the health of his young family. He resigned his position at Balmedie some months ago, and leaves that place on February 1st next, intending to come to Croydon, Surrey, till he can find another home for his children in the south. Mr. Cummins is a good Orchid and fruit grower, while he is also capable of undertaking any branch of gardening. He does not like to be, and must not be idle, so that we hope he will not have long to wait before getting suited.

The Rainfall of 1899.—The average rainfall for the past year shows a decrease of 6 in. in the Channel Islands, 5 in. in the south of England, and 4 in. in the south-west and east of England, but strangely enough in most parts of Scotland and Ireland there is a slight excess reported. In the neighbourhood of London the fall was 2.4 in. below the average, August being the driest August recorded for sixty years, with only 0.35 in. The mean temperature for the year was above the average over the whole area of the British Isles, being greatest in the south, and also high in the north of Scotland. In the south of England there was about 350 more hours of sunshine than the average record, and 200 hours more over the whole of England. In Scotland and Ireland it was not quite so large, 150 hours in the latter country being the extent of the increase.

Snowdrops are now in flower in some of the London gardens.

Vegetable Growing.—One of the finest works, indeed, the standard book on "The Vegetable Garden," is that of M. Vilmorin-Andrieux of Paris. The book is full of illustrations, and treats of species and varieties at full length.

Royal Horticultural Society of Ireland.—Mr. Andrew Porter, gardener to Lord Ashtown, Woodlawn, co. Galway, received the Williams Memorial Trustees' Medal, which was offered by Messrs. Williams & Sons, of Upper Holloway, London, to the person winning the largest number of first prizes during last year's competitions under the auspices of the above society.

"To whom belongs the credit?"—The above question is asked by a workman who wrote to *The Florists' Exchange* on the point as to whether an employee should get the credit for raising any new variety of a plant that he had crossed, or whether the employer should. The question is answered by taking reference from some of our big English firms who, in all cases, openly and fully accredit their hybridisers with the honour of crosses made.

National Dahlia Society.—The annual general meeting of the above society was held at the Hotel Windsor on the evening of January 16th, E. Mawley, Esq., occupying the chair. The financial statement showed that the income of the society from all sources amounted to £200 4s. 9d., the balance in hand being £7 10s. 2d. Mr. E. Mawley was elected president, Mr. Geo. Gordon and Mr. W. Marshall were added to the vice-presidents, Mr. Wilkins was elected treasurer, the hon. secretary was re-elected, and Messrs. W. E. Reeve, J. Stredwick, and J. Hudson were added to the committee. Other matters of business were gone through, these being but an endorsement of the propositions of the committee meeting held some time ago, and reported in our pages.

Notes from Hamilton: The Weather.—We are having extremely broken and boisterous weather just now, and have been for the last fortnight. The heavy rains which are mostly of a cold, sleety quality have completely saturated the soil, and must retard seed sowing very much, for the soil of the district parts slowly with its moisture. As is well known, a cold, wet soil hinders any attempts of germination taking place. Early sowings of Peas under such conditions very often rot in the soil. The inaugural address at the Horticultural Association was delivered by the president, Rev. Mr. Pater-son, Ardenclutha, a few evenings ago. The first meeting, we believe, will be addressed by Mr. Sherry, botanist, Glasgow Botanic Gardens, subject, "Herbaceous Plants."—*Gamma*.

Death of the Author of "Lorna Doone."—We are very sorry to hear of the death of Mr. R. D. Blackmore, the author of the renowned, Devonshire, historical novel, "Lorna Doone," at his residence, at Teddington, Middlesex, at 6.15 p.m., on Saturday last. Richard Doddridge Blackmore was the son of the Rev. John Blackmore, and was born at Longworth, Berkshire, in 1825, being therefore in his 75th year at his death. He was educated at Blundell's Grammar School, Tiverton, Devon, where he, no doubt, acquired so much of the local colour which he gave to the Devonshire story. He thence went to Exeter College, Oxford, where he was second in Classics. His translation of Virgil's *Georgics* in after-life would serve to give an indication of his love for agricultural and horticultural subjects. Besides "Lorna Doone," he was the author of several other novels, none of which ever eclipsed the Devonshire story named. He lived for many years at Teddington, where he had a famous orchard, consisting largely of Pear trees. From this orchard he supplied the late Dr. Hogg with a great deal of information, which was embodied by the latter in his book "The Fruit Manual." Mr. Blackmore also wrote many letters on fruit farming to the *Times*. He also read one or more papers at the Apple and Pear Conferences of the Royal Horticultural Society. On the whole, the novelist and fruit grower was also a man of many parts; he loved the countryside, was skilled in the use of the gun, delighted in the gentle art of old Isaac Walton, and wrote something about a famous and beautiful trout.

"The Children's Garden."—This is the title of a new publication which will form the organ of the children's vegetarian movement.

Influenza.—We are pleased to hear that Mr. Henry Cannell, of Swanley, has passed through his severe influenza attack. He is now convalescent. Mrs. Cannell is, however, severely afflicted.

What is Snow?—In Japan, says the *Revue de l'Horticulture Belge*, an ancient empress of that beautiful land of flowers proclaimed that the flakes of snow were not sad messengers of winter. She taught her subjects that these flakes were the flowers cast to the earth by a springtime above. That is very poetical, but are the white flakes any the less cold?

Mr. John Ruskin, M.A., LL.D., the author of "Sesame and Lilies," and "Lectures on Art," died on the 20th inst., at his residence, Brantwood, Coniston, Lake District. He was attacked by influenza on the 8th inst. He wanted only a few weeks to complete his 81st year. Being an art critic he was also fond of gardening, and often superintended operations in his garden and pleasure grounds. He was regarded as the greatest art critic of his day.

Liverpool Horticultural Association.—The annual dinner of the above society took place at the Bear's Paw, on the 20th inst., Wm. Fletcher Rogers, Esq., hon. treasurer, presiding over a company of about 100 members and friends. The tables were tastefully decorated with plants and flowers by the kindness of Messrs. R. P. Ker & Sons, and Messrs. Thos. Davies & Co. The arrangements were of a highly pleasing character, Messrs. Ker & Sons and the sub-committee doing their utmost for the comfort and enjoyment of those present. Songs, recitations, and sketches were ably contributed, and during the evening a collection was made on behalf of the Lord Mayor of Liverpool's War Fund, which realised the sum of £3 3s. 3d.

Mr. Jones' Seed Catalogue.—From the Ryecroft Nursery, Lewisham, comes Mr. Jones' pioneer seed catalogue, he having added bulbs and seeds to his flourishing business. The publication runs to fifty pages. Its strong feature is the "collections" of seeds offered by the Ryecroft House, these embracing vegetables, flowers, lawn and ornamental grasses, &c. All classes of gardeners will find it to their advantage to study these, and to the inexperienced but enthusiastic amateur gardeners, they should prove invaluable. A tyro can choose a selection, and the cultural notes appended to all sections will enable him to cultivate successfully. Only the *creme de la creme* of the varieties have been chosen, but these supply an ample selection. Being strictly alphabetical, the catalogue affords facility for reference. Full descriptions of the plants and their natural orders are given and it is sufficient commentary to state that these are accurate, embracing and clear. Everlasting flowers, flowers for bees, selections of fragrant flowers, and lists of climbers unite to form a booklet which all interested in their gardens should secure.

Decision concerning the Selling of Poisons.—That the Pharmaceutical Society is on the war-path and in action against horticultural sundriesmen, florists, and others, who sell solutions containing poisonous principles as an article of their trade is very evident. Cases lately brought to notice demonstrate the fact. Why they have only awakened to the conviction of their grievances at this late hour is puzzling to those whom they are annoying. In the Queen's Bench Division of January 16th, the case of the Pharmaceutical Society v. White came before Justices Grantham and Channell. The former had lodged an appeal against the judgment of the County Court of Worcester. Mr. Crump, Q.C., and Mr. Gray appeared for the Pharmaceutical Society, and Mr. Cavanagh appeared for the respondent. The Society's case was for the recovery of a penalty (£5) which, by Act of Parliament, any person who is not a qualified chemist is liable to. Mr. White admitted the charges of his being a florist, and of the seed-killer containing poison, but also showed that he only acted as an agent of the Boundary Chemical Company, Liverpool. He was not within the meaning of the Act. The plaintiff's counsel were contradicted by the Judge, and the decision of the County Judge upheld. Motion of appeal was asked, and accorded.

The earliest forced *Azalea mollis* are now in flower.

Machine for Hop-picking.—A Mr. Winans recommends the use of a machine for the picking of Hops in this country, and thinks that American ingenuity will be equal to the task of inventing a machine for the purpose.

Naturalists and Botanists at the Front.—According to a contemporary there are many keen naturalists and botanists at the front in Natal. Many of the soldiers have been studying the native plants there, so that, if the story is true, we shall have many mementoes of the campaign turning up in bloom at the Drill Hall meetings after the bulbs, tubers, or seeds sent here have had time to reach the flowering stage.

The Baobab Tree (*Adansonia digitata*), a native of Africa, used to be designated the patriarch of vegetation. Adanson and Humboldt estimated one to be 5,700 years old. The trunk is short, only 12 ft. to 15 ft. before the tree branches out into a broad head 40 ft. to 70 ft. high. The trunk varies from 70 ft. to 90 ft. in circumference. The *Eucalyptus amygdalinus*, of Australia, and *Sequoia gigantea* reach the greatest height of any known tree.

Richmond Horticultural Society Annual Report.—Richmond, Surrey, is a beautiful place, and is favoured with a vigorous horticultural society, whose annual show is an event of importance. The report of this society is now issued, and the first thing we look for is the balance of money. The society is secure in this respect, the balance in hand being £36 2s. 8d., which is healthy, especially when one turns the page to view the long list of wealthy and generous subscribers and members. H.H. the Duke of Teck, G.C.B., whose death is announced to-day (January 22nd), was president of the society, and it is with much regret that we here refer to the loss which this society and many other bodies will feel. Many members of the Royal Family are connected with the society, these lending their gracious presence at the show. This year's show will be held on June 27th and 28th, in conjunction with an exhibition and committee meetings of the Royal Horticultural Society. Prizes to the amount of £207 7s. were awarded last year, besides medals, &c., to the further total of £22 9s. The schedule follows much the same lines as hitherto. Mr. C. R. King, 6r & 62, George Street, Richmond, has succeeded Mr. A. Algernon Chancellor in the position of honorary secretary, whose resignation they regret, and consider themselves fortunate in securing Mr. King.

Reading and District Gardeners' Association.—The eleventh annual report of the above Mutual Improvement Association has come to us. The society has to report steady success, having enlisted fifteen new members. The annual summer outing held on Thursday, July 20th, to Gunnersbury House, Gunnersbury Park, and Kew Gardens, was an unqualified success, and a capital educational treat. We learn from the report that a fund has been opened for the purpose of perpetuating the memory of the late Mr. James Martin. This is proposed to take the laudable form of placing a child on the Royal Gardeners' Orphan Fund, to be known as the James Martin Memorial Orphan. The Association has a balance in hand of £8 2s. 4d. The following is the list of papers up till April:—January 15th, First prize essay—"The Planting of a garden with hardy fruit trees and bushes," by Mr. G. Hinton, "Walmer" Gardens, Reading; January 22nd, Annual Tea; January 29th, "Chemical Manures in Kitchen and Market Gardens," Mr. F. W. E. Shrivell, Thompson's Farm, Tonbridge; February 12th, "The renovation of fruit trees, especially Apples," Mr. T. Neve, Sindlesham House Gardens, Wokingham; February 26th, "Horticultural Buildings," Mr. G. H. Parsons, Oxford Road, Reading; March 12th, "The formation and arrangement of a hardy border with a list of plants suitable for same," by Mr. D. Harris, Munstead House Gardens, Godalming; and March 26th, "An evening in a Surrey garden" (illustrated with lime light views), Mr. Alex. Wright, Bucklebury Place Gardens; April 9th, "Vegetables; the sorts I grow and why I grow them," Mr. John House, Winchester; April 13th, "Spring Bedding," Mr. J. B. Stevenson, Superintendent Municipal Gardens, Bournemouth.

"Life and Beauty" is the name of a journal just launched on its career, whose object is to expose the fallacies of vegetarianism. It has been collecting and recording the opinions of real live beauties on the subject, and none of them are vegetarians.

The Swedish Turnip for South Africa.—A correspondent of the *Field* gives it as his opinion that the common Swede would make good food for the horses in South Africa, because they keep a long time, and being juicy would furnish both food and drink. Might it not serve as a good vegetable for the soldiers, seeing that it retains its good qualities till the beginning of summer?

The Native Guano Co., Ltd.—This company, which supplies such large quantities of its well-known guano to all parts of the kingdom, and beyond it, has issued a pamphlet detailing the practical results gained from applications of the fertiliser in farm and garden crops. It also contains page after page of varied testimonials from users everywhere. Full directions for the use of the guano—prepared from sewage—on such crops as the Brassica tribe, the root-crops, Celery, Grape Vines, Strawberries, fruit trees, and general and farm crops, are compiled, and should be useful. The testimonials from every county show the quantities used and the success attained. The company caution buyers that their product can only be had from themselves, at 29, New Bridge Street, Blackfriars, London, S.E., or their agents.

Ealing and District Gardeners' Society.—The first fortnightly meeting of this society—since the alteration of the weekly rule—was held on the 16th inst., when Mr. George Cannon presided over an excellent attendance. The subject on the programme was "Carnations and Carnation Culture," by Mr. J. F. McLeod, of Dover House Gardens, Roehampton; but as, unfortunately, he, through illness, was unable to attend, the reading of the paper devolved upon Mr. C. B. Green. Mr. Green regretted the circumstance of Mr. McLeod's absence and explained that, although he could not hope to impress his hearers with the value of the subject, he would endeavour to do his best to present the writer's views. The writer excused himself, at the outset, for being a devotee of such a fascinating subject as the Carnation; which, he pointed out, possessed charms peculiarly its own and ranked, in his estimation, above many of our garden flowers. He then dealt with *Sotvenir de la Malmaison* and its beautiful varieties, describing, at some length, the characteristics of the flower, its special culture, and the success he had attained in combating that dread disease known as "*Helminthosporium echinulatum*." This fungus pest, at first, caused him much trouble and many losses; but, by persistent attention to the requirements of the plant, by cutting away the affected parts, by giving plenty of air on all favourable occasions, by keeping the plants in ignorance of the watering pot, so to speak, in the winter months, &c., he had, he hoped, overcome the difficulty of *Malmaison* culture. Certainly for the last four years his stock had been quite free from the fungus in question. The compost he recommended was tough fibrous loam (two parts), peat (one part), broken roughly with the hand, and one part each of coarse silver sand, lime rubble, charcoal and potsherds; and to each barrowful of this mixture, a 6-in. potful of Thomson's Vine and Plant Manure. After copious cultural details concerning this plant, he passed on to the section known as Tree Carnations which are so popular for autumn and winter work. Mrs. Leopold de Rothschild was selected as the premier flower, while Winter Cheer was highly recommended. Uriah Pike, Mrs. J. G. Muir and Mrs. Moore were also placed high up in the list. The border varieties were next treated with a liberal hand, and only those which had been found to succeed at Dover House were recommended for suburban culture. Some of these were Raby Castle, Ketton Rose, Walter Ware, Crimson Clove, Lincolnshire Clove, Corunna, Amy Herbert, Gannymede, Duchess of Fife, Gloire de Nancy, Ossian, Duchess of Portland and many others. The soil at Dover House is a light loam and rests on a gravelly subsoil. The paper was well received, hearty votes of thanks being given to the writer, the reader and the chairman. The exhibits were meritorious, Mr. Newell receiving the Society's Certificate for the collection of Apples.

Sir Walter Scott took an uncommon interest in landscape gardening. He also wrote a good deal on the subject.

Chrysanthemum Society of America.—A fee of two dollars, 8s. 4d., is charged by the above society against exhibitors for every variety of seedling or other Chrysanthemum they enter for the purpose of an award. If our own N.C.S. charged eight pence for every variety they have to judge upon, it would fill many an odd corner of the exchequer—or probably keep worthless varieties in regions where they would for ever blush unseen. They, however—the Americans—award a silver cup to the owner of the seedling which secures the highest number of points

Roses Grown by Criminals.—The head of the House of Correction in Chicago believes that women of the slums sentenced to imprisonment for misdemeanours may be civilised and reformed by being made to cultivate Roses. He is convinced that the tending of flowers will have a mollifying effect upon the spirit even of the most hardened of women; though he has a misgiving that the flowers will be liable to suffer in the first instance. The flowers are to be sent to market; and leaders of fashion in the prairie City promise to patronise the Roses so grown. America is nothing if not enterprising in new methods of dealing with criminals.

The Late William Prentice.—The friends of this gardener will be sorry to learn of his sudden death, of heart disease, at his residence, Blandford Road, Beckenham, on Tuesday night, the 9th inst. He was 62 years of age, and had a fainting fit from which he never rallied, but quietly passed away. He had held gardening appointments in Stafford and Sussex. Latterly he suffered from chronic nephritis, and was a candidate for election at the annual general meeting of the Gardeners Royal Benevolent Institution, on the 12th inst. He had contributed £11 12s. to the Institution in June 1890; and though this was his first application for relief, 865 votes were recorded in his favour.

The old trees and the new in the New Forest.—Mr. E. Stafford-Howard, Her Majesty's Commissioner of Woods, has repeatedly called to the notice of the Treasury, the condition of certain old woods in the New Forest. The old unenclosed woods of the New Forest, he reports, must inevitably perish and disappear altogether before many years have passed away. The New Forest Act passed twenty-two years ago (1877), prevents the enclosure of any of these old woods, whereby they might by natural regeneration become once again on an equal with their past value. In the meantime cattle and horses have full liberty to wander and destroy all the young growth of trees. The report deals exhaustively with the question, and is quickened in its appeal from the conception of the need for instant reform.

A SUITABLE POSITION FOR FORSYTHIA SUSPENS.

AMONGST the numerous bushes which bloom before the leaves appear on the branches, perhaps no one is more worthy of consideration, as regards the position in which it should be placed, than this grand early flowering subject. One sometimes sees it growing on wind-swept spots surrounded by deciduous shrubs like itself, where the bright blossoms suffered as much from the lack of suitable neighbours, as a contrast, as they do from the want of shelter. An ideal place in which its grand pendant yellow sprays, sweeping earthward, is seen to admirable advantage is a sloping bank facing southward, the groundwork being kept as short grass, with a surrounding of evergreens, preferably Portugal Laurels to any others, allowing sufficient space between the two to show the sward. In such a spot this welcome harbinger of spring is indeed a "thing of beauty" when in bloom, and holds out much longer with this environment than if placed in meaner and more exposed quarters, and is perfect while it lasts. Moreover, the sombre hues of the Laurels, if kept in good condition, even seem to have their attractions enhanced by near approach to their charming neighbour. I fancy the bedraggled condition of Forsythia suspensa in unsuitable spots may have helped some people to ignore its merits. Placed in quarters as above indicated it is undoubtedly one of the stateliest

and most interesting shrubs which bloom in the spring.—*J. Mc Ara, Kingsburgh, Prestonkirk, N.B. Jan. 22nd, 1900.*

THE PERENNIAL ASTER OR MICHAELMAS DAISY.

FEW plants cultivated in the flower garden can out-rival these when properly treated and a careful selection of varieties is made. For, during the closing days of summer and autumn, when nearly all other flowering plants are past, these supply a wealth of lovely blossom. Far too often we see only a few of the more common varieties dotted about in flower borders, but to see them in their true beauty they should be massed together in a border. They generally succeed best on a site facing east. It will be necessary to pay due regard to their heights, arranging them so that the tallest and most vigorous growers form a background, and, of course, the dwarfer and weaker ones to the front, and the greater the depth the more pleasing will be the display. The ground should be thoroughly trenched during winter and enriched with good farmyard manure, and liberal supplies of water given during dry weather.

The selection of varieties is of the utmost importance, and, as I have had the opportunity of carefully observing, perhaps, one of the finest collections cultivated, I propose giving a list of fifty of what I consider the best:—

EARLY FLOWERING.	MEDIUM FLOWERING.—
Aster acris, 2 ft.	<i>Continued.</i>
" Cottage Maid, 3 ft.	Aster W. M. Bowman, 4 ft.
" Robert Parker, 5½ ft.	" turbinellus albus, 4 ft.
" Madonna, 3 ft.	" Amellus major, 2½ ft.
" Nancy, 4 ft.	" Amellus Riverslea, 2 ft.
" Pygmalion, 1½ ft.	" Amellus Stella, 2 ft.
" Harpur Crewe, 4½ ft.	" ericoides elegans, 3 ft.
" laevigatus, 2 ft.	" versicolor Themis, 3½ ft.
" F. W. Burbidge, 5 ft.	" cordifolius Diana, 4 ft.
" T. Smith, 3 ft.	
" Ulster Echo, 4 ft.	
" Shortii, 3 ft.	
MEDIUM FLOWERING.	LATE FLOWERING.
Aster Top Sawyer, 6 ft.	Aster versicolor 4½ ft.
" spectabilis major, 1½ ft.	" turbinellus, 3 ft.
" candida, 5 ft.	" White Spray, 3 ft.
" St. Brigid, 4 ft.	" Margaret, 5 ft.
" asteroides, 6 ft.	" Mrs. C. W. Earle, 5½ ft.
" puniceus pulcherri-mus, 7 ft.	" ericoides, 3 ft.
" laevis (Chapmani), 5 ft.	" Henryi, 2 ft.
" cordifolius majus, 3 ft.	VERY LATE FLOWERING.
" arcturus, 4 ft.	Aster Tradescanti, 3 ft.
" Walter B. Childs, 6 ft.	" diffusus horizontalis, 4 ft.
" Councillor W. Walters, 5 ft.	" diffusus pendulus, 4½ ft.
" Mai, 4½ ft.	" grandiflorus, 2½ ft.
" Ella, 6 ft.	" Coombe Fishacre, 3½ ft.
" John Wood, 6 ft.	" trinervius, 2½ ft.
" J. F. Raynor, 4 ft.	" Archer Hinds, 4 ft.
" pulchellus, 4 ft.	

A. E. Thatcher.

THE USE AND ABUSE OF PRUNING.

ALTHOUGH the pruning of fruit trees is a most important, and, indeed, indispensable operation at some, if not all, periods of their life, yet, like so much else, it is very liable to abuse, and as much, if not more, harm than good is frequently done by the unskilful or indiscriminate use of the knife or saw. Many of those who pretend to understand pruning slash away at a tree in such a merciless and injudicious manner that the result would be much better if they would let it alone altogether. Jobbing gardeners are sad offenders in this respect, and for my own part I would never let a man whom I did not know and could not trust touch a fruit tree of any value in my own garden. In fact, if pruning cannot be done skilfully, it had better be left alone altogether. Both judgment and experience are necessary to the proper pruning of a fruit tree; mere theory is of very little use. The various effects that pruning may have upon a tree are so many, and depend upon such niceties of conditions or circumstances that unless a man knows what he is about it is quite possible that he may bring about the very opposite effect to that he intended. Pruning is done not only to insure a well-formed tree, but with such opposite objects as (1) to check over-luxuriance and promote the formation of fruit buds

or spurs, and (2) to promote vigour of growth. Then again, it is useful to keep a tree within its allotted limits, and also to admit light and air to the fruiting branches, and so ensure their productiveness; for one of the plainest axioms in fruit culture is that crowded growth never will or can be fruitful.—*H. J. Hughes, Ash Wood, Whitchurch, Salop.*

FREESIAS.

IN short articles appearing at intervals in gardening papers, on the Freesia, a most important item of information is almost in every case omitted, even by some eminent writers, namely, the ripening and storing of the bulbs. Notes on the above usually begin with the imported bulbs, and end with the plants coming into flower. We have had our present stock for six or eight years, and the plants make better flowering bulbs than when first imported, having any number to pick from when saving one's own bulbs. But to the point. If the plants are not used for cutting purposes, the faded sprays should be picked off at once, as they seed freely and cause a heavy drain on the bulb's resources. In any case the plants should be well supplied with water after flowering, until the foliage shows the first straw tint of colour. Then water sparingly until the leaves become quite dead, when the soil should be as dry as dust.

We remove the pots to a dry loft for the summer months. They should by no means be left about under greenhouse stages and such-like places where moisture may reach them. Premature growth will begin, which simply spoils them. Stored away in this fashion, they turn out of the dry soil, at potting time, as fresh and plump as one could desire.—*A. Dickson, The Gardens, Glenormiston, Innerleithen, N.B., 20th January, 1900.*

SEED SOWING UNDER GLASS.

THE time of year has again reached us when the gardener, professional and amateur, must soon set about placing the seeds of various flowering and foliage plants in pots, pans, or boxes of prepared soil to suit their requirements. In the first place, let all pots and pans be thoroughly washed, if old, and soaked in water for twenty-four hours if new, this being absolutely necessary if success is to crown your efforts, specially the soaking of new pots, as it is surprising the amount of moisture they withdraw from the soil if not immersed beforehand, to the detriment of all seeds, and plants as well. Clean crocks should be always used. Such are easily washed by putting them in a quarter-inch sieve, well swilling them round several times in a large tub of water, and allowing them to dry before using. Always place a layer of rougher material next the drainage, such as turfy loam, leaf-soil, or peat, whichever kind is in use; and in filling the pots, etc., the soil must be made fairly firm, and with quite an even surface. Especially is this the case with the most minute seeds, as Gloxinia, Begonia, Lobelia, Calceolaria, Streptocarpus, and many others, and little or no covering is required of those just named, the merest sprinkling of sand being sufficient until germination has taken place. The finer the seed, the finer the soil to sow and cover with, and it should be watered two hours previous to sowing.—*J. Mayne, Bicton.*

MELONS.

SEED should be sown the first week in February, in a bottom heat of 70°. Plant singly in small pots, in a compost of good fibrous loam. The seeds soon germinate, and the plants will be ready for planting out by the end of the month. Care should be taken to keep the plants as near the glass as possible to maintain sturdy, short-jointed growth. The pits, previous to planting, should be thoroughly cleaned, and a brisk temperature of 65° to 70° maintained. Some fresh turf may be laid grass downwards over the staging. The compost should consist of two-thirds loam (not very fibrous), one-third half-decayed horse manure rubbed through a sieve, and a small quantity of old mortar rubble. Well mix the compost and make a small heap for each plant, press firm. When watering be careful not to wet the collar (bottom of stem) of the plant, as this is a very tender part with Melons. Pinch once or twice, removing weak growths. When a sufficient number of healthy pistillate flowers are open together they

should be fertilised. This operation is best done on a bright sunny day, about 2 p.m. It is very essential to fertilise the flowers together; for, should one or two Melons take the lead, the others will not swell. When set, the lateral growths must be constantly pinched out, and all staminate or male flowers removed. As the fruit approaches the ripening point water should be to a considerable extent withheld, so as to impart a full, rich flavour. Free ventilation will also aid in this matter. A selection of varieties should include Blenheim Orange and Hero of Lockinge.—C. P. Cretchley, *The Honeys, Twyford, Berks.*

CHEMISTRY FOR THE GARDEN.

I. INTRODUCTORY REMARKS.

THESE notes it will be observed will contain the gleanings which the writer has preserved from lectures which he has attended at various periods, as well as observations made from time to time by himself. It will also be kept in view that the writer has no desire whatever to lay down any of the facts or theories which these notes will consist of in a didactic spirit; on the contrary, his whole aim is to create a desire in the bosom of every young gardener who is yet unacquainted with the ways of the beautiful science of chemistry, to labour in this mine of knowledge and dig out much of the necessary wealth it assuredly contains for his use.

I am too well aware of the almost insurmountable difficulties standing against the young gardener in going in for a course of study in this useful branch of knowledge. In the first place to begin with, Chemistry is to most young men the most dry-as-dust subject he could well approach, and in the next place it is only under exceptional circumstances that it is possible for the average young man to be so situated as to derive any substantial assistance in his study when it has begun. No doubt these two reasons are alone sufficient to disgust many from essaying an attempt. These were my own views of chemistry when our chief at one period of my career put "Fownes" text book into my hands. I put on a determined effort and in due course dragged through and handed the dry volume to its owner, of course, without retaining almost a single fact of the wealth of knowledge it contained. In after years I made the discovery that the way to tackle the subject and to make it intensely interesting was to carry out the facts by illustrations.

Everything that admits of illustrations should be rigidly performed, and then not only does the matter become an inseparable part of one's self but the whole becomes a highly interesting and significant study, so much so, indeed, that to most people it forms the gateway to an entirely new world never before dreamt of. This is the very best of teachers, the only teacher that is necessary provided the student takes an intelligent interest in the work. I know one or two instances of book taught chemists, whose knowledge was eagerly sought after by professional chemists, a fact of itself that gardeners need not despair of acquiring a very substantial knowledge of the subject as far as their duties demand.

There is another thing which I consider a greater drawback to the acquisition of a chemical knowledge for gardeners than any of the two former instances, and that is the difficulty for young men to carry the necessary apparatus along with them in their wanted removals from one place to another. This of course could be easily got over, and will be got over, if the old anti-education gardeners should once disappear from the horticultural stage. A room equipped with chemical apparatus ought to be included in the premises of every good garden. I believe that all that is wanted to acquire this, in a good many cases, at any rate, is the sincere sympathy of the head gardener. Gentlemen of to-day are most liberal to assist the mental development of the young gardeners in their employment, and it is but fair to say that if this matter were fairly and squarely put before them, that something would be done. However, gardeners must not wait for the accomplishment of any such thing as thus suggested, but do the best possible under the prevailing conditions.

I carried my box of apparatus for the last eighteen years whithersoever my destination lay, from one end of the kingdom to the other, and I have little doubt but that others have done so also. The time

is certainly advancing when the above suggested, and much ameliorated, conditions will relieve young men of both the trouble and expense of carrying such luggage from place to place. Again there can scarcely be any pastime better employed than that of the spare time devoted to the practical side of Chemistry.

The experiments which can be made are practically inexhaustible and every one of which cannot fail to strike the student with wonder and admiration. The beautiful laws which govern everything to such marvellous niceties, the affinity of one element for another, the combination of two like substances to form an article substantially dissimilar to either, and many other exceedingly interesting things, form but an indefinite conception of the marvels chemistry embodies. The earth, its waters, and all they contain, the atmosphere, in fact, everything we can see around us and in us are subject to the laws of this science of sciences.—*Oxygen.*

(To be continued.)

THE PLANT HOUSES.

The Stove.

GESNERAS.—The greater number of Gesneras hail from the tropical regions of Brazil in South America, and other parts of that continent. Though most are tuberous rooted, not all are. As stove plants they occupy an honoured place, quite equal I should say to Gloxinias or Achimenes. Gesnera zehrina is represented as the type which has beautiful foliage as well as handsome and showy red and yellow flowers. The plants may be dried off at the end of summer, and brought again into a moist warm stove at the beginning of the year. A temperature of just over 60° will suit them, and with a supply of water they will soon commence to grow. New plants can be propagated as cuttings from the young shoots which will throw up at this time. The cuttings may be struck in pans of light soil, care being taken to give them sufficient space apart. Bottom-heat, when this can be given, is recommendable. In a few weeks pot the cuttings into small thumb pots, still keeping them in the propagating pit. In a few days inure them to the air, gradually allowing the full freedom of the house temperature. In from five to seven weeks or more they will require another shift; this time into 4 in. or 5 in. pots.

During the summer an ordinary stove temperature will suit them, airing the house during the day. Neat stakes may be needed for the shoots, little or no pinching being required the first year. The object during the first season is to develop size and strength of tuber. Therefore it is not advisable to allow them to bloom till the next year, although blooms can be obtained. They will require abundant watering, a moist atmosphere, and a daily syringing overhead. During the brightest part of the season some slight shade is necessary above them, but when they begin to show signs of lacking vigour they may be allowed more light and the watering and syringing should be more and more withdrawn. When they have nearly died down a place on a dry shelf at the coolest end of the stove, or even in a cooler house, should be sought out for them. The position must be drip proof. Then early in the following year shake out the young tubers and repot them in pots proportionate to their size; 5 in. and 6 in. pots may be used.

A somewhat rough but porous and moderately rich compost is to their liking, this being warmed previous to its use. The tubers must be kept just level with the soil. Water the pots thoroughly and set them in a light position. Raise the minimum temperature to 60°, advancing it as the season goes on. The flower spikes will appear about April or May, the strongest tubers generally throwing up first. After this time a cooler situation may be allowed for the sake of the longer lasting of the flowers. These must on no account become damp. The tuberous species can be grown on like Gloxinias for a number of years. After starting the old tubers in the early spring-time propagation may be effected by cuttings of the young shoots. The choice species are fairly well known, and may be had from the nurserymen. Mixed packets of choice seed of hybrids may also be ordered.

The Greenhouse.

HIBBERTIA DENTATA.—Of the Hibbertias there are

upwards of forty species, variously scattered over the South Pacific, though most are concentrated in and around Australia. The species chosen above is a beautiful winter-flowering, warm greenhouse climber. The flowers are solitary and bear a distant resemblance to the yellow blooms of *Oenothera Youngii*, a well-known hardy plant. The growth, on the whole, is clean and slender, the foliage being oblong, dark green, smooth and with serrated edges. Propagation is no difficult matter so long as nice firm shoots can be obtained for cuttings. These may be struck similar to *Plumbago rosea*, whose full treatment will be found on page 311, where "Grower" treats of the above. A friable compost consisting of peat, leaf-mould, and loam with sand should be accorded, and the plants kept growing on and shifted as needs require. An airy, light pit, with a temperature of 60° at the most, should be their place. The young shoots require a stake to train them to, the weakest shoots being cut out at the seasons's end. Thrips are at times troublesome, but can be kept off by vigorous syringing with paraffin and soft-soap solution. Use this carefully, and afterwards syringe with clean water. By-and-bye, the plants, when they have reached a considerable height, may be put out into a well-drained rich border, or may be kept in large pots. At any rate, train the shoots to a rafter in a greenhouse.

Pits and Frames.

Cold snaps are frequent, so that the duty man or he in charge of pits and frames has to be kept in readiness for emergencies. Remove the coverings and give free air to *Violas*, *Calceolarias*, &c., whenever the outside temperature rises to 45°.—*J. H. D.*

Gleanings from the World of Science.

THE Scientific Committee of the Royal Horticultural Society met on the 9th inst., when the undermentioned subjects were discussed.

HORSE RADISH attacked by *Rhizoglyphus*.—Some roots of this, as also of the Lily of the Valley, attacked by this mite, were received from Mr. Abbey of Avery Hill, Eltham, who forwarded a long list of plants likewise attacked. Mr. Michael observed that it is a subterranean species, and that although it prefers bulbs, it is very injurious to many, indeed, most other plants with fleshy roots, though it may not thrive equally well upon them. As a remedy Dr. Muller suggested lime and sugar or treacle, as being better and stronger than limewater, as well as more persistent in its action. Mr. Michael also observed that heat, as in boiling water, was destructive, but the mite resisted chemicals to a remarkable degree. With regard to the life history, it passes through several stages, commencing with the egg, this gives rise to a hexapod larva, then to the nymph, a very active octopod. After a new change of skin, in a large number of cases, but not in all, there emerges—without any discoverable cause—a being totally unlike the preceding, formerly known as *Hypopus*, having being thought to be a quite different genus. This has a soft body internally but covered with a hard and usually chitinous integument. Its mouth organs are rudimentary, and it probably does not feed. It is provided with discs by means of which it adheres to insects such as ants, bees, beetles, &c., and to other small moving creatures. These it utilises as means of migration, clinging to them, but without being parasitic. As soon as a suitable environment is met with, the mite changes back into the last nymphal stage, and then proceeds to pass into the adult male or female condition. It may attack plants in all stages, except that of the migratory *Hypopus*. The *Hypopus* is practically impervious to chemicals, and can endure without injury exposure to heat and drought which would destroy the creature in any other stage.

APPLES INJURED BY HAIL.—Some fruit was received from Mr. Woodward of Barham Court, Maidstone, which had received severe injuries from hailstones. But, although the skin was cut through and the flesh exposed, this had dried up and so protected the interior, which had not at all decayed. The storm occurred on July 19th, 1899. Mr. Michael observed that when birds plunged their beaks into Apples through thirst, the injured spots usually resulted in decay.

HINTS FOR AMATEURS.

Carnations—At this time Carnations have little need for any reference. Growth with them is comparatively slow, so that until we are nearer their flowering period no change in the present routine is necessary. They should be kept as cool as possible, and free from insect attacks. For this purpose it is generally necessary to adopt some means of prevention, such as spraying with sooty water or with weak, liquid cow manure, or by dipping the plants occasionally overhead in a warm solution of Gishurst Compound, sulphur, and soft soap. The young growths as they advance should be tied to neat stakes, blue ones preferably. Neat workmanship in this direction affects the general appearance of a collection in no small measure. Nothing is more deplorable than long "tails" of thick matting. All ties should be made with thin bast, which should at the same time be neatly twisted and cut cleanly and closely at the ends. Most of our successful growers of Malmaison and tree Carnations use strict precautions in watering, and keep their plants very much on the dry side all winter. For myself I have had very satisfactory results from constant waterings, always keeping the soil in a moist condition. In mild winters, under such conditions, the plants grow wonderfully well, having also an occasional feeding given them. In districts where the air is sulphurous disease in the leaves does not seem to spread at all so rapidly as in regions with a purer atmosphere.

Edging Brakes.—Now that the ground is more or less all dug, and operations for getting in seeds are being thought of, that of making up the edges to brakes, and of forming alleys, has to be seen to. It is well to do this work when the ground is damp, though to attempt it on sticky land or land in too moist a condition would be sheer folly. Eighteen inches or two feet is wide enough for all ordinary alleys. Measure off this breadth with the rod, and place a stake in at the points required. Do so at two points—the top and the bottom of the alley. Between these stretch a line, and commence to make up a level edge.

Having made the surface level according to your line, next go down the whole length, treading the soil firmly. This will have the effect of showing the parts most in need of make-up, fresh soil being added to the low parts and this again made firm. Lastly, take the back of the rake and draw it over the soil, directly over the stretched line. If a fair level is now brought up, the edge may be beaten to form a firmer and glazed border all its length. All is then ready for the cutting. Place the spade with its back to the line, and, in a half-heating, half-cutting manner, proceed to make an evenly sloping edge. This also should be firm, even, and smooth. A little of the centre soil may then be taken to make up the other edge, which, of course, is cut out in the same fashion. If need be, some of the central soil in the alley can be spread out on the land after both edges are cut, but only a little should be taken; the rest should be raked even. The beaten edges are not absolutely necessary, yet I think they give firmness and certainly smartness to the edges.

Seed-sowing Indoors.—Pots, pans, and boxes, which are to be used for the purpose of seed-sowing, should be well cleaned and got out ready, or at least, looked over. Soil, leaf-mould, and sand, for the potting and seed-sowing composts, should be brought indoors so that a sufficient quantity of somewhat dry material shall be at hand whenever required. As a general rule, all composts for seeds which are sown indoors should be very light. The loam and leaf-mould, the sand too, sometimes, ought all to be put through a $\frac{1}{2}$ in. sieve. Slightly more than one part of loam to one of leaf-mould, and a large quantity of sand may, as a rule, be mixed. The quality of the mould is important. Pieces of sticks and fungus growths should be rigorously excluded. Nothing but the cleanest of mould, Beech or Oak leaves preferably, should be employed. Sharp sand and friable loam are likewise necessary. Thoroughly prepared drainage is a *sine qua non* in the successful raising of seeds indoors. A shallow soil is also more advisable than a great depth in the pans or boxes. Two-and-a-half to three inches is quite a sufficient body of soil for all the smaller seeds. Having laid the crocks carefully, cover them over with some of the fibrous or clean refuse screenings.

Then place in a layer of the coarser soil, above which that of finer quality, and still finer, should be filled in. Make it all moderately firm by pressing with the fingers. Leave about $\frac{1}{2}$ -in. of space always at the top. All very fine seeds such as those of Gloxinias, Cyclamen, Cinerarias, and of the smaller vegetable seeds, should be evenly and thinly scattered over the level surface. Then the very finest of soil should be sifted through the fine sieve, and a mere screening of it sown, or dusted like pepper, over the seeds. The seeds merely require to be covered. Then take a flat bottomed box and make the surface gently even and firm. Watering may be done by immersing the pans nearly to the brims in tepid water, by which process the water percolates upwards; or an overhead watering may be gently given by using a very fine-rosed can. Glass panes or circles should be placed over the top of the pots, pans, or boxes, to prevent evaporation and to maintain a steadier and closer air just over the surface soil. They may then be placed in the pits or cases in cool or warm houses, according to their several needs. The seeds of warm house plants like Gloxinias, &c., require a warm propagating pit. Those of greenhouse plants, such as Cyclamen, Bouvardias, and so on, also like a warm case (65°) to germinate in. A temperature of 60° will be found sufficient for the germination of vegetable and half-hardy annual seeds.

Seed-sowing out of Doors.—The proper preparation of the soil is a necessary factor before seeds can be deposited in the open brakes and borders. All land for seeds should have been well broken up with the spade; should have lain exposed to the elements and their pulverising effects, and after all this, should be finely broken down with hoe and rake previous to sowing. A dry, halmy morning should be chosen for the operation. The ground should be just sufficiently moist to turn over nicely, to be easily knocked about, yet not in the least hard, or on the other hand, pasty. With the proper mechanical condition of soil, the only need then is to draw out the drills or mark off the beds. A quart of Broad Beans will sow about 80 ft.; of Beet, 1 cz. will sow about 50 ft.; while $\frac{1}{2}$ -oz. of Cabbage seed is sufficient for a bed of eight square yards. Parsnips (1 oz.) can be made to sow a drill of 200 ft., and so on. These figures will give one an idea of how much is needed of other similar kinds of seeds. The drill for the finer seeds need only be 1 in. deep, and should be carefully covered in with the feet, and then firmed. Thinning out ought to be early practised.

Flowering Shrubs: Buddleia.—The Orange Ball Tree, as *B. globosa* is called, came from China so long ago as 1774. It is a pretty, bushy growing shrub, never exceeding 20 ft. in height. Its orange-coloured flowers are borne in spherical trusses, the size of a large marble, all over it in early summer. It is a special favourite with the bees. It does much better, however, in the southern counties than away northwards. It succeeds well in a deep, rich, sandy loam, the position being sheltered and well-drained.

Caryopteris Mastacanthus—Everyone seems to have a love for this pretty little shrub. It came from China or Japan about the middle of this century. It flowers late in autumn, and I believe it is reported as being hardy in the south west of Scotland. It is popularly known as the Blue Spiraea, and furnishes also a handsome pot plant. The flowers are bright violet-blue, being borne in heads in the axils of the leaves. It grows freely in light sandy peat, and can be raised from seeds.

Ceanothus americanus.—This species bears white flowers, which spring in panicles from the axils of long leaves. Like others of the tribe the flowers are carried in great abundance.

C. azureus.—Being a native of Mexico this species thrives best when given the protection of a south wall. It grows rather too baggy to be recommendable on all occasions, yet the glorious wealth of blue flowers which smother it in the springtime make it a most tempting plant to use. There are a number of varieties of *C. azureus*. They like a well-drained, light, rich soil.

Spiraea bella.—For the edge of a lawn or shrubbery, *S. bella* is very handsome. It throws out spreading plumes of soft, rosy-mauve flowers, in the months of May and June. The stems are tall and reddish, the leaves being ovate and acute. It is a very pretty species.

Spiraea prunifolia flore pleno.—For early conservatory decoration toward the end of January, this

twiggy and very graceful shrub with bead-like, pure white, small flowers, is a perfect gem. Perhaps another colour would be more acceptable for winter, but the plant is altogether so charming that its colour may be allowed. It came from China in 1845.

Staphylea colchica.—Here again we have an easily managed pot flowering shrub. The none too bright, but, all the same, graceful and sweet, pendant racemes are much used by florists for their decorations. It is said to be quite hardy, but of this I cannot say, having always grown it in pots for forcing. It attains 6 ft. in height, but can generally be kept down by pruning back the older shoots.

Present Work.—Shrubs and trees can be planted so long as the ground is fit. Walks can be made, and turfing can be done. Pruning will also occupy some time. Potting has started indoors.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Azalea mollis.—*Geo. Simpson*: The plan adopted abroad for propagation is by layering the side branches. Put out the old plants in August and peg them down, first notching them. Clematis Jackmani may be propagated by division of the root, or by notching or slitting the stems in September.

Propagating Hardy Rhododendrons.—*Geo. Simpson*: The newly introduced and meritorious varieties are increased by grafting them on to *R. ponticum*. This latter variety is very hardy, has a vigorous constitution, roots and produces suckers freely, and is therefore much used as a stock. Not to say that Rhododendrons cannot be increased otherwise, for if the shoots are notched and pegged down they will all become rooted.

Campanula isophylla.—*W. S.*: The above is a pretty Italian species. You may propagate it by cuttings inserted next month or in March. Grow it as a greenhouse basket plant, or on window-sills.

Cankered Apple Trees.—*J. Horner*: When Apple trees canker the cause may frequently be attributed to poverty or sourness of the soil. Or some of the cankered branches may have been somewhat injured at one time or another, and so laid them open to the attack of the canker fungus. Lift the trees; prune off all rusted roots and replant them in thoroughly broken up and enriched soil. Some chemical fertiliser may be incorporated with the soil immediately over the roots. One pound each of superphosphate and kainit may be used.

Seed Sowing.—*L. O. M.*: Your questions are most opportune. A rule, given by up-to-date lecturers on horticulture, is to sow the seeds the depth of three times their diameter. With many of the finer seeds, perhaps most, to sow them on the surface or just below is proper, and the above rule would hold good. But for Peas, Beans, and others, 3 in. or 4 in. deep is none too much. Carrots, Onions, and all the Brassica tribe and seeds like the foregoing may be sown broad-cast and merely raked in; or in drills drawn with the corner of the hoe, and only deep enough to mark the line. Sow from the packets, that is, only slit open one corner of the packet and walk along the line, shaking the seeds thinly into it. Cover these up with the feet and slightly rake, drawing that instrument in the same way as the lines run. But more information will be given under "Hints."

Iris from Seeds.—*Saver*: If the seeds are properly ripened they will very likely germinate well enough. Sow them in shallow pans in April, keeping them in the cold frame, moist and shaded. When they appear they should first be pricked off into boxes and placed in the open air in a warm sheltered position. Next March they may be placed out into sunny borders in the open air.

Carnations from Seeds.—*Saver*: With such favourite flowers as Carnations are, it adds a great

interest to their growth to save and raise your own seedlings. There is always the probability too, of obtaining improved varieties. You should select and cross-breed carefully. Sow your seeds in boxes in cool houses or frames. Prick off the young plants, allowing them a plenty amount of light and air, or such conditions as obtain in greenhouses and frames during spring. Try to avoid cold draughts and also excessive dryness. Plant out the young plants at the end of April to well enriched sunny beds. If you are open to the visits of rabbits run wire-netting all around the bed.

Sowing Sweet Peas.—H. L.: Personally, we do not think it profiteth anything to sow Sweet Peas so early as this period. We know it is done, yet, by waiting for six weeks, you will find the ground in a better condition for working, and possibly warmer for the germination of the seeds. The young seedlings are bound to suffer a great deal should sharp weather set in. The other seeds you mention can be sown now, in boxes, indoors, to be pricked off and planted in the brakes when the soil has become somewhat warmed.

THE TOOGOOD SUB-IRRIGATED POT.

THE principle of this device is that two pipes lead from the top to the bottom of the pot, thus ensuring the egress and ingress of air. It is intended also that all water given the plants grown in such pots

good plan to turn the pots on their sides sometime after watering so as to let the superfluous water run out by one of the tubes. In the United States of America, flowers and vegetables are grown on benches, cemented at the bottom and sides so as to secure sub-irrigation, and the results are considered highly satisfactory. The accompanying illustration was put at our disposal by Messrs. Toogood & Sons, Southampton, for whom the pots are made.

STOVE FLOWERING PLANTS.

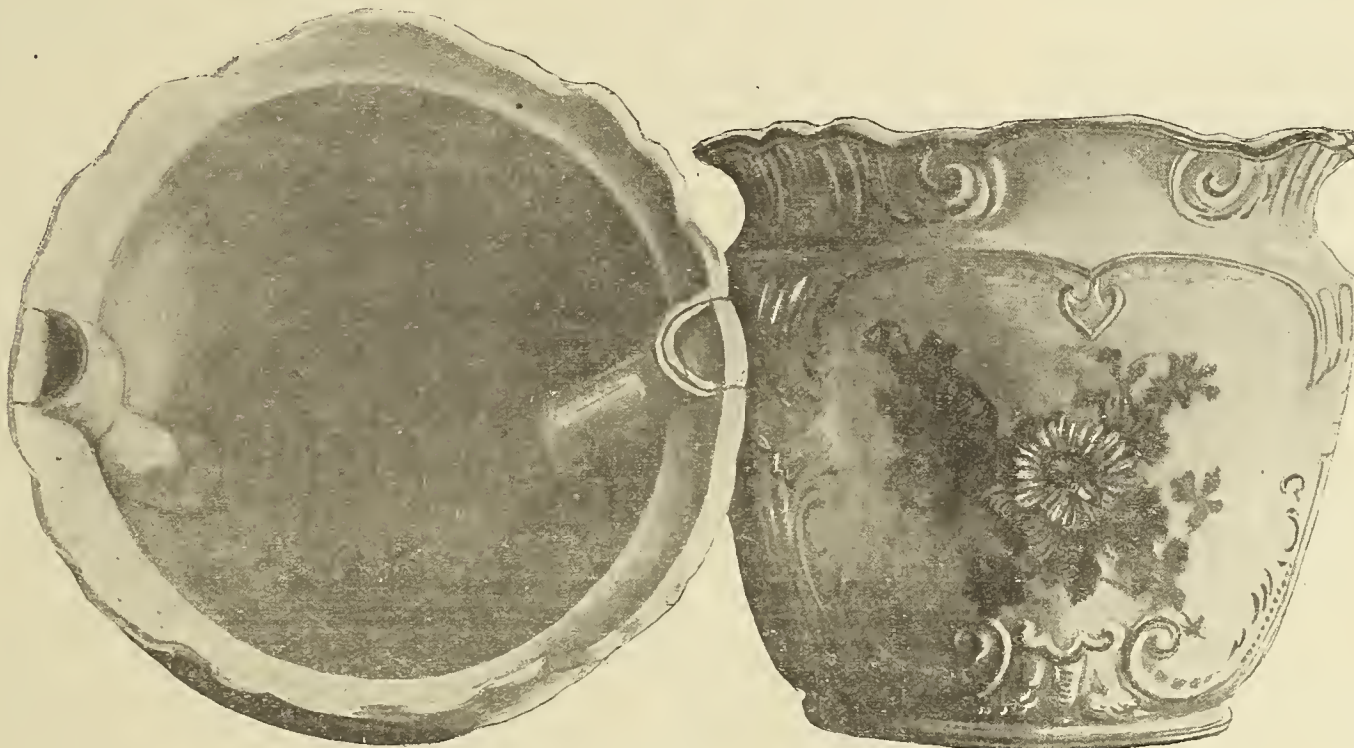
(Continued from p. 311.)

EUPHORBIA JACQUINIAEFLORA (FULGENS).—Here we have a grand plant for producing long and graceful racemes of bright scarlet, 18 in. to 24 in. in length during November and the following three months if details as to culture given below are carried out; and no plant stove ought to be minns of this showy and useful subject. The flowers last a very long time if left on the plant, but soon hang their heads when cut similarly to its near relative, *E. pulcherrima*, usually known as *Poinsettia pulcherrima*, to which I shall allude presently.

As soon as the plants have finished flowering, shorten the shoots back, a little beyond where the flowers began to appear, keeping them a little drier at the root, when young shoots will soon push out. These should be taken off when about 3 in. long with a heel attached if possible, placing the cut ends in a saucer of fine sand as a preventive to the loss of

Towards the middle of June and the next two months, a cold frame will do for them, lightly shading for a few hours only in the brightest part of the day. What is of paramount importance is the refining of the shoots before giving them too much heat, and when they are housed, if you can put them up to wires or string, and about 4 in. from the glass, so much the better. Scale is the worst pest that attacks them. They must be constantly removed if in force, spraying with soapy water.

E. PULCHERRIMA responds to very nearly the same treatment, only the plants of these can be stored away for three months or so after flowering, early in April being soon enough to commence propagating. Shoots soon push out by placing the old stools in a warmth of 60°, and keeping them syringed twice daily. Bottom heat should be afforded these when rooting the cuttings, which should be placed singly in thumb pots, potting on when necessary. Five-inch and 6-in. pots, respectively, will grow them well, giving both kinds rougher material at the final potting, feeding lightly when the pots are full of roots, and increasing the strength when you can see the floral bracts of *E. pulcherrima* forming. We kept our stock of these out in frames up to the end of September this year, and as I said of the former, do not shade more than you are really compelled to. Endeavour to build up short jointed, firm wood, which is the sure fore-runner of good heads of bloom. Very little water at the root will be required when the flower is fully expanded, and naturally, none over-



THE TOOGOOD SUB-IRRIGATED POT.

should be poured into the tubes which carry it directly to the bottom from whence it has to rise by capillary attraction to moisten the soil. There is no hole in the bottom of the pot, so that table and window plants require no saucers in which to stand them. The soil and roots are aerated by means of the pipes, and water, being conveyed by the same channels, always leaves the surface soil loose and friable. It is claimed that there is less danger in overwatering than in ordinary pots; and less frequent watering is necessary. The difficulty often attendant upon the fitting of ordinary pots into the ornamental ones is here obviated, as the plant is put directly into this one. Repotting is only necessary once a year, or less often.

The pot is made in two sizes, namely, 8 in. high by 9 in. wide at the top, and 7 in. high by 8 in. wide at the top. They are made of the strongest ivory-white ware, relieved with a raised pattern, chased with fine gold, and variously decorated with designs of Lilac, Paeonies, Carnations, Chrysanthemums, and other flowers, in their natural colours.

The potting soil used should be light and porous, consisting of loam, leaf-mould, and sufficient sand to make the whole open and permeable by the roots. About an inch of pot sherds or crocks should be put in the bottom. Newly potted plants require little water; and even when they are in full growth it is better to use little than much. When the surface gets quite wet it is a sign that too much water is being given. At all dull periods of the year it is a

sap. In the meantime 3 in. pots should have been prepared, using loam leaf-soil and peat, finely sifted, with a good percentage of silver or river sand, pressing fairly firm, and surfacing the same with a little fine sand, when all will be ready to receive the cuttings, four to six in a pot. A watering with the rose can should be given, placing the pots under bell-glasses or hand lights on the stage in the stove. I find these root better without the aid of bottom heat, lightly shading when necessary, and a gentle spray over head with the syringe occasionally, not keeping them too wet, or decay soon sets in. I give a little ventilation as soon as rooted, when in a week's time the pots can be stood on a sheet near the glass, but avoiding draughts. In another week they will be fit to pot off singly in thumb pots, or moving bodily into 5-in. ones, in which size they are to flower.

Cuttings can be put in from February to May, stopping the earliest struck batch once when about 6 in. high, if in pots singly; or they can be grown on without stopping, especially if five or six are in a pot, in which case, by Christmas, you will have no mean specimen. There can be no doubt the less stopping they get the better the results. I enclose a spray that had no stopping. [It was nearly 2 ft. long, and covered with clusters of flowers throughout its length. The leaves were large and of a rich dark green.—Ed.] After potting, the plants must be kept in a growing atmosphere of 60° to 70° keeping them well up to the glass, using great care that no more water is given than for the well-being of the plants.

head. In these dull months, from November to February, both last much longer if placed in a house that stands about 60° during the day, falling to 50° during cold nights.

Mealy bug can generally be found on *E. pulcherrima*. If any is in the house, they seem particularly fond of getting among the bracts, so, much pains must be taken to clean the plants of this enemy in all its stages. Good culture will grow heads from 12 in. to 15 in. across, having a most telling effect about Christmas. Various plans are adopted when these are used as cut flowers to allay the bleeding, by burning the ends, placing in hot water, as well as cold, and in sand; but I find when treated either way, they soon, more or less, hang their heads, especially if growing in much heat at the time of cutting.—Grower.

(To be continued.)

Large v. Small Potatoes as Seed.—At the Canadian Agricultural College, Guelph, Ontario, experiments have been carried on for some time to test the relative merits of large, medium-sized or small Potatoes. The trials were carried on over a period of four years. In the result we read that without exception the large Potatoes produced the greatest yield of tubers. More than this, it was found that the decrease in the size of Potatoes produced corresponding decrease in the yield. The percentage of marketable tubers from the large seed Potatoes was also much in advance of any of the others.

PRIMULAS AT READING.

ONE of the brightest amenities of gardening is that certain flowers can be produced in perfection during the duller months of the year by the aid of glass at a time when the beds and borders of the outdoor garden are bare, and at their bleakest stage. The alternate freezing and thawing, heavy rains and cold winds, have made the hardy subjects much later than we have frequently seen them. The contrast between the winter garden and the summer garden is, therefore, all the more pronounced at the present. About the middle of last week we inspected the Chinese Primulas of Messrs. Sutton & Sons, in the Portland Road Nurseries, Reading; and under the influence of bright sunshine they looked very gay indeed in their wealth of colours, ranging from the purest white to the most intense crimson, thus amply testifying to the skill and industry of the cross-breeder during many generations of the species since it was first introduced from China.

Between 6,000 and 7,000 plants are grown, occupying twelve houses, or twenty if one counts the separate divisions. One house of three divisions would contain about 1,000 plants, all in 48-size pots, which are the most suitable for the production of seed, because when the first truss, with its large and handsome flowers, is in perfection, the camel-hair bush is soon at work, after which any further flowers would be smaller, but not wanted, as one truss of seed is sufficient for a plant to bring to perfection. For purely decorative purposes the gardener would put them into larger pots, in order to get larger plants, which, not being fertilised, go on producing fresh flowers for many weeks or months in succession.

SINGLE VARIETIES.

The Star Primulas were the first to arrest the eye when peering through the glass. Sutton's Star Primula is grown in five or more very distinct varieties, the finest and most attractive being the original White, having dark red leaf and flower stalks, with bronzy green foliage, and pure white starry flowers borne in graceful, pyramidal masses, standing clear above the foliage. Half a division of a house is devoted to this one alone, which is not surprising considering its distinctiveness and effectiveness for conservatory decoration. Another white variety occupies a similar amount of space, and is characterised by lighter stems and foliage, and larger flowers, slightly later in coming into bloom. The Pink Star Primula has rich rosy flowers, and is equally as floriferous as the first named white variety.

The Fern-leaved Star Primula is grown in quantity, and has white flowers surmounting dark stems and foliage. It is a distinct acquisition to the race. The Lilac Star Primula is a plain-leaved variety, characterised by the colour of the flowers.

Before proceeding further we may here mention the six new varieties which made their appearance at the Drill Hall, Westminster, on the 9th inst., and to which an Award of Merit was accorded for the strain. The most distinct break that has occurred amongst Chinese Primulas for many years past, is that named The Duchess, the flowers of which are silvery-white, with a broad rosy-purple zone round the eye. Crimson King is the darkest of all, being of an intense crimson with a blackish-maroon zone round the eye. Others are Maud, intense blue; The Sirdar, carmine, with a white lacing to the segments of the flower; and Lord Roberts, rich salmon-scarlet. General French is the double counterpart of Crimson King, and both are grown in considerable quantity. The rest are yet scarce, and cannot be put into commerce until they have been increased.

Many novelties are yet on trial, and some of them are sure to meet with favour when they have become permanently fixed, for crossing assuredly gives plentiful variation, but the resultant colours are unstable for a year or two until certain elements have become eliminated. Many of them have the dark zone of Crimson King, others are dark scarlet, orange-scarlet, dark heliotrope, and more or less distinctly zoned, or Auricula-eyed, as some would say. Sutton's Cambridge Blue is a novelty being put into commerce for the first time. The flowers, which are of great size, are light blue, as the name is intended to indicate.

Crimson King is notable for the rich, velvety-crimson colour of its flowers, and the fact that they are already of the deepest hue on their first expansion. It is grown in quantity, and very telling in bright light. Crimson King, Fern-leaved, is already a reality,

and a handsome variety it is, with intense crimson flowers, and a black zone round the eye. It is of fine close habit, but not yet in great quantity. There is half a houseful of Sutton's Reading Blue, producing a rich display of large and showy flowers. Very handsome also is Sutton's Blue, Fern-leaved, which already carries one to three large trusses, and massive flowers. The plants are all of even habit, and perfectly true to the strain. Brilliant Rose is properly so named, and the habit of the plants could not be more even and regular if they had been shorn down to one height. The variety is one of the finest of its colour, and a standard, reliable sort.

The earliest of all to flower is Snowdrift, which maintains its snowy purity from first to last. There is a profusion of flowers at present, on massive trusses, and they will keep on developing for some time to come. The soft silvery-pink of Reading Pink is in perfect accord with the light green petioles and flower scapes. Rosy Queen is several shades darker, and a fine variety to boot, with large flowers and light green Fern-foliage. No more striking contrast could be met with than the snow-white flowers of Gipsy Queen, surmounting the bronzy, metallic-looking, Fern-leaved foliage. The latter but serves to bring out the purity of the flowers. The white flowers of Reading Pearl assume a pearly tint with age. It is a standard variety, but the growth is of greater vigour than formerly. Another grand variety is Royal White, which differs from the former by having pure white flowers, but dark petioles and stems, which show up the purity of the blossom to the best advantage. Brilliant Ruby is the dwarfest and most compact of all the varieties grown, and might well be used as a parent in cross-breeding to counteract the tendency to over-luxuriance, and a straggling habit, if ever that should become necessary. Alba magnifica has wavy or crisped white flowers, and light green foliage of a similarly crisped pattern.

GIANT PRIMULAS.

Several fine varieties of these already exist, all notable for the great size of their flowers, but the greater effort necessary for their development would seem to account for their being ten days or a fortnight later than the ordinary types. This is an advantage rather than otherwise, for they serve to prolong the season considerably, not with smaller, but larger flowers than those which first decorate the benches.

The finest of all the race is Sutton's Giant White, a bloom of which makes a good-sized watch look small. The white is very pure, and the substance excellent. Others of this type are Giant Crimson, Giant Scarlet, Giant Pink, Giant Terra Cotta, and Giant Salmon Queen, the colours of which are well indicated by the respective names. The last-mentioned is a fine one, but only yet in small quantity. Terra Cotta is a novelty for 1900, and the large flowers might be described as terra cotta with a good dash of salmon in it.

DOUBLE VARIETIES.

This section might best be described as semi-double, for the organs are perfect, and all of them are regularly and best raised from seed, the seedlings coming true to the parents. Moss Curled Lilac belongs to this type, but differs as much from the original Chinese Primula in its finely curled leaves, as do the Fern-leaved varieties. The flowers are now of handsome size and quite conspicuous. Moss Curled White is of the same habit, but might be preferred on account of the white flowers.

Double Pink is inclined to be darker in the centre than in the silvery-pink of the rest of the flower. It is early and now quite showy on account of its massive trusses of flowers. Double Carnation-flaked is white, mottled and flaked with purple. A new strain of it is characterised by much darker flowers, on account of the more numerous markings and more intense colour. No doubt many would give this one the preference, though it is a matter of taste. The flowers of both are now greatly increased in size compared with the original selections. Double Blue is, if anything, the darkest of all the blues in the collection, though the individual blooms may be excelled in size. Double White is large and very pure, and being a standard variety is grown in great quantity. The flowers are very useful for cut flower purposes, on account of their greater durability than those of the single varieties. General French, the new variety mentioned above, ought really to be

placed here. Improved Double Scarlet is several shades lighter in colour than General French, but otherwise is closely allied. The rich salmon flowers of Double Salmon are produced in great profusion, and being carried well above the foliage on stout stems, are both conspicuous and showy.

A house is devoted to a great number of varieties on trial, represented by something like 1,500 to 2,000 plants, all grown in small 60-sized pots to determine their colours, and whether true to name before the seeds are sent to customers. After this all are thrown away. The trials alone are thus responsible for a great amount of labour, time, and care.

PEA GRADUS.

I HAVE only just noticed in your issue of the 30th ult., page 285, a description of some "Dwarf Peas," by William Carmichael. He writes "Gradus is a straggling useless sort and ought never to have been sent out." I am afraid Mr. Carmichael's experience of this Pea, perhaps also of others, is extremely limited, or he would not have classed Gradus as a Dwarf Pea in conjunction with American Wonder or William Hurst.

It is not many weeks ago since a correspondent invited the opinion of one of your contemporaries as to the four best and earliest Peas in commerce; needless to say the answer included "Gradus."

If Mr. Carmichael professes to be a connoisseur in Peas, he will find that no Pea of recent introduction has had so many re-namings, to suit the variety and add to the profits of those who know the Pea to be of the highest repute, and are not ashamed of claiming it to be of their own introduction, and yet are incapable of raising anything in the shape of a novelty.

It is possible that the stock of Gradus Pea in question might not have been a good one, and I would suggest before Mr. Carmichael puts his condemnation upon any introduction in the vegetable kingdom in future he will apply to the actual raiser or introducer for a supply and then give his verdict.

Compared with American Wonder, William Hurst, or Daisy, Gradus is taller in growth, but it is a heavier cropper, as early as the two former, much earlier than Daisy, while as regards size and fulness of pods, they are not in it. The trade cannot keep pace with the demand.

During an experience extending over many years I have never heard or seen so sweeping an assertion with so little justification.—*John Harrison, Leicester, 18th January, 1900.*

CULTIVATION OF CARROTS.

RE Walter Grant's article in last week's GARDENING WORLD, page 331, I would say with him that for market crops the method of preparing ground for Carrots as described by me at page 300, is too expensive. Being so, if a market man finds that his land is unsuitable for their growth, then he simply substitutes a more adaptable crop. Private gardeners, on the other hand, have to produce all sorts of crops, especially supplies of Carrots and Onions. With a fairly extended experience of land in the neighbourhood of Edinburgh, I know that unless ample and thoughtful preparations had been made with the Carrot and Onion ground in two cases we should have been in the predicament of some of our neighbours. The soil in a garden, some miles to the south of Edinburgh, was heavy, and though much labour was expended, we could never make a decently suitable Carrot bed. In the northern suburbs of the same city, the soil is more or less sandy and it was an easier matter to add enriching matter, and so constitute a firm and a rich area. I do not think I ever recommended vegetable mould for light soils or as a land dressing at any time. I do not like it. Rather would I burn it and use the residue. It has been found too often to be the means of establishing insects, grubs and eggs in the land, and this even with lime spread in layers and scattered through the mould heap in turning it. What has Walter Grant or other readers to say about the practice of sowing Onion and Carrot seeds together as a preventative of insect attack? I have not quite seen the force of the law myself, therefore do not practice it. But those who follow the rule say the odour of the Onions saves the Carrots from infestation.—*L. A. W.*

THE GORSE DEBATE.

PERHAPS I ought not to enter the battlefield situated in such a favourable climate as I am, but as war just now is on the brain of most of us, and all eager to take up arms against the enemy if called upon to do so, you must pardon me, "Sigma," if I have a sniping shot, though without malice. If tradition is any guide in this case, round about here the Furze or Gorse is in flower eight months out of the twelve, and that is each month that has an "r" in it, thus May, June, July, and August are devoid of its golden flowers; but I think it might be safely said, in the genial county of Devon, at any rate, that we are never without its golden banks, especially on Woodbury Common, one and a half miles from where I write, where miles of Gorse and Heather are to be seen, and no mean sight either, when both are in flower, the colours blending harmoniously. There is still another old saying in this county, and probably many others, that "when Gorse is out of flower, Kissing is out of fashion." In that case let one and all hope that the Furze may always have the name *perpetual* given it as regards its flowering propensities.—*J. Mayne, Bickton.*

BUCCLEUCH NURSERIES, HAWICK.

HAPPY is that place and those hardy flowers where it always rains when other districts are being dried up and wasted by a long-continued drought like those of the past two summers. That may be an opinion according to the standpoint of the flowers and gardens, but when the writer visited the collections of hardy and florists' flowers of Mr. John Forbes, Buccleuch Nurseries, Hawick, N.B., last autumn, the heavy pelting showers compelled him to retreat on more than one occasion into the glasshouses. The time was by no means misspent, however, for there were several items of interest to be noted.

PHLOXES.

There was a trial of the new and recent Phloxes in pots, and even in September a great many of them were distinctly fragrant. This is readily discernible by those who care to visit a bed of Phloxes soon after sundown, and the dew is just commencing to fall after the close of the heat of the day. The variety *Coquelicot* is the newest and brightest of scarlets. *Etna* is also bright, but the flowers are smaller. The salmon-rose of *Le Siecle* is a very soft and pleasing colour, though it comes darker out of doors. *Fernand Cortez* is a rosy-carmine, with a paler centre. *Adonis* is rich orange-salmon. *Iris* is the best of the blues, being of a rich purple-blue. The deep lilac and the white eye of *Eugene Danzanvilliers* gives this a peculiar attraction. *Massillon* is a clear pink, with a carmine eye, the disposition of the colours thus differing from those of the previous one. The dwarf and pure white flowered *Albatre* makes this a valuable variety of no mean order. *Sesostriis*, amaranth-carmine, with a crimson eye, is a model flower borne in branching panicles. *Coeur de Lion* is rosy-purple, with a carmine eye, each bloom being larger than a penny-piece. The flowers of *Liberté* are orange-salmon, and the plant makes a fine bush, making the variety one of the best. *Fantome* is also the best of its class, the flowers being violet, with a white eye. The *Mahdi* is violet-blue and very popular, but is scarcely so fine as *Iris*. The blossom of *Papillon* is pure white.

Seedling Phloxes are here raised in some numbers, the finest of last year's seedlings being *Mrs. Forbes*, which is pure white when fully developed, without the usual trace of an eye. The plantations in the open air are, of course, extensive, but all had gone past their best.

PENTSTEMONS.

Whether raised from seedlings or cuttings, Pentstemons are essentially autumn flowers, and a brave display they always make in the rich soil of the lower part of the nursery, being, in fact, one of the leading features of the place. Large numbers of seedlings are raised annually, and the very best of them selected for trial the following year, after which those deserving it are honoured with a name. Twelve of the best were selected for trial during 1900. The best sorts of other raisers are also procured.

Amongst the newer, named varieties *Paul Cambon* was notable for its very large, rich purple flowers. Fine also are the scarlet flowers of *Earl of Annesley*, with a crimson throat. *Maurice Dunnnett* is rose, with a very wide, white throat. *Peter Read-*

man is pink, with a white throat, and *Alfred Raimhaud* is carmine, with a wide, open, white throat. A dark and handsome variety is *Antoine Mercier*, being rich crimson-red. The crimson-red of *President Carnot* is also very fine, the wide open, funnel-shaped flower being white in the throat. One of the richest of the scarlets is *Jean Mace*. *Froelich* and *James Robertson* are also good things, the latter being white, and tinted with pink on the upper lobes of the flower. Very handsome is *Paul Verlain*, being rose, with a brilliant crimson blotch in the mouth. *G. Bush* is a seedling of 1893, and was just named in compliment to the superintendent of Brockwell Park, London. The huge scarlet flower is better than *Jean Mace*. *Mrs. Oliver*, to be sent out this year, is a rosy-scarlet, with a crimson throat. All the above are practically new, but older varieties are grown in quantity.

CACTUS DAHLIAS.

The beauty and utility of these cannot be ignored for garden decoration, and are well represented here. The brilliant scarlet, incurved petals of *Captain Broad* are very handsome. *Countess of Lonsdale* is one of the prettiest orange-scarlet sorts, making a pleasing contrast to the blackish-maroon flowers of *ebony*. *Ranji* is even darker than the latter, but is not so well up in the centre. What a contrast is also to be seen between the glowing crimson-scarlet of *Firebrand* and the soft fawn of *Lady E. Talbot*. The large blooms of *Wallace* are bright amber, tinted with soft red on the back of the petals. The soft brick-red of the *Clown* is pleasingly diversified by the white tips. The long, pointed, orange-scarlet florets of *Radance* are almost needle-like in their graceful slenderness. *Viscountess Sherbrooke* is of dwarf habit, with rich orange petals. Older Cactus Dahlias include *Keyne's White*, the best of that colour. *Laverstock Beauty* is orange, and *Lenora* is pink, shaded with rose, and white in the centre during its earlier stages.

Other sections are represented by the best of the old and new varieties of show, fancy, pompon, and single Dahlias. But to what section *Grand Duke Alexis* belongs it would be difficult to say, unless it is a decorative sort of fanciful formation. The blooms are white, and each floret is rolled up at the edges or fluted.

SUNDRY FLORISTS' FLOWERS.

Tall, perennial *Lobelias*, chiefly hybrids, are grown in considerable quantity, there being something like 6,000 to 10,000 in stock pots. Most of them are select named varieties. One of the most distinct and showiest is *Carmine Gem*, with purple foliage and rosy-carmine flowers. Distinction is pink, with purple foliage. *Lord Ardilaun* is brilliant scarlet, with green leaves. On the other hand the green foliage of *Fulgens violacea* is accompanied with violet flowers. The brilliant fiery-scarlet flowers and bronzy foliage of *Firefly* make this a very choice sort, very effective for hedging. *Lobelia syphilitica*, with blue, and *L. s. alba*, with white flowers, are quite of a different type from the above.

Gaillardia seedlings are raised in considerable quantity.

Of hybrid Pinks, *Dianthus Napoleon III.* succeeds in the cool climate of the North better than where a drier atmosphere prevails. It is also the best of its class, and flowered all the summer and autumn here. *Delphinium Primrose* is so named from its colour. *D. Beauty of Langport* is a creamy-white variety, and by no means common. *Antirrhinum* seedlings are grown in some quantity in self, striped and mottled colours, the flowers being selected for size, form, and colour.

Tanacetum Herderi is a border plant, and quite notable amongst the Tansies in having twice or thrice divided, silvery-gray foliage, that might be turned to good account in bedding arrangements. The plant is quite dwarf.

Pansies and Violas have for many years been extensively cultivated here. *Viola Sir Robert Pullar* is a large, handsome, and rich blue sort, with slender rays. The leaves are large, and the habit of the plant vigorous, while flowers, at the time of my visit, were in great profusion. *Blue Gown* has much paler blue flowers, but very sparingly produced at that time. The best yellows grown here are *Mary Gilbert*, *Bullion*, *Lord Elcho*, *Pembroke*, and *A. J. Rowberry*, each having its own recommendations. The bronzy colour and wallflower edge of *Joseph* make the variety both pretty and distinct. A break

with an area of 100 ft. by 60 ft. was occupied with about 12,000 plants of *Fancy Pansies*. The seedlings are of a very good strain, and though planted out at the end of May they were still flowering profusely. The old plants, in choice named varieties, were also flowering splendidly.

East Lothian Stocks have been a speciality at Hawick since 1870. They were a mass of blossom at the time of my visit, the colours being crimson, scarlet, purple, white, rose, crimson, Wallflower-leaved, and white Wallflower-leaved. Amateurs do not like single varieties in their beds, but the difficulty here is to get enough of them for the production of seed.

Fuchsia Dunrobin Bedder produces a profusion of scarlet and violet flowers, and the plant being only 9 in. to 12 in. high, it is admirably adapted for bedding purposes. *Pelargonium Black Vesuvius* is notable for its dwarf habit, black-zoned leaves, and relatively large scarlet flowers. *Lonicera pyrenaica*, planted on a rockery, recently flowered here. A good collection of the Scotch Rose, in different varieties, is also kept in stock. An uncommon sight in its way was a very large bed of seedlings of the *Purple Beech*, only one season from the seed, and forming plants 9 in. to 12 in. high. Many richly coloured forms could be picked out of this bed of many thousands of seedlings.

(To be continued.)

SWEET PEA BICENTENARY CELEBRATION.

THE first general committee meeting in connection with the Bicentenary Celebration of the Sweet Pea was held, by kind permission, in the Horticultural Club Room, Hotel Windsor, on Friday, January 19th, when Mr. George Gordon, V.M.H., presided over a very representative gathering.

Business being the purpose of the meeting no time was lost in speechifying. The chairman briefly alluded to the desire expressed in 1899 by leading amateurs, nurserymen, seedsmen, and market growers, that a comprehensive exhibition of Sweet Peas should be held during 1900, together with a conference, one duty of which should be the classification and selection of varieties. This desire led to a meeting in Edinburgh in September last, when Mr. Gordon (chairman), Mr. H. J. Jones, and Mr. R. Dean (secretary) were elected as a preliminary committee to draw up a scheme for the celebration and submit it as early as possible to the general committee. After this brief and formal statement, the chairman requested the secretary, Mr. R. Dean, V.M.H., to read the letters received from the Crystal Palace Company and the Royal Aquarium Company. The former offered to accommodate the exhibition, provide the necessary conveniences for a conference meeting, and subscribe £20 to the prize fund; this being the best offer, it was agreed, on the proposal of Messrs. H. A. Needs and H. J. Wright, that the Bicentenary Celebration be held at the Crystal Palace, Sydenham, on July 13th and 14th, 1900, or as near those dates as could be conveniently arranged without clashing with other exhibitions.

Having settled the place and date of celebration as far as possible, the next point for discussion was the schedule of prizes, of which a preliminary draft had previously been communicated to the vice-president and committee. Before the discussion of classes and prizes a list of subscriptions received and promised, up to date, was submitted by the secretary, amounting to nearly £90. As the whole of the subscriptions received were unsolicited, the committee felt that the success of the undertaking was practically assured, believing that those interested in the most beautiful, useful, and fragrant of annual flowers, the Sweet Pea, would not fail to show their practical sympathy with the committee's efforts as soon as affairs had received definite form. The schedule is a comprehensive one of twenty-eight classes, each with four, and some with five prizes, offered on a most liberal scale. Class by class the schedule was discussed, and numerous minor alterations made. Nineteen open classes are provided for cut blooms, all to be shown in vases, these including classes for forty-eight, thirty-six, and eighteen bunches, and thirteen classes for one bunch of a specified colour or colours. Four classes are limited to amateurs employing either one or no regular gardener; and then there is a division, open to all, con-

sisting of five classes instituted for the purpose of demonstrating the value of Sweet Peas in all forms of decoration known to the florist's art. The total amount offered in prizes in the preliminary schedule exceeds £90, and this comparatively large sum should ensure a display of the most beautiful and instructive character.

Special prizes are invited, but they must, in accordance with the resolution passed at the Edinburgh meeting, be free from any trade conditions. Already several firms have intimated their intention of providing the prizes in certain classes, and at this meeting it was decided to accept Mr. Henry Eckford's generous offer of £15, the sum offered in class one for forty-eight bunches of Sweet Peas in not less than thirty-six varieties, an offer made by the Wem veteran to commemorate the fact that this is the twenty-first year of his work in selecting and cross-fertilising Sweet Peas. Mr. H. J. Jones' offer to supply the prizes in class twenty-five, for an epergne of Sweet Peas, £2 17s.; and Mr. R. Sydenham's offer to supply the prizes in two of the amateur classes, amounting to upwards of £5, were accepted and acknowledged. With reference to the rules and regulations for competitors it is worth while noting that from subscribers of 10s. 6d. and upwards no entrance fees will be demanded, but non-subscribers must pay an entrance fee of 5s. to entitle them to compete in any six classes (subject to divisional schedule regulations), but a further entrance fee of 5s. must be paid if this number is exceeded.

Conference proceedings, subscribers' tickets, publication of report, and other matters were referred to, but reserved for final discussion and settlement at the committee meeting to be held on Friday, February 23, by which date the complete schedule, regulations, &c., &c., will be ready for acceptance and immediate publication.

Meanwhile the committee desires the sympathy and financial assistance of all horticulturists, so that the forthcoming celebration may be made the unqualified success its interest and importance demands. Any surplus funds remaining after the payment of prizes and necessary expenses will be given to the gardening charities.

Further particulars can be obtained from the Hon. Secretary, Mr. R. Dean, V.M.H., Ranelagh Road, Ealing.

CUT FLOWERS.

To keep up a supply of these, from Christmas till April, when bulbs have chiefly to be relied upon, is a matter of some consideration. Undoubtedly the greatest strain is felt between the Roman Hyacinths going off and the large flowering varieties coming in. But if a good selection is made from a reliable source, some of the later sorts force more readily than is supposed. They include such as Lady Clinton, La Grandesse, White General Pelissier, Baron Von Tuyl (red), Grand Maître, Marie (blue), Charles Dickens (blush with pink stripes), and Ida (yellow). The latter colour no doubt is the most difficult to obtain; therefore Daffodils will mostly have to be relied upon. In my opinion the best of the doubles is the old Van Sion for forcing, as two or three flowers can mostly be relied upon from one bulb. In singles I must vote for Princess.

White of course will be kept up for a long period with Narcissus Paper White, and Lily of the Valley. Those of the latter that are forced now will have better spikes than those forced earlier. When putting the latter into heat a good plan is to cover the crowns with damp moss; it helps to plump up the crowns, assisting them to burst more readily. For pink the beautiful Begonia Gloire de Lorraine has and is still playing a great part where it can be well grown. To succeed this, *Dielytra spectabilis* might now be brought on. Red I have not mentioned; but a visit to Covent Garden, or even from the hawker at this time of the year will furnish a lesson concerning this.—*W. Waite, Butterknowle, South-fields.*

PRUNING.

YOUR correspondent, J. H. D., in his notes on the "Hardy Fruit Garden," January 11th, p. 311, gives some very useful hints on the training of young trees, but, as I think, omitted one important point in connection therewith, viz., pruning. Now I am sure, judging from my own experience in the matter when

a young man, that a great many are given a knife and sent out to prune without any thought being given as to whether they know anything about the work or not, with the result that they go round a tree or bush "like a cooper round a barrel." There are one or two points that ought to be kept clearly in mind when one goes to prune, and the first I think is caution. Take a look at the tree or bush before you put the knife to it—if you take out a shoot you cannot put it back again. Having settled what is required to be done, go to work with a will, and as a general rule finish shortening in the terminal shoots in bush or standard trees by leaving the bud nearest the point looking outward. A little observation will show anyone the sense of this point. Keep all trees, &c., free and open, and then there will be no necessity for the carving away of so much fruit-bearing wood as used to obtain formerly. In training trees on walls, and especially with Plums, take great care not to lay in too long shoots, as one may be tempted to do on account of the great growths they usually make, the outcome I am strongly inclined to believe being long blind leaders which become useless. In nailing in young wood, those engaged on such work should make it a point to place the first nail on the inside of the shoot, or in such a way that it will draw it in to the branch from which it springs, otherwise you are apt to split it away from the parent branch. It would entail a too lengthy article to go fully into every point in connection with pruning and nailing, but the above hints with a little consideration will suggest to any practical person what ought to be done.—*Wm. Richards, Rosehall, Midlothian.*

THE HISTORY OF GARDENS.

(Concluded from p. 330.)

WE wound up last week's report of Mr. Sieveking's lecture by a reference to the Elizabethan gardens. We may now step across to France and view her gardens of a slightly later period. In doing so we cope with one of the very greatest names in gardening, that of André Le Notre, who planned the famous garden at Versailles. Despite his endeavours to keep down expenses in the planning of these magnificent gardens, they yet cost £8,000,000 to complete. On one occasion the fountains cost £3,000 to set going for one half hour! Le Notre was educated as an architect. But the Versailles gardens of to-day are not the great creations they originally were. The original design has been entirely altered by well-meaning "reformers." The old-time gardens were necessarily architectural, and contained open air drawing-rooms and dining-rooms. They were very fond of giving theatrical names to the various portions of their gardens, such as Théâtres d'Eau for fountains; Salons and Salles de Bal for groves, &c., a symmetry, not for solitude.

A representation of the gardens was shown by means of the lantern. The lantern illustration but proved the description previously given, that the gardens were areas of architectural magnificence rather than gardens in the strict sense. Everything was laid out on the square, or in long parallel lines. Alleys opened off in fan-shape from "curtains" of trained trees forming long perspectives bordered with Yews. At the end of the alleys were statues of Jupiter, Mars, and Pluto, and fountains of extraordinarily massive dimensions and designs were centred everywhere. Alleys, consisting of groups of children in bronze, carrying vases, and from which water fell into marble basins, were other features.

Toward the eighteenth century the English ideas of gardening began to pervade the gay *Français*, and it was at that time that the great Versailles gardens were stripped of so much of their glory. Before leaving Versailles, one further distinctive feature should be mentioned. This was the *Salie de Bal* or Dance Room, though it was not really a room. It took the form of an arena, around which arose circular tiers of seats. Audiences rested on these circumambient, terrace-like seated positions, and witnessed the performances in the centre. The design of the Versailles gardens "was the supreme formula of a complete art, and the expression at its highest power of a civilisation arrived at its full expansion." Le Notre is said to have had a hand in designing St. James' Park, London. While Le Notre's creations were being spread throughout all the Continent of Europe, John Reid, gardener to Sir George Mackenzie, was advocating another and

thrifter style of gardening in his book "The Scots Gardener." His plans for a pleasure garden were quite on a likeness with many of ours of the present time.

The Dutch style of gardens, almost akin to the French, was introduced to England by William III. and Mary. In detail the Dutch style is, or was, too minute, however, and was altogether on a smaller scale than that of the elaborate French. Slopes, mounds, and canals are the leading characteristics of the Dutch gardens. Hampton Court was mentioned as the finest sample in England of the Dutch style. A splendid illustration of Hampton Court gardens, as they appeared in their original form during Queen Anne's reign, was shown at this juncture. Queen Anne rooted up many of the Box plants in these gardens, because she disliked the smell. The architects, or rather designers, of the Hampton Court Gardens were Beaumont, one of Le Notre's pupils, and the English landscapists, London and Wise. The latter two combined the best features of the French and Dutch styles. Kent had a hand in modifying some of its parts at a later period.

Sir William Temple, of Moor Park, Farnham, wrote a book in which he gives what he considers the most perfect position for a garden. It should be on the slope of a hill, with two terraces, one above the other and reached by a flight of steps. Stowe, in Buckingham, was also portrayed. This was laid out about 1714 by Bridgman who was one of the earliest to adopt "gentle disorder in the planting of his shrubberies." Then Mr. Sieveking gave a notice to the poet Pope, referring to him as undoubtedly one of the pioneers of the modern garden. Pope derided the absurdities of the cut-box system and of verdant sculpture, writing an epistle to Lord Burlington on the "Aesthetics of Gardening" and demonstrating by practical example his own views in his villa garden at Twickenham. The Hextable audience had the privilege of seeing Pope's garden from a plan left by John Serle, his gardener, in 1744, a garden of five acres, and which did so much toward the advancement of modern garden designing. Mounts, vineyards, obelisks, orangeries, &c. were all to be seen there, and magnificent grottos, the features of the garden.

The reaction which now set in, favouring the natural style of garden design, was largely due to letters from Jesuit fathers who wrote describing the Chinese Emperor's gardens at Peking. The Chinese trace back their gardens to a period 2600 B.C. Artificiality was certainly the rule, yet it was a natural-looking artificiality. Hills of from 20 ft. to 60 ft. high, with rough, rocky delis, valleys, plains, &c., were contrived, and lakes, pleasure-houses and so on were introduced in the composition. An interesting citation as to how Kew Gardens came to have their Chinese pagodas, was that which awarded the honour to Sir William Chambers, the king's architect, who was afterwards appointed to their superintendence. While a boy he had lived in China, thus the idea.

One writer on gardens about the middle of last century argued that all gardens should be so designed that their parts inspired all the different emotions of the human heart. A garden was even planned on this principle, somewhere in Shropshire. It contained Vines, Weeping Willows, urns, trophies, garlands, columns and mottos and inscriptions which sought to "raise emotions" befitting the character of the ground, whether grand, savage, melancholy, beautiful or horrid.

Kent was the originator of modern park scenery. Bridgman, by inventing the "Ha Ha" or sunk fence, succeeded in uniting park and garden. Kent went too far, however. He followed Nature in her ugly, as well as finer aspects. In Kensington Gardens he went so far as to plant dead trees! Esher, which was shown, is one of Kent's productions. Blenheim was another of his successes. Brown's idea of design was that of spaciousness, converting old English gardens into ample, flowing parks. Toward the end of last century when English gardens (*Jardins Anglais*) were being laid out in France, the French landscapists had the assistance of one Thomas Blaikie, a Scotsman, who did good service in some of their chief gardens. A number of illustrations of famous gardens were shown and referred to in succession, but Mr. Sieveking had to curtail what was already a long lecture. Votes of thanks were passed to him and the chairman, on the motion of the Principal of the Swanley Horticultural College. The meeting thereupon dispersed.—*Harrison, D.*

SOCIETIES.

ROYAL HORTICULTURAL.—23rd January.

THE meeting on Tuesday last was not a very large one, the finer features consisting of Orchids, Chinese Primulas, Cyclamens, Ferns, and various small lots of new or interesting subjects.

Messrs. J. Veitch & Sons, Ltd., Chelsea, had a varied and beautiful exhibit of Orchids, set up with Selaginellas and Maidenhair Ferns. Very choice were *Cypripedium Hera Euryades*, *C. Euryades* (reverse crosses of *villosum* Boxalli and *C. leeanum*), *C. Pharos*, *C. Leonidas*, *C. carnusianum* (Veitch's var.), *C. Minos*, *C. Nlobe*, and many others of that genus. *Dendrobium atrovioleaceum*, *D. endocharis*, *D. Cassiope*, *D. findlayanum*, *D. euosmum leucopterygum*, and *D. Dulce*, were all in fine form and freely bloomed.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, exhibited a small group of well flowered and cheerful looking Orchids. *Dendrobium burfordiense*, *D. Cordelia*, *D. melanodiscus* var. *Rainbow*, and *Cypripedium Sallieri hyeanum*, were simply masses of bloom. A lovely variety is *Cyp. leeanum albertianum*, the markings being heavy and rich. *Calanthe Regneri hololeuca*, *Tainia penangiana*, *Maxillaria arachnites* and *M. leptosepala* were other interesting plants in the exhibit.

Messrs. F. Sander & Co., St. Albans, exhibited a small group of *Dendrobium atrovioleaceum* in small pots plunged in a large one. The flowers showed considerable variety. They also had *D. Madonae*. De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, had several beautiful varieties of *Odontoglossum Rossii majus*, including the varieties O.R. m. Mrs. de B. Crawshay, and O.R. m. Mr. Lionell Crawshay. G. F. Moore, Esq. (gardener, Mr. Morris), Bourton-on-water, Gloucester, staged the beautiful *Cattleya percivaliana* Chardwar var., *Cypripedium Beckmanni*, and *C. mooreanum*.

Messrs Stanley Mobbs & Ashton, Southgate, London, N., exhibited the rare *Cattleya ludemanniana* Abnor Hassall. Sir Wm. S. Marriott, Bart., The Down House, Blandford, staged *Odontoglossum crispum castum*, a white variety. *Cypripedium nitens* Hesse var. (*C. villosum* × *C. insigne* Maulei), and *C. Hera Adrastus* were well shown by W. G. Burkinshaw, Esq., West Hill, Hesse, Hull.

Messrs. J. Veitch & Sons, Ltd., exhibited a small group of new hybrids, including *Phaiocalanthe insperata*, *Cypripedium Actaeus langleyense*, *Laelia Mrs. M. Gratrix* var. *superba*, *Phalaenopsis Hymen*, and *Epidendrum Wallisio-ciliare superbum*, all handsome acquisitions. Norman C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oakwood, Wylam-on-Tyne, exhibited a beautiful hybrid named *Cypripedium sanderiano-Curtisii*.

Messrs. Hugh Low & Co., Clapton, exhibited the beautiful *Phalaenopsis intermedia brymeriana*, two plants of *Cymbidium traceyanum*, *Dendrobium vannerianum*, and the handsome seedling *Phalaenopsis schilleriano-stuartiana*. Baron Schroder, The Dell, Egham (gardener, Mr. H. Ballantine) exhibited a fine panicle of *Odontoglossum crispum schroderianum*.

Messrs. Charlesworth & Co., Heaton, Bradford, Yorks, exhibited several hybrids, including *Laelio-cattleya Charlesworthii*, *Lc. Sunray*, *Lc. Cappei*, and *Cypripedium cowleyanum magnificum*. J. T. Bennett Poe, Esq. (gardener, Mr. J. Downes), Holmwood, Cheshunt, received a Cultural Commendation for *Laelia anceps sanderiana*. R. G. Thwaites, Esq., 23, Christchurch Road, Streatham, staged *Dendrobium Galatea*.

A Silver Gilt Flora Medal was awarded to Sir F. Wigan, Bart. (grower, Mr. W. H. Young, Clare Lawn, East Sheen), for a magnificent collection of cut flowers of *Phalaenopsis* in long panicles set up with a few other Orchids, Ferns and Palms. Amongst them were *P. grandiflora*, *P. schilleriana*, *P. s. Vestalis*, &c. Highly interesting also were *Vanda lamellata* and *Aerides vandarum*.

Lord Rothchild (gardener, Mr. E. Hill), Tring Park, Tring, exhibited *Odontoglossum crispum*, with a spike 3 ft. long, bearing three branches, and carrying thirty-seven flowers. The plant has been in the Tring Park collection for seventeen years.

Messrs. Hill & Son, Barrowfield Nurseries, Lower Edmonton, once again graced the Drill Hall with a very representative collection of gold and silver

Ferns, Lycopodiums, &c. The *Cyathea insignis* as a centrepiece, *Asplenium caudatum*, *Davallia dissecta*, a very well grown and pretty basket species, *Pteris straminea*, harder and darker green than *P. tremula* were subjects for every garden. *Lastrea patens* was also seen in much freshness, and *Polypodium irioides*, a narrow-leaved variety. *Gymnogramme schizophylla gloriosa* adds another capital subject to the list, and to conclude with a taller growing and hardier Fern one may mention *Polypodium Phymatodes* (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, have fulfilled the predictions made by us when they showed at the December meetings, which was to the effect that given more time the Enfield Cyclamens would be capital samples of culture. The strain is well known as of very superior merit and when seen in the mass, good plants each of them, the effect was very fine. The Bush Hill Pioneer feathered white and red Cyclamens and varieties of the Papilio type, especially those where a Picotee edge is developing, are the acme of floral beauty. (Silver Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, set up a very choice group of Chinese Primulas. Among the plants of this collection the central group representing a new break, the result of a cross between The Lady, the graceful long-stalked variety, and White Perfection, a large flowered Chinese white. The cross has been exceptionally successful, for the larger flowers of the dwarf variety are now borne on the lengthened dark brown petioles got from the other parent. This latter break has been called Kentish Queen. Mrs. H. Cannell represents another distinct kind on which the edges of the corollas are smooth and even instead of wavy as in the type. The plants were very fine and represented good colours ranging over a wide selection. (Silver Flora Medal.)

Messrs. Sutton & Sons, Reading, showed a capital four boxes of their Winter Beauty Tomato. Enough has been said of this in the past, and further comment than that it is the best winter fruiting variety we have, need not be given.

Galanthus Elwesii var. *Whittallii* was shown by Messrs. Barr & Sons, of Covent Garden, W.C. It is one of the finest and most distinct types of early flowering Snowdrop we have. Their very sweet-scented bowls of free-flowering Sacred Lilies were much admired.

Messrs. J. Veitch & Sons, Ltd., Chelsea, again were evident in the old position at the north end of the hall, showing a fresh supplement of their incessantly flowering *Javanico-jasminiflorum* *Rhododendrons*. They also showed what was more or less a novelty to the visitors, a number of plants of the Witch Hazel, *Hamamelis arborea* which bears yellow flowers of a fringe-like appearance on its bare brown stems. This is a very handsome Japan shrub which attains the dimensions of a small tree and is more suitable for general planting than the American species.

OBITUARY.

MR. JOHN FRASER, V.M.H.

IT is with great regret that we announce the death of this veteran, well-known and much respected horticulturist, of the Woodford Nurseries, South Woodford, Essex, on Saturday last (the 20th inst.), at the age of 73. He was the oldest member of the Royal Horticultural Society, and feeling reference was made to his decease at the meeting of the committees of the society on Tuesday last. He had been a member of the Floral Committee for many years, and the chairman of that body (Mr. William Marshall) and Mr. George Paul spoke in terms of great respect to his memory, and in high praise of the invaluable aid he had for many a year and day rendered the society by his presence at the committee table; and of the high estimation in which his advice was always held and respected, when given concerning the merits and horticultural value of the new and other plants brought forward for certificates, as well as when adjudicating upon the groups put up at the meetings and shows of the society. A resolution was proposed and carried unanimously that his colleagues on the committee convey their sincere condolences to the family of the deceased for their irreparable loss.

Mr. Fraser was one of the two vice-chairmen of the Floral Committee, as well as a Fellow of the Royal Horticultural Society. For many years after

the founding of the Royal Gardeners' Orphan Fund, he was one of its auditors, and always carried out his duties most conscientiously.

For more than a generation he has been known over the length and breadth of the land as a most successful cultivator of special classes of plants such as Heaths, New Holland plants generally, Roses, and fruit trees. His name in times past was associated with Lea Bridge, where his nurseries were then situated. Laterly, he moved his nurseries to South Woodford, where he devoted the ground chiefly to the rearing and cultivation of fruit trees and Roses, owing to the changes of the times and the much smaller demand for hard-wooded subjects, which have largely gone out of fashion.

He leaves a son, who, we presume, will carry on the business. The funeral took place at Leyton Parish Church on Wednesday, at 3.30 p.m., as we went to press. The Royal Horticultural Society was represented at the funeral obsequies.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. J. Mayne, Bicton, for "Propagation by the Aid of Water." A correspondent writes to tell us this is also his decision.

Competitors, please kindly read the first paragraph of this notice again, particularly—"The articles in question should not exceed 250 words." Six words less would not cause the loss of the prize to the best or most original or interesting article; whereas 251 words would be too many.—Ed. G. W.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargonium, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Caustic Soda and Fruit Trees.—J. Mac: The caustic soda washes are generally employed in company with some other ingredients. To destroy scale a mixture is made up of 18 lbs. resin, 5 lbs. caustic soda (70 per cent. strength), fish or whale oil 2½ pints, and sufficient water to make up 100 gallons. The quantity you would require would depend upon the size of the trees, and the fineness, or otherwise, of the rose or nozzle on the spraying machine. Those points would have to be ascertained by practice. You would, in all probability, require the 100 gallons, because in spraying the trees much would be unavoidably lost. If you desire to employ caustic soda alone use 5 lbs. of it in 100 gallons of water. The soda should be of the strength mentioned above. Should you decide to begin with 50 gallons of the insecticide, then only half of the soda would be necessary, and so on in proportion for any given smaller quantity. Should you use the soda, resin, and fish oil, the ingredients (if you get them in the solid state) must undergo a process of boiling for about an hour, so as to make them mix properly. This can be done in a small quantity of water, making up the necessary amount afterwards by gradually pouring in cold water and stirring all the time.

Names of Birds.—Omega: The Chaffinch is one of the finches, and is named *Fringilla caelebs*. The common or House Sparrow is generally known as *Passer domesticus*, but some ornithologists name it *Pyrgitta domestica*. The small bird you sent was the Common Creeper (*Certhia familiaris*). It is a perfectly harmless bird, its sole food consisting of insects, which it picks out of the cracks and crevices of trees, up the trunks of which it is continually climbing. Though fairly well distributed it is not very often observed on account of its habit of hiding behind the tree trunks so as to escape the observa-

tion of its enemies or supposed enemies. You should, therefore, carefully avoid shooting or killing this bird wherever and whenever possible.

Levelling and Draining a Crouquet Ground.—*W. Thos.*: It would almost certainly be necessary to put in one drain at least to carry off the superfluous rain water which cannot do otherwise than run from the high to the low ground when you alter the level. The usual method to pursue, or that is frequently accomplished, is to run a drain right round the crouquet ground, at the base of the banks, which should either be sloped, or a retaining wall of bricks built, so that the bank might be perpendicular. A grassy slope would look better; but whether this can be accomplished depends upon the depth of the cutting in making the ground level. Sometimes the drain is left open and an iron grating placed over it. On the other hand you could fill the drain with fine gravel, which would be less expensive. If the soil is naturally wet it might be necessary to run one or two shallow drains through it, so as to carry off surface water, and prevent the growth of moss. Make sure there is plenty of fall for the water to get away.

Shoot of Rose Killed.—*Omega*: There is no decided evidence about the specimen which would point to frost as the agency that killed it. On the contrary we believe it was dead and in the process of being dried up before the advent of frost. At the lowermost joint was a wound of the nature of canker, the bark being red and otherwise discoloured, and quite dead, the wound extending almost entirely round the shoot. The leaf at the joint would appear to have been forcibly torn off during the growing period, as well as the small shoot in its axil. The spores of the fungus must have found entrance there, causing the shoot above the wound to die.

Cucumbers Collapsing.—*Canny*: The roots you sent are affected with eelworms, otherwise known as nematoid worms. They are to be found in the nodules or tubercles upon the roots; and wherever you find unnatural swellings you may be sure they are present. They get introduced to Cucumber and Melon beds in the soil used, possibly also in the water, the former being the most likely source of infection. At the same time they are also affected very badly with a fungus, a species of *Glaeosporium* similar to that which infests the fruits of Grapes, Peaches, &c. The spores on a stalk vary in number in the same way as the *Glaeosporium* laeticolor of Peaches, but they are longer and more inclined to be linear. Both the eelworms and the fungus live within the nodules, on the Cucumber roots, so that it is impossible to cure the plants, once they are infested, without also killing the plants. The naked eye cannot see either of these enemies, though present in great numbers, and that is the reason for their being so destructive. The only remedy is to clear out the Cucumbers and burn them. The soil should also be charred or taken to a distance from the garden, and deposited where it is not likely that soil will be taken for any purpose in the garden. Sweep down the walls and benches of the pit, removing all the rubbish. Then give the walls and benches a good washing down with a strong dose of paraffin and water to kill any of the pests that may still be present. Get fresh soil from a different source for making up the beds again. The fresh soil might be thoroughly baked on the top of a flue or boiler to kill any eelworms that might possibly be present. All this causes a deal of labour, but the above enemies are very insidious and destructive pests that must be treated with drastic measures.

Kinds of Celery in Cultivation.—*Scientific Gardener*: We are not quite sure what your question fully implies. If you mean species of Celery, then only one is in cultivation, namely, *Apium graveolens*. This is the botanical name of all cultivated. The varieties are very numerous, and to indicate each, you have only to add the name of the variety thus: *Apium graveolens* Standard Bearer, *Ag Sutton's A 1*, and so on. To give the names of all the varieties grown would be a hopeless and herculean task. Besides those two mentioned, the following may be enumerated as amongst the leading kinds, although you must grow them well to get them in perfection: Sandringham White, Webb's Pearl White, Henderson's White Plume, Sutton's White Gem (early), Wright's Giant White, Wright's Grove Red, Major Clarke's Red, William's Matchless Red, Leicester Red, Veitch's Early Rose, Veitch's Superb White, Carter's Solid Ivory, Manchester Prizetaker White, Carter's Incomparable Crimson, Dickson's Matchless White, &c. The above constitute but a small number of those in cultivation, and are all excellent if you get the true strain. They are not botanically distinct, but garden strains and selections. The most distinct variety, botanically, would be the Turnip-rooted Celery or *Celeriac*. Your other questions next week.

Seedlings of Variegated Hop Damping.—*H. Davids*: It is not for lack of heat, but more probably because the seedlings have been kept too damp at the

roots, or too far from the light. When in any way shaded at this dull period of the year, the portion of the stem below the cotyledons or seed leaves becomes abnormally drawn up, when it is invariably weak and spindly. Plants are liable to do this on the slightest provocation, so that whenever they appeared above ground you should have stood them on a shelf or otherwise close to the glass in an atmosphere kept rather dry and airy. You can make another sowing and the lengthening day and stronger light which we are likely to get soon will stand the seedlings in good stead.

Names of Plants.—*Ferns*: 1, *Adiantum Capillus-Veneris* var. *Weigandii* (some simply call it *Adiantum Weigandii*); 2, *Adiantum Capillus-Veneris imbricatum* (very variable, and at times producing full-sized Sporangia, but we failed to find any good spores); 3, *Adiantum Capillus-Veneris* var.; 4, *Adiantum cuneatum lawsonianum* (one frond on the same bit of rhizome had reverted more than half way back to the type); 5, *Adiantum Raiperi* (one frond partly barren with greatly enlarged pinnules); 6, *Adiantum aethiopicum* var. *assimile*.—*R. A.*: 1, flower shrivelled up, and not recognised; 2, *Oncidium reflexum*; 3, *Ardisia crenulata*.—*T. B.*: 1, *Scirpus riparius*, best known as *Isolepis gracilis*; 2, *Carex brunnea variegata*; 3, *Ruellia Portellae*; 4, *Oxalis Ortgiesii*; 5, *Russelia juncea*.—*W. M.*: 1, *Reinwardtia tetragyna*; 2, *Reinwardtia trigyna*.—*Thos. Harris*: 1, *Davallia Tyermanni*; 2, no spores, see next week; 3, *Pellionia pulchra*; 4, *Coronilla glauca*.—*A. G. Strachan*: *Phyllanthus nivosus* is the name of the stove plant.

Communications Received.—*Gamma*.—*G. W. C.*—*J. Mayne*.—*J. C. Chard*.—*Longmans, Green & Co.*—*Frederick Warne & Co.*—*Caledonia*.—*Alchemilla*.—*J. B.*—*A. C.*—*R. B.*

TRADE CATALOGUES RECEIVED.

JAS. COCKER & SONS, 130, Union Street, Aberdeen. —Catalogue of Seeds and Plants.

ALBERT F. UPSTONE, F.R.H.S., 35, Church Street, and 1, Market Place, Rotherham, Yorks.—Upstone's Seed Guide.

KELWAY & SON, Langport, Somerset.—Kelway's Manual.

H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E.—Descriptive Catalogue of Choice Vegetable and Flower Seeds.

G. A. HOFFMANN, 2, Friedlanderstrasse, Zittau, Germany.—Plant Catalogue.

FRANK DICKS & CO, 66, Deansgate, Manchester. —Seed Catalogue.

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Edited by J. FRASER, F.L.S.

SATURDAY, FEBRUARY 3rd, 1900.

HOME AND GARDEN.*—We may at once state that this is a sister book to "Wood and Garden," which appeared about a twelvemonth ago from the pen of Miss Jekyll. The favourable reception accorded the last named book, by the reading public, encouraged the author to put into readable form some more of her notes and reflections on home life in the country which she evidently greatly enjoys. It may be noted that the penalties of being a popular author have not failed to find out Miss Jekyll, and invade her quite country home, as in the case of many others that might be mentioned. As a would-be quiet worker, with no great reserve of strength, she begs that she may enjoy a "larger measure of peace and privacy." We consider that it would be to the public advantage to leave the worker at her work. Like all true lovers of Nature Miss Jekyll, not only likes to see a natural

*HOME AND GARDEN. Notes and Thoughts, Practical and Critical, of a Worker in both. By Gertrude Jekyll. Longmans, Green, and Company, 39, Paternoster Row, London. New York and Bombay, 1900. Price 10s. 6d. nett.

feature occasionally in her garden and its immediate surroundings, but frequently goes further afield and "finds tongues in trees, sermons in stones, books in the running brooks, and good in everything." To such people a quiet place is no solitude, for the powers of observation enable one to see something worthy of admiration or find a friend anywhere, as has oft been attested by naturalists in various walks of life.

The author commences by describing the building of her own house, which appeared to have been her home from youth up after being in it for only eighteen months, it was "so restful, so satisfying, so kindly sympathetic." Not everyone we fear can superintend the building of one's own house, and order everything according to even a modest ideal. No jerry builder had a hand in this; but a cultured taste gradually evolved a building which, so to speak, was in sympathy with its old time rural surroundings, and apparently as native to its own quiet English soil as the cottages which were dotted about the country side before screeching, smoky, railway engines, and all the other means of rapid intercommunication of modern life and times, were introduced. Too many of the beautiful spots of the country, within easy reach of London, are being invaded and gradually effaced by the tide of immigrants from "opulent, enlarged, and still increasing, London."

There are twenty-three chapters in the book, each dealing with a separate subject, in no way particularly connected, though smelling of the woods, Wallflowers, Primroses, Wild Honeysuckle, Brier Roses, Roses, wild Ferns and other features of garden and country life such as would occur to the keen observer, with eyes, ears and a heart to appreciate them, and clothe the story of them in interesting language. In speaking of a garden of Wallflowers, she says that "no planted-out Wallflower can ever compare, in my light soil, with one sown where it is to remain; it always retains the planted-out look to the end of its days" and lacks the sturdiness of Nature's handiwork. Those who have seen tufty bushes of golden yellow Wallflower growing out of the crevices of rocks or the cranies of old castle walls, often at a great height above the ground level, will agree about the difference between it and the formal lines and beds of the same plant under cultivation. In this particular case, however, the self-sown seedlings sprang up on a mound of sand, thinly covered with poor soil, in a certain part of her garden. One seedling, above all others, gave her particular delight, and this she describes with great minuteness and keen enthusiasm, as if it were a pearl of great price. The natural poverty of the soil in this particular part of Surrey is frequently impressed upon the readers' attention. The district geologically, is situated upon the lower cretaceous formation, and the sand may belong either to the Upper Green Sand or to the sands of the Hythe beds; for there is an outcrop of both in the neighbourhood. In speaking of special gardens, that is, spaces suitable for the growth of particular classes of plants, Miss Jekyll says she has to content herself with gardens for Primroses, Paeonies, and Michaelmas Daises. Moreover, she would like to have a Rose-garden, a Tulip-garden, a Carnation-garden, a Columbine-garden, a Fern garden, and many others. She is thankful to have what she has; and that is well, for Ferns would be particularly unhappy in her porous, sieve-like, thirsty soil that would let so many miles of water pass through it in a given time. Nevertheless, if she can lay hands upon some suitable soil, command plenty of water, and furnish a certain amount of shade, many species of

hardy Ferns could be grown to perfection.

To the town-dweller her pages must frequently appeal, for she seems to be always in cheerful spirit in the midst of her labours, or must write only when the spirit moves her. It must not be supposed that her pages are merely filled with sentiment and idealism; for she convinces her readers of the practical and practicable nature of her various cultures, even under great difficulties, owing to the natural poverty of the soil, in this sunny and sun-baked Surrey garden. In a chapter on "Gardening for short tenancies" she compares the sandy soils of Aldershot with her own, and gives sound and reliable advice for the cultivation and planting of the same. Aldershot is on the sandy and gravelly strata of the Lower Bagshot Beds. Even here she believes in the deepest possible cultivation, and would trench the sands not only three spits but three feet deep, retaining the top layer with its humus or decayed vegetable matter on the surface. The official dwellers about the camp, she declares to be in a better position than herself, in having an unlimited command of stable manure, which though not possessed of the same cooling quality as cow manure, yet "puts into the ground the precious chemical constituents of the decayed straw." The value of this consists largely in the greatly increased retentiveness with which it endows the soil. She would have the more fermented or decayed portions dug into the soil and the rank litter employed as a mulch, at least where the crops would ultimately conceal it from the eye. The danger of using rank manure in proximity to certain plants, such as Paeonies, Hellebores, Gladioli and Tulips, is faithfully pointed out. "Plants for poor soils" has a bearing upon the above subject. The thinning of annuals as described by the author would serve to indicate that by her methods of cultivation she is able to secure excellent growth. The large Poppies should stand at least a foot apart, and a single plant of autumn sown Nemophila or Platystemon would easily cover a yard of ground. In the case of the last named, at least, the growth must be of no mean order, and gardeners will have to look to their laurels. We have witnessed the marvellous vigour of growth she infuses into her Primroses and Polyanthus; but they are children of the cool days of spring, and the cultivation accorded is of the highest order fostered and superintended by a specialist.

For the benefit of those who take interest in the embellishment of their homes, the chapter on "Cut flowers" will afford many a useful hint. Some flowers may give fairly satisfactory results if cut in the early morning and immediately sent away; but even they and most others intended to be sent to a distance give much more ample satisfaction to the recipient, after being unpacked, if they had been cut late in the previous day, or early in the morning of despatch and placed for an hour or two in pails or other vessels of water before packing them for the journey. Many kinds of flowers travel badly, but those containing a milky juice in their stems and leaves are particularly troublesome as many a gardener knows. Such flowers when put in water without any special preparation soon become limp and useless. Poppies, Stephanotis and Physianthus come under this category. The milky juice, escaping from the stalks, soon dries up, forming a sort of india-rubber coating over the cut ends, thereby preventing the ingress of water. The plan advocated is to cut the stems afresh, even slitting them up for three inches, after the flowers have been tied up in bunches, and then plunging them into the water immediately while the juice is still flowing. Lenten Roses or Hellebores

are treated in the same way with satisfactory results. After years of regret at her failures to maintain the freshness of cut Bamboo sprays in decoration, she ultimately succeeded in discovering a means of preserving the foliage in the cut state. She takes a jar of sufficient depth for immersing at least three joints of the Bamboo stems. Before putting them in the water she cuts or notches the upper part of each internode, so that the water runs into and fills each of the hollow spaces between the nodes or joints. During the drought of last season, when her Bamboos in the open were showing signs of distress, she cut some long sprays, the foliage of which became shrivelled before being conveyed to the house. An hour after being put into water the leaves had regained their normal rigidity, colour and flattened shape. This is a wrinkle worth knowing. Other chapters treat of Roses, Lilies, conservatories, large and small rockeries, the making of pot-pourri, wild Ferns, the kitchen garden, &c. The book runs to 296 pages, exclusive of the index. Paper and printing are all that could be desired; the type is large and readable; and 53 illustrations, prepared from photographs by the author, and printed on smooth, rolled paper are dispersed through the work.

The Largest Lemon Grove in the World is reputed to be that of 1,000 acres in San Diego County, California.

Mushroom Juice is a sure anti-toxin and cure for snake bite, says an eminent scientific man. He further states that all Mushrooms (and, we suppose, Toadstools as well) contain a juice that will answer the same purpose.

Monument to Alphand.—We learn that in the Bois de Boulogne, the Parisians intend to raise a handsome monument to the memory of Alphand, a past inspector of parks and plantations in Paris. With all its boulevards and monuments Paris hopes to be "the modern rival of the finest of ancient cities."

The Late Mr. Charles Wood.—The late Mr. Charles Wood died at the age of eighty-four, at his nursery, Woodlands, Maresfield, Uckfield, on January 16th. Mr. Wood was among the oldest of our nurserymen and one of the most respected among them. From the time of leaving school in 1830, till his death, he had always been connected with nurseries and nursery training, being almost all his time at the Woodlands. Up to the period of his death he was fond of, and able to follow out, his office duties.

Gift of a Hospital.—From Thursday's *Morning Leader* we learn Messrs. Boulton & Paul, Ltd., Norwich, have generously offered to provide at their own expense a hospital of thirty-four beds, mainly for the use of the Imperial Yeomanry. Messrs. Boulton & Paul, who are well-known horticultural builders, &c., but add another to many kind contributions of a like nature which have emanated from firms connected with horticulture. The above offer has been accepted by Lady Georgina Curzon.

Hop Picking Machine.—I note a short paragraph in your last issue that the engineering world think it probable that before long a machine will be devised for this work. As much as we value machinery we should much regret to see such introduced, and I was almost saying it would prove a national calamity, it would certainly be a county one, especially in Kent and Hereford, the two largest hop-growing counties. Scores of families in Herefordshire quite look forward to this harvest, when the mother and three or four of her children are known to have taken up as much as £5 during the season, which usually lasts a month. Hundreds of men and women flock down from Staffordshire to assist in the ingathering. Not only this, it is one of the healthiest occupations one can take up, proving quite a tonic for scores of people whose general health is far from satisfactory, and proving so invigorating that it creates quite a raving appetite when many other things fail.—*Hereford*.

Mr. James Mitchell, for some time gardener to Sir Charles Barrington, Bart., Glenstal Castle, Murree, Co. Limerick, and many years general foreman at Castle Boro', Enniscorthy, has been appointed head gardener to C. M. Doyne, Esq., Wells, Gorey, Co. Wexford, in the place of Mr. Bennett.

A Successful Cyclamen Grower.—Round the neighbourhood of Dublin are located quite a number of enthusiastic and very successful plantsmen. Prominent among them is Mr. A. R. Wilson, manager to Major Dunville, at Loughlinstown House. This season he has succeeded in producing some of the finest flowered plants around the city.

Unforced New Year Roman Hyacinths.—We, together with an expert bulb dealer, were considerably surprised to witness a splendidly flowered batch of Roman Hyacinths on Saturday, January 27th, in a small garden at Battersea. The bulbs had been planted when received in October and there they were, with spikes 7 in. to 8 in. long, having been in flower over three weeks. The border is well drained and thoroughly sheltered. It would be interesting to hear of other notices of a like nature.

Royal Gardeners' Orphan Fund.—The annual general meeting of the subscribers to this fund will be held at the Essex Hall, Essex Street, Strand, London, W.C., on Friday, February, 16th, 1900, for the purpose of receiving the report of the committee, and statement of accounts for the past year; to elect officers for the ensuing year; to elect nine children to the benefits of the fund; and to transact such other business as may arise. The chair will be taken at 3 p.m. The poll will close at 4.30 p.m., after which time no votes can be received. The secretary is Mr. B. Wynne, 8, Danes Inn, Strand, London, W.C.

Chemical Manures.—This was the subject of a lecture delivered by Mr. F. W. E. Shrivell of Thompson's Farm, Tonbridge, at the fortnightly meeting of the Reading Gardeners' Mutual, on Monday evening last. The lecturer in an interesting and racy manner laid before the members the results of the various experiments carried out at Tonbridge during the past five years with chemical manures on vegetables and fruit crops, under the auspices of the Permanent Nitrate Committee, who wished to find out whether dung could be dispensed with altogether, relying solely on chemical manures. An interesting discussion followed in which Messrs. Fry, Neve, Purkiss, Chamberlain, Burfitt, Alexander, Wilson, Hinton, Lever, and Ager took part. On the proposition of the chairman (Mr. Fry), a hearty vote of thanks was accorded to Mr. Shrivell for his lecture, and to Mr. F. Lever, The Gardens, Hillside, for staging an exceedingly well flowered plant of *Coelogyne cristata*. Six new members were elected.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting was held at St. John's Parish Room, Redland, on Thursday, 25th ult. Mr. C. Lock presided over a large attendance. The meeting was specially interesting by reason of a paper read by a member from the Cardiff Gardeners' Association, Mr. J. Graham. Under the title, "Gleanings from a Horticultural Class," Mr. Graham dealt with a variety of subjects, all of great importance to gardeners, such as soil and its constituents, bacteria, thermometers, dew and rain, laying out of pleasure grounds, rockery formation, draining of land, plant diseases, etc. He briefly dealt with the subjects in a vigorous and able manner, giving much useful information upon each. Mr. Graham strongly urged the formation of botany classes in connection with gardeners' associations, claiming that a knowledge of theory was a great help to the worker in his practical work; and pleaded for more sympathy between head gardeners and their assistants. He was cordially thanked for his attendance and paper. Prizes for a Pitcher Plant were awarded: First, Mr. White; second, Mr. Bannister; and a Certificate of Merit to Mr. Ross for a *Primula sinensis*. An exhibit of great interest was provided by Mr. Graham, who showed over fifty dried specimens of British plants, which attracted much attention. A motion of sympathy with the relatives of the late Canon Ansley was passed. The late Canon was a vice-president of the association during his residence at Redland, and took a keen interest in the work from the time of its formation.

National Chrysanthemum Society.—The annual general meeting of the members of the above society will take place at Carr's Restaurant, 265, Strand, W.C., on Monday, February 5th next, at seven o'clock in the evening, to receive the committee's annual report and balance sheet; to elect a president, vice-presidents, officers, and one-third of the committee, for the year ensuing; to consider certain alterations and amendments to the rules; and to transact such business as pertains to the annual general meeting. Notice of motion by Mr. Thomas Bevan:—"That the election of the present general secretary be postponed; and that an advertisement be inserted in the gardening papers for a properly qualified person to fill the post at a salary of £100 per annum."

Horticultural Fete in Hanley Park.—The schedule of this annual function, held at the county borough of Hanley is now to hand, or at least the proof-sheets are. The fixture is for Wednesday and Thursday, July 4th and 5th. The list of sections and classes is a long one, and large prizes are offered. In the first division the premier prize for a group of plants is £25; second prize, £20; third prize, £15; and the fourth amounts to £10; besides which there are a number of minor prizes offered by seed firms. Such prizes in hard cash ought to entice gardeners. The prizes throughout are very liberal, and in many classes well known nursery and seed firms offer liberal awards. The entries all close between June 27th and 30th. Applications for schedules should be made to Mr. Jos. Kent, The Park, Hanley, he being the horticultural secretary.

Mr. G. W. Cummins.—It will be remembered that we gave a notice of this gardener last week, as just about to return to the South on the 1st February. His late employer, W. H. Lumsden, Esq., J.P., F.R.H.S., Balmedie, Aberdeenshire, gives him a very good character as follows:—"G. W. Cummins has been in my service as head gardener for nearly two years, and I have much pleasure in giving him a certificate of character. I have found him thoroughly sober, honest, and obliging, and always anxious to carry out the wishes of his employer. Cummins is particularly well educated, and capable of producing very intelligent reports on any subject connected with his profession. He is also a good draughtsman and expert in drawing plans. He is proficient in the various branches of his business, as his previous certificates will show. I shall be happy to answer any further questions.—W. H. Lumsden, December 8th 1899."

"Kelway's Manual" for 1900.—Everyone who loves gardening and flowers, especially hardy flowers, Paeonies, Delphiniums, Gladioli, Phloxes, and the list along which one's pen might run, await expectantly to hear of the annual issue of Messrs. Kelway & Son's "Manual," from Langport, Somerset. Fancy a trade catalogue of the size of Kelway's (11 ins. x 8 ins.) running to 300 pages! In what other commercial section do the tradesmen issue such imposing tabulations, or spend so much of care in compiling the descriptions and purposes of their stock, hints, or in giving of the guidance necessary to customers, or strive so nobly to gain an honourable patronage? We know of very few. With such a work as this "Manual," in his or her possession, one almost begins to think that gardeners might dispense with the horticultural journals, even though these are vigorous and complete. The calendar of operations for each month of the year is of especial value, and the very full descriptive text and cultural hints leave nothing unnoticed. Two coloured plates adorn the book, which likewise is illustrated with photos on almost every other page. Testimonials from every quarter are marshalled in steady flow beneath the classes of plants in their respective sections, and from these one reasonably concludes that care is severely taken to please all buyers. Referring to the contents, there is, of course, the usual additions of new varieties to popular flowering plants, and novelties are enumerated. The plants for which the Langport firm have a universal reputation are well known, and, of course, these are considerably detailed in the pages of the "Manual." We recommend all to add "Kelway's Manual" to their garden office list before the spring season becomes advanced.

Cuba is said to have a scented climbing plant whose leaves are wooden in texture.

Weather in London.—Dull weather, with cold, piercing winds, and a fall of snow on Sunday morning, turning to rain during succeeding days, is the summary of last week's conditions. Hardy flowering plants and shrubs are on the move.

Ealing Gardeners' Mutual Improvement Society.—The programme of the twelfth annual session (January to March, 1900) of the above, opened on January 2nd. At that meeting, a paper on "Public Parks and Gardens" was given by Mr. W. B. Gingell, Superintendent of Ravenscourt Park. The following are the other papers of the session:—"Carnations and Carnation Culture," by Mr. J. F. McLeod, Dover House Gardens, Roehampton, on January 16th; "Roses in the Garden," by Mr. George Gordon, editor of *The Gardener's Magazine*, January 30th; "Some further experiments with Chemical Manures in the Kitchen Garden," by Mr. F. Shrivell, F.L.S., February 13th; "A Surrey Garden" (with lantern views), by Mr. Alex. Wright, Bucklebury Place Gardens, Berks., January 27th; "Hardwooded Greenhouse Plants," by Mr. J. Coutts, Kew Gardens, March 13th; "The value of Mutual Improvement Societies," by Mr. W. J. Simpson, Falkland Park Gardens, South Norwood, March 27th. On April 3rd, the annual dinner and distribution of prizes take place. Special prizes are awarded at the meeting on January 30th, for twelve table plants; February 27th, for six Palms; and on March 27th, for twelve pot spring flowering plants. In addition to these prizes there are other exhibits at the fortnightly meetings, for which points are awarded, when he, receiving the maximum for the session, wins the prize. Further prizes are to be offered should the competitions prove keen. There is also announced an essay prize on "A visit to Kew Gardens." Papers for this competition should be in not later than the first Tuesday in March, 1900, addressing the communications to the hon. sec., Mr. W. Roberts.

Reading and District Gardeners' Mutual Improvement Association.—The members of the above association assembled in force on the occasion of the annual tea and smoking concert, which took place on the 22nd ult, in the Abbey Hall, kindly lent by Messrs. Sutton & Sons. The president, Mr. C. B. Stevens, presided at the tea, which commenced at 6.30, the company including Mr. Leonard Sutton, Mr. M. H. F. Sutton, Messrs. Fry, Hinton, Macdonald, Cox (chairman, vice-chairman, treasurer, and secretary), Burton (Bexley Heath), Pope (chairman of the Wargrave Gardeners' Mutual), Trollope (Whitchurch), Botley (Maidenhead), Prince (Arborfield), Cretchley (Twyford), C. Townsend (Sandhurst), Chamberlain (Shinfield), Nicholls (Maiden Erleigh), Rigg, Farey (Caversham), Cox (Calcot), Osborn (Three Mile Cross), Smith, Wilson, Hearn, Lever, Pigg, Parsons, Baskett, Simpkins, Purkis, Goddard, Bryant, Agar, House, Dore, &c., &c. The tables and hall presented a bright and pleasing appearance, having been decorated under the supervision of Mr. Macdonald with foliage and flowering plants, sent by Mr. J. Woolford, The Gardens, East Thorpe, and Messrs. Sutton. During the tea the chairman gave the toast of "The Queen," referring to the great trials Her Majesty was passing through, and spoke of the kindness and sympathy she was showing to the friends of our gallant soldiers fighting in South Africa. Subsequently he presented to the winners the prizes offered in the "Essay Competitions." At eight o'clock the smoking concert commenced, presided over by Mr. Leonard Sutton, and was, without doubt, the best and most varied ever held at these annual gatherings. The items were "put on" without the slightest break for upwards of 2½ hours, consisting of humorous and patriotic songs, bones, solo, banjo duets, step dancing, glee singing, &c., those contributing to the evening's amusement being Mr. F. H. Ketley, the St. Lawrence's Glee Party (Messrs. Bengier, Johnson, Barrett, Holloway, and Prentice), Messrs. Slatter, Poole, Sweetzer, Moss, Moles, Gould, Dell, Wicks, House, Saunders, and Welfare. Mr. Will Lewis accompanied in his well-known style. During the evening Mr. Ketley recited Rudyard Kipling's poem, "The Absent-Minded Beggar," and on sending round the "hat" the sum of £2 5s. was realised, which has been sent on to the Local War Fund.

The Oak, in suitable soil, is said to develop a ton of timber in seventy-five years, and eight tons in 150 years.

An Eiffel Tower in Flowers.—For the masonic fruit and flower festival recently held in Los Angeles, Cal., U.S.A., says the *American Florist*, the Redondo Floral Company built of Bamboo a tower 42 ft. high and 12 ft. square at the base. The Bamboo canes were notched and the hollow canes partly filled with water to keep the cut flowers fresh. Nearly 20,000 Carnation blooms were used in decorating the tower, as well as large quantities of Smilax and Asparagus. Around the base was a fine lot of Palms and other decorative plants.

Origin of the Basidiomycetes.—At a meeting of the Linnean Society of London, on January 18th, Mr. George Masee, F.L.S., read a paper on the origin of the Basidiomycetes. He remarked that Juel, a Danish mycologist, had recently demonstrated that *Stilbum vulgare*, hitherto regarded as a typical Hyphomycete, is a true Protobasidiomycete. Following up this hint, the majority of the species of *Stilbum*, some of which are the known conidial phase of species of *Sphaerostilbe*, and others existing without any known higher form, were examined, with the result that the conidial condition of *Sphaerostilbe microspora* and *S. gracilipes* proved to be identical in structure with *Stilbum vulgare*, in other words, true Protobasidiomycetes. This discovery reveals the fact that the conidial condition of an ascigerous fungus may be a true Protobasidiomycete. Similar discoveries had been made with forms of *Tubercularia* and *Isaria* known to be the conidial stage of ascigerous fungi. An exhibition of Lantern-slides in illustration of Mr. Masee's remarks was deferred.

Rational Method of Treating Fungoid and other Diseases.—In dealing with this subject Messrs. Wm. Wood & Son, Ltd., Wood Green, London, N., say "The study of plant pathology is pursued more closely than in former years, and consequently our knowledge of bacteria or parasitic fungi is more extensive, and our diagnoses more reliable. Hence modern preventive or therapeutic treatment of fungoid and other diseases is far more likely to be successful. Perhaps the greatest difficulty with which the plant doctor has to contend, and which, no doubt, has discouraged many an aspirant, and ended in his retirement from the unequal conflict, is that his attention is not called to the disease until it has run through its earlier stages, and obtained such a hold that to free the plant of it may be impossible without serious and irreparable injury to its constitution. Again, he is not unfrequently expected to diagnose and prescribe merely upon view of a fragment of diseased plant, or the presence of mycelium." The rational method of treating fungoid diseases, which they advocate, seeing that the patient or plant is unable to draw attention to any symptom of disease, is to apply "preventive treatment." This they propose to do by applying to the ground or to the leaves of the plant, or to both, a fungicide which they have named "Veltha," which is their discovery, and considered to be the most destructive fungicide known. We have on former occasions advocated the need for plant-doctors, and our pages have frequently reiterated the fact that prevention is better than cure. The latter can only be effected to the advantage either of the grower or the plant by applying the remedy in good time, that is, before the constitution of the plant has been entirely broken down. Growers of Chrysanthemums, Carnations, Roses, or other kinds of plants liable to be infested with their respective fungi would do well when making experiments with "Veltha" to begin at the root of the matter by applying the fungicide even before there is visible evidence of the fungus. The point to be determined is whether the Chrysanthemums, Carnations, &c., were more or less badly attacked by fungi the previous season. If so, unless by some fortuitous means the pests were exterminated the previous season, there will almost certainly be a renewal of the attack during the coming season. The remedy proposed should be applied early, and at intervals during the season. Half a dozen or more plants belonging to different varieties might be labelled for observation by way of a check, and left unsprayed, to determine whether they fare worse or better than their neighbours. Some experiments of this nature, faithfully carried out, and as carefully recorded, might prove of immense service to gardeners and growers generally.

Pure Seeds.—In a lecture given by Prof. T. Johnson, D.Sc., in the Herbarium attached to the Science and Art Museum, Kildare Street, Dublin, on January 15th, he informed his audience that Continental Countries were a long way ahead of the United Kingdom in having State-supported seed testing stations. The establishing of these stations was largely the work of Nobbe, who, early in the seventies, made some startling discoveries as to the nature and extent of seed adulteration. In one case it was found that a German firm had carried this fraudulent business to such an extent that they were using specially prepared stones to adulterate Clover seeds. Near home the common white Clover was coloured to resemble the higher priced Alsike.

Liverpool Horticultural Association.—The twenty-first annual meeting of this society was held on Saturday last, in the Free Library, William Brown Street, Liverpool, Mr. Thomas Foster in the chair. The report read by the secretary stated that the past year might be considered satisfactory although the accounts showed a small loss. The summer show which was held in connection with the Royal Lancashire Agricultural Society proved a distinct gain to the subscribers by having free admission to the excellent show that was held in the play ground, Wavertree. The subscriptions showed an increase on the previous year. The expenditure of the summer show amounted to £214 10s. 6d. of which £187 17s. 0d. was paid in prize money. The receipts of the autumn show amounted to £154 2s. 10d. against an expenditure of £283 12s. 1d. The revenue account showed an income for the year of £505 11s. 9d. including the balance from last year of £120 2s. 11d. The subscriptions for the past year amounted to £372 0s. 9d. The payments for the year were £413 9s. 8d. leaving a balance in favour of the society of £92 2s. 1d. Mr. Harold Sadler and Mr. George Blackmore were re-elected secretary and treasurer respectively. Mr. R. G. Waterman and Messrs. Harwood, Banner & Son were re-appointed auditors. A vote of £3 3s. 0d. to the Gardeners' Royal Benevolent Institution, and £2 2s. 0d. to the Royal Gardeners' Orphan Fund, was carried unanimously.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Odontoglossum aspersum bosschereanum.—The chief distinction between this variety and the type is that the sepals are almost entirely brown, intensified almost to a plum colour, with a narrow and irregular pale yellow margin, slightly tinted with green. In the type the colour on the sepals is more or less broken up into blotches. The petals of the variety are of a deeper shade of yellow than usual, and bear the usual concentric group of large brown-purple spots at the base. The lip is pure white and entirely without spots. A full page coloured plate of the variety is given in the *Lindenia* Pl. 679. *O. aspersum* is supposed to be a natural hybrid between *O. Rossii* and *O. maculatum*, deriving the yellow colour of the sepals and petals from the latter species.

GREVILLEA ROBUSTA.

THIS is a greenhouse evergreen shrub of some merit, and should be grown by all who have any decorating to do. Seeds should be sown forthwith, if suitable plants for indoor decoration are required in early autumn. Prepare 5 in. pots with loam, leaf soil, and sand, passing the two former through a $\frac{1}{2}$ -in sieve, well mixing together and filling the pots within $\frac{1}{2}$ in. of the top, and dibbling in the flat seeds in an upright position, as they are so liable to decay when sown on the flat. Place the pots in a Cucumber or Melon house at work, with a piece of glass or slate over it, and keep the soil, if anything, on the dry side. Remove the cover as soon as the leading growths push through the soil. Keep near the glass and pot off into 2½ in. pots when the second leaf has been made, using a little peat this time as well as at the next shift, which should be into 5-in. pots. Grow them in a warm pit or vinery where a night temperature of 60° can be maintained, keeping them near the glass and plying the syringe well amongst them. Opinions vary as to whether they ought to be pinched or not, and to find out for myself I took the

point out of half a dozen, hoping I should get nice plants with three shoots; but the break nearest the top persisted in leading, so no stopping should be practised.—*J. Mayne, Bickton.*

HARDY NYMPHAEAS.

AMONG the hardy aquatics cultivated in the water garden few can out-rival the above, from the common *Nymphaea alba* to the beautiful deeply coloured *N. marliacea ignea*; and considering how easily they are cultivated, they are comparatively little known. Many of the most beautiful varieties can be procured at a small cost, though these will be found to be small on arrival. It is surprising with what rapidity they extend themselves when properly treated. They start best when placed in ordinary punnets, 6 in. in diameter. Old fibrous loam should be placed firmly about the roots, and the punnets put in shallow water, covering them to the depth of 4 in. After they have nicely started and the leaves have reached the surface of the water, they may be transferred to larger baskets which will hold about a bushel of soil. They may then be placed in their permanent quarters. The water should be about 3 ft. in depth, and when they have firmly established themselves, they will give little trouble. All that is required is to keep away pond weeds which will soon predominate and kill the Nymphaeas if allowed to remain. Swans and rats should also be kept from molesting them. Among the best varieties are *Marliacea albida*, *m. carnea*, *m. chromatella*, *odorata exquisita*, *o. rosea*, *o. sulphurea grandiflora*, *phygmaea*, *p. helveola*, *Robinsonii*, *Seignouretii*, and *tuberosa*. Suitable pockets formed on a concrete bottom will grow these to perfection, without fear of being molested by weeds.—*A. Thatcher, Aldenham, Herts.*

YOUNG APPLE TREES.

THE first thing that should be done, if you are intending to plant young trees, is to find out what varieties suit the soil and climate, as it is well known that different varieties succeed better in some localities than others. After you have ordered your plants, and before they arrive, it is advisable to have a compost made up to put roots into when planting. A good compost is loam, lime rubble, decomposed manure, wood ashes, and a good sprinkling of bone meal. This should be mixed but not made too fine. After the trees arrive and are carefully examined, select a dry day, with the soil in good condition, for planting. Take out a good-sized pit, not deep (for it is a bad principle to plant young trees deep, rather mound up round roots), dig bottom of pit, and tramp firmly; put a few spadefuls of compost in pit, and tramp lightly; then put in tree, after examining roots and cutting off with a sharp knife any damaged parts. The tree being in position, the roots should be spread out; if a wall tree care should be taken to keep roots from wall. Sprinkle in compost, and pack well round base of tree. Keep roots well up to surface and straight as compost is added. Firm with the foot after roots are covered; add the soil and firm well. Staking is advisable for standards till established, and a few slack ties for wall trees.—*R.G.M., Ayrshire.*

DECORATIVE ACACIAS.

THE species of *Acacia* are very numerous, and widely diffused in the warmer regions of the globe, but chiefly natives of Africa and Australia. Many are very beautiful, and should be more generally grown. The fragrant yellow flowers make a charming addition to the conservatory, when other flowers are none too plentiful. The plants grow freely in a compost of good peaty loam, with a little leaf mould, and sand, potted firmly. Cuttings strike freely in sandy soil, under a bell glass, or better still in propagating pits, in spring. The plants should be stood in a sunny position in the open air towards the end of June to ripen their growth.

The pots soon become full of roots, and necessarily require an abundance of water throughout the summer, giving them manure water once or twice a week. After the plants have done flowering give them a severe pruning. Specimens of the beautiful Australian *Acacia*, *A. armata*, are nearly as showy as a fine *Genista* (*Cytisus racemosus*) and quite as sweet, while they last considerably longer.

Acacia verticillata has long branches, covered with whorls of spiny, false leaves, and carrying an

abundance of sulphur coloured flower heads about 1 in. long.

Acacia urophylla is another handsome species. The globular flower heads are pale lemon, and very effective. *Acacia platyptera* has singular, flattened stems, with abundant yellow flower heads in mid-winter. *Acacia riceana*, and *Acacia longifolia*, are excellent species. *Acacia dealbata* is largely imported from France in February for cut flowers.—C. P. Cretchley, *The Honeys, Twyford, Berks.*, 25th January, 1900.

THE AIRING OF HOUSES.

Now that the days are lengthening out again, and the sun making its power felt a little more, I think a few words on this subject will not be out of place. To some men airing seems a trivial matter (they are mostly the careless ones or those who take but little interest in their profession); but in reality it is one of the most important of a gardener's duties. It calls for strict attention and sound judgment at all times, especially through the spring and summer months. From frames containing the more common of plants, to houses where the more delicate and choice ones thrive, the greatest care should be given to this duty of ventilation. It is rather difficult to lay down any hard and fast rule for men to go by, as the position and size of a house have to be taken into consideration. Naturally, houses having a south to south-east aspect will need air sooner than those so placed that the sun's influence cannot reach them so soon. And again, small glass structures need ventilating sooner and much more than large, roomy houses will. But whatever house it be let air be given gradually, not in great quantities. Do not air with the idea of reducing the temperature, but to prevent it from rising too high. Generally speaking, a little air should be applied when the thermometer indicates a few degrees rise above the ordinary temperature of the house.

PEA GRADUS.

ALL gardeners, who happen to grow the above variety, should record their opinion on it, now its reputation is somewhat at stake. I must say I read with astonishment my friend Mr. Carmichael's denunciation of this most excellent Pea; for surely he has never had the true stock as supplied to me by Messrs. Veitch & Sons, Chelsea, also Messrs. R. Veitch & Son, Exeter. With us it is fit in about a week or ten days after Exonian, reaches quite 4 ft. high, and is an excellent cropper; pods large and straight, averaging seven to nine deep green peas, of most excellent flavour. I have heard one or two gardeners proclaim it a "rogue," so evidently there is more than one stock of it in commerce, and I am afraid Mr. Carmichael must have got hold of the inferior one. Would "J. C. S." kindly state his opinion on this Pea, as I know it is first favourite with him, no mean connoisseur on this delicious vegetable?—J. Mayne, *Bicton*.

I am glad that someone has answered Mr. Carmichael re the Pea Gradus; and I fully endorse all that Mr. Harrison has to say of this fine Pea in your last issue. A friend of mine, after reading Mr. Carmichael's letter in your valuable paper, exclaimed, "Well, he ought to have seen my row of Gradus last year, doubtless he would have altered his tale." With all of us in our district last year it did well. My own were very fine. I have grown it for three seasons; it is the best early Pea (wrinkled) I have got hold of. This Pea was tested by the side of another Pea, sent out by a large firm at a great price and a big name, and the two Peas were the same in all points, proving to me, as Mr. Harrison says, that no Pea of recent introduction has had so much renaming. A glance at the catalogues this season will prove that.—James Smith, *Harrow*.

Kitchen Garden Calendar.

EARLY PEAS.—As soon as the soil can be got into workable order, a sowing of these should be made on a warm border or other sheltered situation. Dwarf varieties are preferable for narrow borders or small gardens, as these do not take up so much room. There

are now plenty of first-class varieties of excellent flavour, so that there is no need to sow the inferior kinds. Those who can command room should at the same time make a sowing under glass for planting out early in April. By so doing fully a fortnight might be gained in gathering.

BROAD BEANS.—A sowing of these should be made in the open quarters of the Longpod type, as these are usually the most prolific. Carter's Masterpiece is a splendid variety, having green seeds, which much resemble the Green Windsors when cooked, but is more hardy and far more prolific.

SEAKALE.—Prepare sets of this when the weather is wet, and cover them with litter to exclude the frost, that they may be ready for planting during the next month, when the ground is in a suitable condition. By preparing the sets now, they will start more freely when planted. In many places the winter green crop is short, therefore an extra quantity of this useful vegetable is in request. Continue to introduce roots into the Mushroom house or other convenient place for blanching, or cover the crowns with pots and apply fermenting material in the open ground.

ASPARAGUS.—This will start much more readily now than before Christmas, therefore less time will be needed to have it ready for use. Where permanent beds are planted for forcing such can now have the lights put over them, and fermenting material applied to generate heat to induce a free growth. The lights will attract the sun better if placed at a greater angle than is usually the case, therefore when putting the frames over the beds, see that the back is well raised.

FRENCH BEANS.—As the days lengthen less fire-heat will be required to keep these in a growing state, but the temperature must not be allowed to fall too low, or the pods will not swell satisfactory. These plants are much subjected to the attacks of red spider when grown in a dry atmosphere. To guard against this, use the syringe freely whenever the weather is bright, but do not wet the foliage when the plants are in bloom. Make other sowings as the plants become exhausted, so as to keep up a constant supply.

EARLY POTATOS.—As soon as those growing in heated pits are sufficiently forward enough for earthing, this should be done, choosing a warm day, if possible, for putting the soil round the plants. Do not expose them to the open air longer than can be avoided, as this would cause a check to the growth. Take care that those growing in frames in hot beds, whose foliage touches the glass, are well protected at night, in case the leaves get frozen. Prepare other sets for planting in cold frames, and for succession. There is nothing gained by planting too early in the open ground, but, in warm situations, and at the foot of south walls, sets may be put in towards the middle of the month.

CARROTS.—Those on hot-beds will now be well through the soil. A close watch must be kept for snails as these are very destructive to the young plants. The most effectual plan to rid the frames of them is to search carefully by lamplight on mild nights. If this operation is repeated two or three times there will be little harm done afterwards. It is the small snails that are hatched by the genial warmth of the soil that do the mischief. A sowing may now be made in a sheltered situation on a warm border where the soil is light, but better defer sowing where the land is heavy till after the middle of the month. Those sown in July are proving very useful at the present time, and will continue to do so till the young ones are ready for use.

SMALL SEEDS.—Intending exhibitors should now make sowings of the undermentioned, either on hot-beds or in boxes placed in heat. It is impossible to have some vegetables forward enough unless recourse be had to this method of culture. Onions, Leeks, Forcing Cauliflower, Celery, and Cos Lettuce are the more important at present. Too much heat must not be applied or the plants will get drawn up and be worthless.

CUCUMBERS.—By this time, seed that was sown in the early part of last month will have produced plants large enough for planting out. Where fermenting material is used for bottom heat, see that this has been turned over two or three times before being taken into the house, otherwise the ammonia therefrom may prove injurious. Cover the bed with soil, but do not plant for a few days, or until such

times as there is no danger of the roots being injured by too much heat. Maintain a night temperature of from 65° to 70°, with a rise of 5° or 10° by day according to the state of the external air. When the sun is bright, ventilate in the early part of the day, but close the house about two o'clock so as to raise the temperature afterwards.—W.F.J.

The Orchid Grower's Calendar.

POTTING.—Delays are dangerous is a truthful saying, therefore, though the weather is not particularly favourable, we must make a start somewhere or we shall not get through in time with the necessary work.

We generally commence by going through the *Laelia anceps* as they go out of flower. This year they are late, so much so that the flowering season will go far into February, so that it is impossible to make a clean sweep of the whole batch of plants of this section.

Preparing the plants for the operation is as essential as it is to prepare them for exhibition. After the flower spikes are cut we generally sponge the plants and give them a good soaking. This soon makes them plump up; then withhold water until they are moderately dry, when the repotting should be done. It is a mistake to repot when they are very wet or dust dry and perhaps shrivelled. Another point to be observed is that new root action has commenced. The best possible time to repot all plants (short of being actually in flower or approaching that stage) is when new roots are pushing from the newly-made-up pseudobulbs. If these roots are allowed to get very long the work becomes more tedious; besides roots that run riot outside the pots or baskets and have attained a good length very rarely take kindly to being confined inside the pot; but when some new sweet stuff is placed for them to take hold of first off everything goes well.

Unless the plants require a larger basket we simply pick out all the old compost and as much of the drainage as is convenient so as to get rid of all the woodlice, or they will eat the new roots beside chewing up all the live moss. If there is any difficulty experienced in dislodging them, well syringe the remaining crocks with tepid water, they will soon shift and can be easily killed. Plants thus treated should, however, stand over until next day before filling in with fresh compost, as it is a mistake to cover up roots when wet. We ourselves make the plants secure by placing supports, then fill in with crocks, finishing off with a thin layer of peat and moss, working in pieces of crocks here and there to keep it open so that the air can get at the roots.

WATERING.—Very little water will be required for some time, just a syringe over to keep the moss alive; but when it is seen that the roots are working through the compost they may receive a good supply, allowing time for them to dry up between each watering.

LAELIA ANCEPS, and, in fact, all Mexican *Laelias* like to be suspended near the glass so that to accommodate them with what they require baskets or shallow pans should be used. We prefer pans to baskets as a rule, but the white forms owing to their racing habit require too much room for pan culture, so that teak wood baskets are the best on account of their lightness, thus avoiding too great a strain on the roof as would be the case with heavy pans.

COOL HOUSE.—Where *Odontoglossum crispum* is grown in quantity there is sure to be a good number left over from the September potting that are just now ready for a shift. We have pointed out before now that plants of this section may be repotted at any time, in fact, it is better to do it when in spike than not at all, anyway do not let them get into a bad condition before doing it.

ODONTOGLOSSUM HARRYANUM.—This is in great request just now for hybridising purposes, and if not the best to keep in good condition and to flower regularly as well, it is nevertheless fairly tractable with ordinary care as regards a little addition of sweet compost at the right time and a few more degrees of heat during the winter months, so that intending buyers would do well to remember this. It will save trouble later on.

TEMPERATURES.—There will be no necessity for raising them much as yet by fire heat.—S. C.

PRINTS FOR AMATEURS.

Annual Asters.—To any one who has studied the sections, types, and varieties of annual or Chinese Asters, the *Callistephus hortensis* or *Callistemma hortense*, the pursnance and comprehension of all the relationships between the original form and those to which it has given rise will be known as having demanded strict observance. The sections are now permanent and well defined, however, so that to those who only wish to secure and grow any special type, such as the Victoria, Comet, Chrysanthemum or Paeony—flowered Asters, all they need do is to order seeds and grow them. By a careful selection our gardens can be greatly brightened, both indoors and in the garden proper, by their presence.

Victoria Asters.—These are here placed first because they are amongst the most showy and massive of the Asters. For exhibition purposes they are much prized, as likewise are the quilled types. Good plants can, and do, produce a couple of dozen good blooms per plant. They grow from 15 in. up to 2 ft. in height. Their colours are various.

Quilled Asters.—The flowers of the Quilled Asters are graceful, they having an outer edge of ray petals and a central disc of fluted petals. Growing to 2 ft. they branch remarkably and are very suitable for cutting as decorative blooms indoors.

Pyramidal Bouquet.—We also have a fine class in the Dwarf Pyramidal Bouquet Asters, whose special character is their flower-producing qualities. The name given to the section indicates the habit of the plants. As pot subjects they are very successfully employed. They are more or less found in distinct colours.

Bedding Asters.—This is the strain which we most largely use in beds and borders, for which purposes they are very much adapted. The flowers are often compared to the Chrysanthemum-flowered types, and indeed the two sections should be regarded as one. There is another strain known as the miniature bedding Asters, which are more suitable for the edges of beds and borders. They should be planted about half a foot apart. With the bedding Asters we might classify the dwarf pompon-flowered types.

Dwarf German Asters also are suitable for bedding, as they never get beyond 8 in. or 9 in. in height. They, too, are sometimes given pot culture. The German "Empress" strain has large blooms.

The "Empress" Asters take after the Victoria type, but are handsomer, being remarkable for their size, substance, and beauty. Their height does not exceed 12 in., and they flower early, the whole habit of the plants being toward massiveness and magnificence. An enthusiastic friend of mine who exhibits Asters, prizes the Empress strain immensely.

Comet Asters.—In the Comet Asters we have a distinctly different build of flower. The petals are wavy, long, and twisted, appearing in a good specimen just like a small Japanese Chrysanthemum bloom. The flowers become very large, but the plants are not extra tall, only about 15 in. They are also known as "Plume" Asters. Another taller form of the Comet Aster is known as the Giant Comet, having larger flowers. It is a type suitable for pots, but the ordinary Comet Aster is equal or better than this.

Crown or Cockade Asters.—These are singular in that the centres are white, while the edges are variously and broadly coloured. They attain a height off and on, about 18 in.

The foregoing variations of the annual Asters are constant enough when the seed plants are kept well rogued. Every year we are having fresh additions to the list of novelties in this class of plants, and we welcome them, for the Asters are a very serviceable class of plants. Nurserymen have certain strains which they foster and select from, eventually securing types which become quite distinct. Much of the finest seed is saved by German and Dutch firms, specially for our English houses. Seeds are now subjected to so severe and complete tests before being offered, that any fault in the germination of seeds must be placed with the sower of them. The culture of the annual Asters is simple. Prepare shallow boxes toward the middle of March (or cold frames either), and sow the seeds thinly and evenly on a level surface. Water carefully, and keep the boxes in a house with a temperature of 55° or

so. When they are large enough to handle prick them out 4 in. apart into larger boxes filled with good rich soil. In May or June plant them out, or pot them up for the greenhouse, as the case may be.

Gladioli.—The Asters are a varied class, and pretty, but Gladioli (which is plural for Gladiolus) are like kings beside them, so stately are they. This is not intended, and need not neutralise what we said in favour of Aster growing, for they occupy different spheres altogether. They do not compete for favour, both of them should be cultivated. But, among hardy flowers, Gladioli are among those *facile princeps*. The corms (they are frequently, but erroneously, termed bulbs) should be planted in March or April, a few inches deep, in rich beds of loamy soil. They will then produce spikes from August till late in autumn. For harvest festivals, the white and crimson, large-flowered Gladioli are superb. Early staking of the spikes is advisable, and feeding with liquid manure during the later period of active growth is recommendable. To increase the number of corms for planting, I have successfully made divisions of strong samples. Each half must, of course, have a bud to it.

Gladiolus gandavensis.—This section is that which is commonly termed the large-flowered Gladioli. Some of the finer varieties in the section are: Mary Anderson, Lord Powis, Mrs. J. Eyton, Nautch Girl, and others of this style.

Nancieanus hybrids.—These differ, of course, according to the other parent used with *G. gandavensis*. The Nancieanus type has a wide, open, well-expanded flower, massive, and finely spotted in the throat. Other features are its colouring. Hybrids have originated from crossing *G. Saundersii* and *G. gandavensis*. The resulting hybrids partake of characters from both parents. Lord Curzon, Hall Caine, and the Khedive are samples of Nancieanus hybrids.

The Lemoinei, or large-spotted hybrids, come from the crossing of *G. gandavensis* and *G. purpureo-auratus*. Then we have the hrenchleyensis section, whose characters are an earlier period of flowering, and a confined tint of colour, being vermilion-scarlet. The species *G. byzantinus* flowers toward midsummer. Its growth is more slender, and the flowers are purple. It is suitable for a sunny rockery.

G. Colvillei and **G. G. alba**, or The Bride are well-known pot varieties. From the old *G. psittacinus*, which is scarlet and yellow, and flowers from April to August, one may say that the noble race of present day Gladioli are due, it having been the means of inspiring the late Mr. James Kelway, Sen., with his enthusiastic study of these plants.

Present Work.—The plant houses, warm stoves, and ferneries, &c., should be damped down each morning, going over the stages and between the pots. Care must be exercised so that the plants are not moistened when they ought not to be. Potting up, propagation and seed sowing are matters to mind at the present. Cuttings of Chrysanthemums may still be inserted. Those which are rooted may be potted into thumb pots. Fuchsias which have been rested may be shaken out and started. Pelargoniums in boxes for bedding may require to be picked over, but if they can do without water leave them as they are. Callas require feeding now.

Sow the following vegetable seeds:—French Beans, Tomatos, Onions, Carrots, and Radishes. Mustard and Cress for salading may be sown in shallow boxes. Potatos for early planting may be cut up and placed in boxes to sprout, afterwards to be planted. Be careful in the airing and damping of fruit houses which are being forced. Do not forget to pot on and pinch or train up, according to taste, the batch of Schizanthus. These, as I have said before, are among the prettiest of spring flowering annuals for our conservatories. A sowing may even yet be made in a temperature of 60°, giving the plants cool treatment after germination. Batches for forcing should be brought on. Lawns in need of dressings of fine soil and manure should now have it. Levelling may proceed, and Box laying, &c., can be done. Paths may be mended.—*Beacon*.

Onion Seed.—The yield of Onion seed in U.S.A. is, we are informed, very much less than past opinion would have us believe. It is stated this is owing to mildew.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

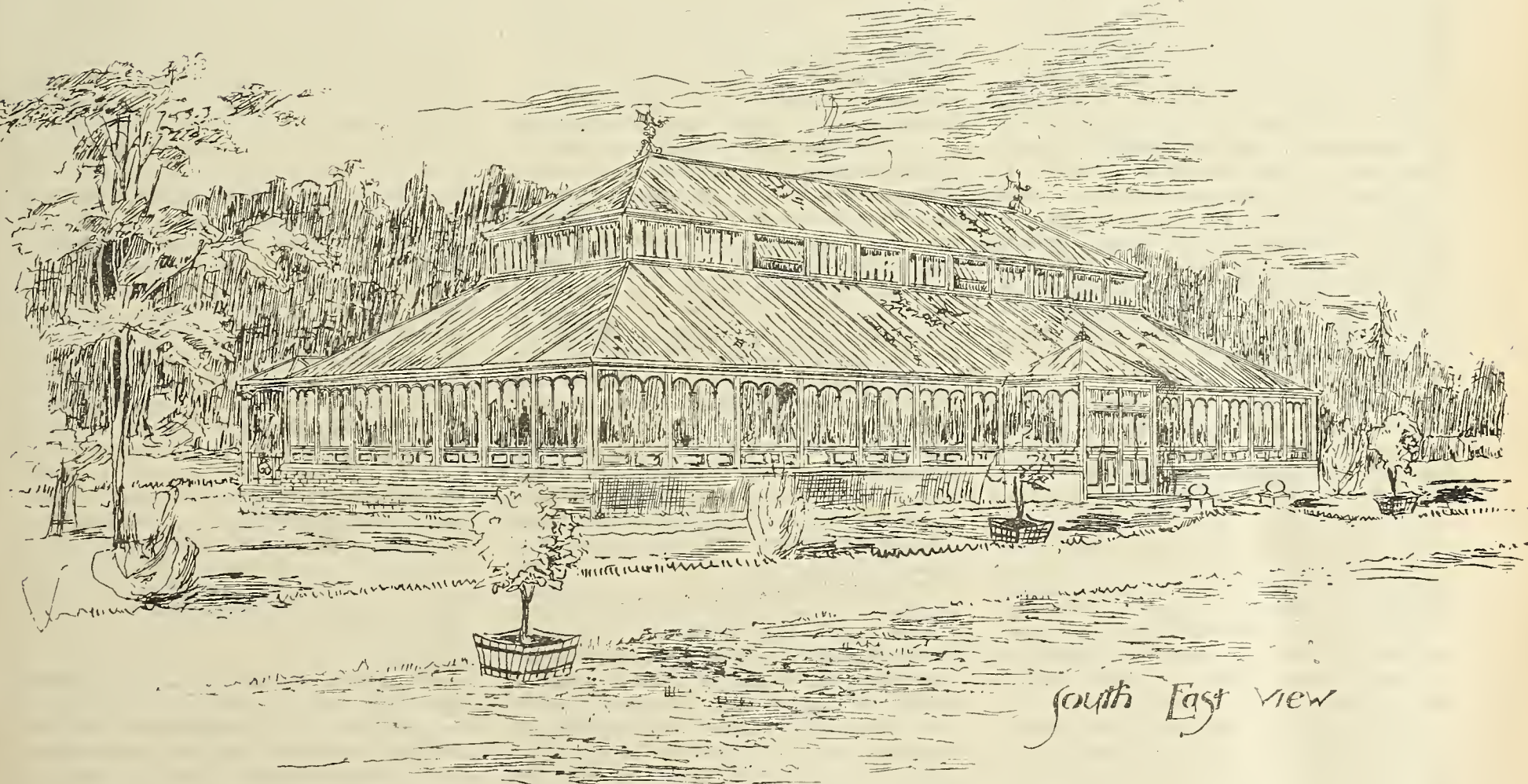
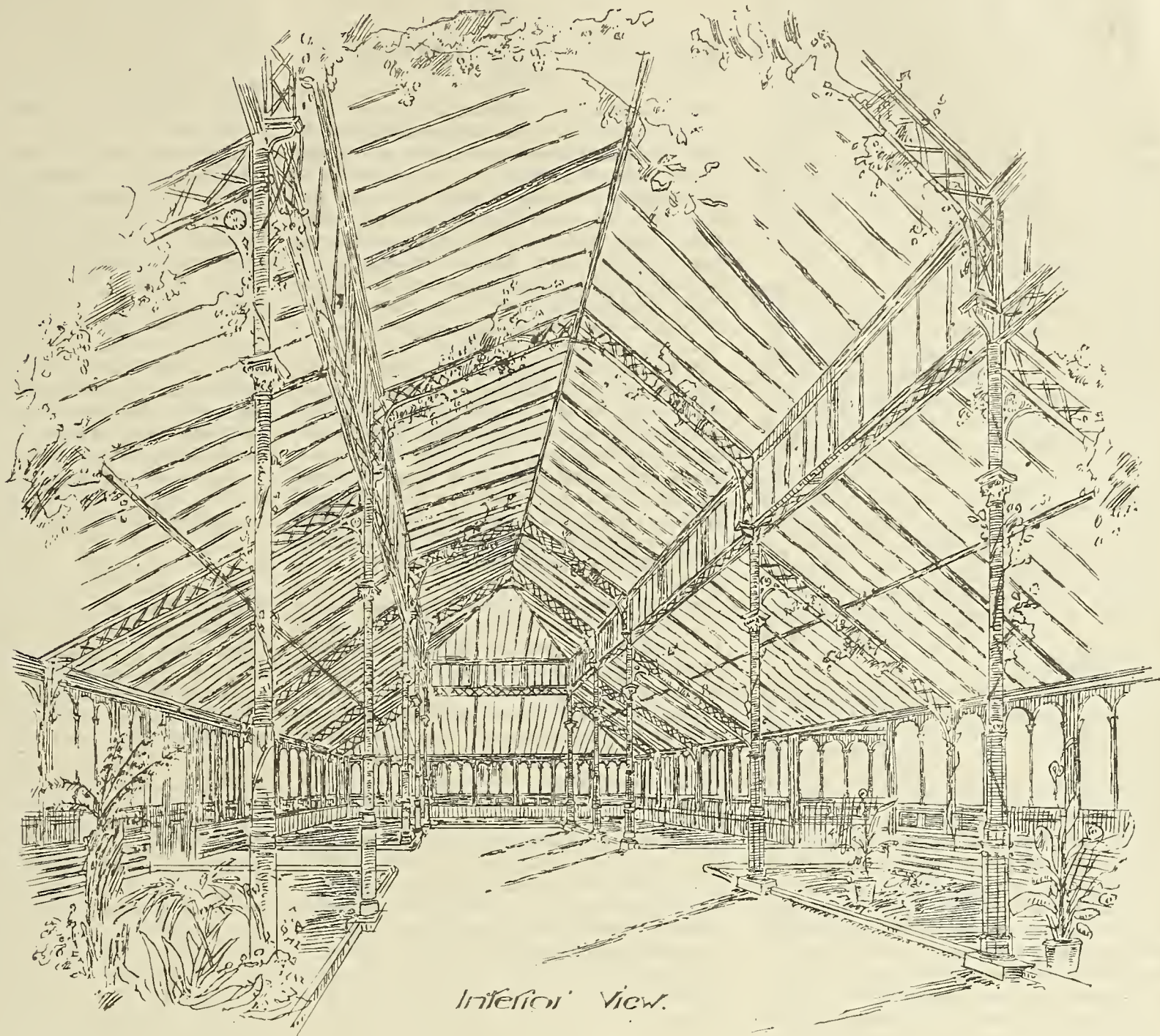
Frame and Border Violets.—*Jas. Verrow*: Ventilate your frame violets more freely and protect them from frost. Be especially careful not to expose frosted leaves to the sun. Probably there is some injurious element in the atmosphere, or the fog may have caused the damage to the leaves. It is difficult to say what's what, and just as difficult, we know, to keep the plants clean and healthy. Young runners should be chosen in April from around the collar of the parent plants. Plant these in lines in half-shaded borders. A deep, rich, loamy soil is to their liking. If light, the soil should be well enriched with dung, and the smoulderings from rubbish heaps. The cuttings from the runners should be placed in about 9 inches, to 1 ft. either way. Make them firm. Throughout the summer keep them free from weeds, and stir the surface soil. Water them if need be, and by September they should be ready for planting in the frames. Keep the runners removed.

Jadoo for Window Box.—*W. L.*: We have experienced much comfort from the convenient way in which Jadoo can be handled in such cases as you mention. Mixed with some turfy loam, or used alone, we have nothing but the highest praise for the material. All sorts of hardy bulbs and soft-wooded plants, Ferns, &c., did well in it. It retains moisture, too. After a couple of seasons it requires to be renewed or newly mixed with fresh fibre.

Planning a Back Garden.—*A. D. K.*: From the notes you send, we will set your garden down at a quarter of an acre. It is also well situated as regards shelter and the sun's influence. One Apple tree and some Black Currant bushes are all that it contains. Well, *A. D. K.*, plenty of gardens in the suburbs of our cities have not even so much as that. And it's a pity. For, if anything should give happiness and a love for home, it should be the garden. If amateurs would but interest themselves in the gardening papers and gain some insight to the needs of plants, probably we should have fewer of those backyard wildernesses. First of all, you may as well lift the few Currants and place them in a shady corner to take up as little space as possible. Then thoroughly dig it, or, if it is as hard as you say, get someone else to do it. Pay him well and see that he does it properly. Then mark out spaces for one or two main alleys, which can be cindered for cleanliness. Box edging is expensive, and stone or tile edgings may be placed in, instead. Then plan off the different borders and brakes. A flower border of about 4 ft. should margin each of your main alleys, and at the back of these the vegetable brakes may be planned. Standard apples would be most preferable to dot about. The wall may be covered with Pears, Plums, or Cherries. By careful management you should be able to have a neat little garden. A small drying green may be made next the house.

Cosmos from Seeds.—*J. M. L.*: The annual Cosmos may certainly be raised from seeds, sowing these in a gentle heat in spring. They require much the same treatment as other annuals, being first pricked off into boxes, and then transplanted to open borders in May. There are also perennial species, and these too, are easy to cultivate, and are wonderfully showy.

Neillia thyrsoides.—*John S. Sewel*: This neat little shrub of which you enquire is very similar to a shrubby Spiraea. *N. thyrsiflora* appears to be another version of its name, but we prefer the one heading, this, as being more strictly descriptive of the manner of flowering, thyrsoid being a closer arrangement of the inflorescence than we find in the panicle of which *Gypsophila paniculata* is an ideal sample. The flowers are white and rather sparsely borne, the wood being slender but erect. It is hardy if a well-drained sandy soil and sheltered position be given to it. Propagate by division, or by cuttings of nice young wood.



NEW CONSERVATORY OR WINTER GARDEN IN STANLEY PARK, LIVERPOOL. (See p. 362.)

STANLEY PARK, LIVERPOOL.

THIS park, of about 100 acres at the northern portion of the city, is about to be enriched by the generosity of H. Yates Thompson, Esq., who has erected for the benefit of this thickly populated district a handsome and imposing conservatory or winter garden, 115 ft. in length, 54 ft. wide, and 45 ft. high. The form is a span roof with a large lantern. The contractors are Messrs. Mackenzie & Moncur, of Victoria Road, Glasgow; Balcarres Street, Edinburgh; and 8, Camden Road, London; and now that the house is nearing completion there appears every promise of their fulfilling the contract in the same satisfactory manner as that of the Palm House in Sefton Park, erected by the same builders for the same generous donor.

The base of the structure is Woolton stone from Messrs. W. Oliver & Sons' Woolton Quarries. This is of a soft red colour, which shows off the structure to advantage, which is composed of iron and glass, with the exception of the doors and frames of upright lights in the lantern which are of teak wood. The lantern roof is supported by twelve massive iron pillars. The upright portion is glazed with polished plate glass, the squares being about 5 ft. by 2½ ft. The roof and lantern are of selected 30 oz. sheet glass, in squares about 3 ft. by 18 in., with circular ends, which will cause the flow of water down the centre. The estimated weight of the iron and glass is 300 tons. The ventilation is by four screws, opening each side of the lantern, and six to open the lights along the whole length and ends of the house just above the heating pipes, which should ensure ample ventilation.

The heating is by two powerful Trentham boilers, placed in the yard. Some thirty yards distant the mains are carried in a 3 ft. square tunnel, which will admit of inspection at any time. Eight 4 in. pipes, or about 1,400 ft., run round the house, close to the outer walls, which should be ample for the needs of the plants suggested for the house.

Messrs. Standing, of Garston, under the supervision of the contractors, have carried out the foundations, and have formed a rockery at each end of the building, that on the west end of tufa rock, that at the east with Derbyshire spar. Fountains of various forms will play at will; in the centre of the east end is a marble figure of a boy holding in an upright position a large, struggling fish. A small tufa rockery in the centre is furnished with Ferns. The borders run all round the house 15 ft. wide, which leave ample promenade in the centre, which is of Belvin gravel. The seats inside are from the timber of worn-out ships composed of teak wood, with galvanized iron bearings. The ships represented are the Dreadnought, Albion, &c.

On the north side, and facing the bandstand, is a verandah running the full length of the house, and ten feet in width, which must prove valuable as a promenade or resting place whilst listening to the band. The front of the verandah, which is a span roof, is faced with an iron pallisading, and here we find the only attempt at ornamentation. The iron-work is in panels; and scrolls or festoons of fruit, in hammered iron, occupy each panel, no two being alike. Three sets of concrete steps lead down to the band promenade, which is undergoing improvement and enlargement to meet the increased expected demands.

As will be seen from the accompanying sketch (p. 361), the exterior is solid but plain, the only relief being the figures of two flying northern birds at either end of the lantern, and of the ship Columbus over the centre entrance of the verandah. The painting throughout is a light self colour.

Mr. W. Hall, the resident superintendent, is now fully occupied with planting and furnishing; the plants being utilised are Palms, Camellias, Dracaenas, Bamboos, Imantophyllums, Callas, &c.

The designers and builders are to be complimented on their satisfactory work, for with Mr. Hall we think it will prove satisfactory for growth, the light being ample and the roof not too high.

The donor, undoubtedly, will not only be the recipient of the thanks of the Lord Mayor and Council for this valuable gift (costing fully £7,000), but by the thousands of artisans and work people who throng there daily throughout the summer.

The gardening friends of Mr. H. Herbert, superintendent of parks and gardens, will be glad to hear that such valuable additions as the Sefton Park and

Stanley Park grand structures have been added to his already fine collection of glass in various parts of the city.

CULTURE OF BUSH CHRYSANTHEMUMS.

THOUGH there is a large following of devotees to the hobby for specimen blooms, yet, probably, there are more growers who content themselves with plants for cut flowers for decoration. Among these must be classed the great majority of our amateur gardeners. The culture of Chrysanthemums in a bush form, to provide sheaves of flowers for rooms, or as plants for the halls and lobbies, is simple on the whole. Toward the later stages, the plants require a deal of attention in regard to their water supply. For those who cannot give constant care, it is advisable to plunge the pots in the ground, or to protect them by mounding ashes around the base. Enough may have been gleaned in the pages of the GARDENING WORLD for the amateur or other interested person to have been successful with his cuttings. Starting from the rooted cutting stage, the first shift should be to place each in 3 in. and 4 in. pots, according to their size. Very soon they will require to be placed from the slightly warm house in which they were rooted, upon the shelves of another house which is cool. The atmosphere should not be too dry.

A few weeks hence and some of them will require a further shift. This next shift should be to the 5 in. pots. Firm potting is necessary at this shift, but the compost which is employed should be simply of loam, leaf-mould, and sand, using about two and a half parts of the former to one of leaf-mould, adding a goodly quantity of sand. The drainage at all times ought to be well laid. It pays to be careful. The plants now being in 5-in. pots must have further space given to them for well-balanced development. Crowding is one of the chief points to avoid. And it must all along be kept in sight, that the plants are largely "made" in their young state.

Neglected urchins seldom or never develop into "strapping" men, so in like-fashion the young plants require properly laid foundations if they are to be good samples. While growing on at this stage, it will be well to look over the plants to pinch out one shoot from any plants which may be showing two leaders.

They will be kept in the cool house until they can safely be placed out in the frames in April, or before then. When the 5-in. pots are filled with roots, and the plants are seen to be suffering, lose no time in preparing for an onward shift. Some might be inclined to pot them straight away into an 8-in. or 9-in. pots. When three plants, each in 5-in. pots, are so treated, the shift is proper; otherwise it is too much. But as three plants are very often placed together at the last potting, for bush plants, it may be set down as the rule to follow. Toward the end of April the plants may be cut back to within half a foot from their base. Three shoots may be led up afterwards from each of the plants. Later on these may be again pinched, but reason rather than rule must be taken to guide one in this work.

The compost for the final shift into 8-in. pots (or larger, probably) should be rich and good, as follows:—Four parts of the best turfy, brown loam, two parts Mushroom dung and leaf-soil, one-sixth part crushed bones, shells, and sand. Some charcoal and soot may be used. The soot is best if kept confined to the region just above the drainage. It prevents slugs and worms from entering. The compost should be turned over two or three times and well rammed and knocked in around the edges and between the plants when potting.

In May begin to harden them to the evening air. Previously, the frames should have been ventilated at all favourable opportunities. Now, after the final potting, they may be placed outside along the paths in a sunny position. See that the pots stand level. Indeed, they ought to be on planks. They now require constant looking over, daily syringing, and occasional watering. As the days begin to grow hotter and growth advances, more water and more frequent syringings should be given to them. They will soon need to have stakes placed to them. Then the time will come on when they will require to be fed. In no case stint them. If need be they may be plunged to the brims of the pots in soil. This

saves watering and helps the roots. Regulate the shoots and keep tying them in.

By-and-bye, the buds will appear, and it behoves the grower, then, to see that they develop steadily and properly. Dust the foliage with sulphur, should mildew put in an appearance. Insect pests must be kept in abeyance. As soon as the buds are the size of a finger nail, say about the end of August or September, house the plants. Some care is then needed to maintain a dry and buoyant air.

The following may be taken as useful decorative varieties:—Etoile de Feu, Mytchett Glory, Mytchett Beauty, Mrs. Wingfield, and Vivid, which are more or less new; Barbara Forbes, Beauty of Exmouth, Cullingfordi, Edie Wright, Elaine, George Glenny, Harvest Home, Lady Fitzwygram, Mdme. Marie Masse, Mdme. Desgranges, Market White, Ma Perfection, Mrs. Geo. Rundle, O. J. Quintus, Ryecroft Glory, W. H. Lincoln, William Holmes, and W. Seward. In the above list will be found a capital selection of colours, including both incurved and Japanese reflexed varieties. Half-a-dozen good singles are:—Earlwood Beauty, Framfield Beauty, Mary Anderson, Miss Rose, Miss Annie Holden, and Golden Star.—*Caledonia*.

CHEMISTRY FOR THE GARDEN.

II.—GASEOUS ELEMENTS.

(Continued from p. 343.)

OXYGEN.—This material is so abundant in every substance in Nature that it forms by far the greatest quantity of the entire globe. An idea of its universal distribution can easily be formed from the fact that nearly one-half of the solid matter of the earth consists of oxygen; eight parts of every nine parts by weight of water, three of every four parts of animal matter, four of every five parts of vegetable matter, and one part of every five of the atmosphere.

It will be evident that this gas exists in three different forms, viz., solid, liquid, and gaseous. The two former are in combination with other substances, but that of the air is in the form of a mixture, and therefore at freedom to act upon materials for which it has an affinity. Its effects are very marked on bright iron when left exposed a short time to the air, by causing it to rust. This rust is now a combination of iron and oxygen, which is termed oxide of iron. The acidulous, or rather corrosive, nature of this element in the free state, as often observed by its effects on metals such as iron, leads us to think that if a little more of it were in the air in the same state it would be disastrous to all organised beings.

The apparent duties of oxygen are to decompose all things by burning. It would seem to be the great scavenger of Nature, laying hold of everything organic and otherwise, and burning it in its capacious destructor. To this useful agent the gardener owes much. The manure heap is fermented and ultimately prepared for plant assimilation, chiefly by the action of this element. In such actions, whether slow or rapid, there are always new compounds of oxygen formed, which are invariably of the greatest consequence to the gardener. Oxygen, it may be inferred, from its general distribution, can combine with all the other elements.

It combines with carbon to form the staple food of all vegetables, viz., carbon dioxide, which is in due course decomposed in the leaves by the action of light, and the oxygen again escapes into the air, and the carbon retained, as we all know, to build the structure of the plants.

In a word, every food for plants must be assimilated under the control of oxygen. That is, all plant food must be oxidised before being available. The gas is easily made artificially from various substances by the application of heat, and many interesting experiments illustrative of its nature can be performed.

NITROGEN.—This gas may be considered the antithesis of the last one, which is a supporter of combustion, while nitrogen is not. Four out of every five parts of the atmosphere are composed of nitrogen, the other part, as we have seen, is oxygen. Its distribution is limited chiefly to the atmosphere, animal and vegetable matter. Nevertheless, the amount on the earth must be very great. It appears to be extremely shy of combining with other substances. Unlike oxygen, it does not combine with anything left exposed to it in the atmosphere; it has,

so to speak, to be coaxed to do this. However, when in combination with other substances it may be considered the most valuable agent we possess for plant food. Nitrogen is found in cultivated grains, roots, and very abundantly in animal matter.

Hence the superior value of these substances when thoroughly oxidised for the growth of plants. The electricity in thunder storms compels nitrogen to combine with oxygen in small quantities in the air, and the result is the formation of nitric acid. How dreadful if from some occult cause both gases combined, our atmosphere would then be turned into an aerial ocean of deadly poison, which would probably destroy all life in a few moments.

CARBON DIOXIDE.—This gas in the air is infinitesimally small in proportion to the latter two, and though it forms the staple food of plants, this minute proportion is more than sufficient for the support of the vegetable kingdom. It is found abundantly in various rocks and earths. There are enormous quantities of the gas in limestone, marble, and chalk, which when an acid is poured upon evolves the gas in abundance. Carbon dioxide, it must be remembered, is not elementary as the last two, but is a combination of carbon and oxygen. It may be considered an oxide of carbon, a name far more intelligible for beginners. Besides its value as a plant food it has mechanical agencies, such as pulverising and dissolving the soil.

HYDROGEN.—This is an elementary gas which is widely distributed everywhere. Water is composed of two measures of this gas, and one of oxygen, and is fourteen times lighter than the air. One-ninth of the water of the globe is hydrogen.—*Oxygen.*

(To be continued.)

STOVE FLOWERING PLANTS.

(Continued from p. 345.)

CENTROPOGON LUCYANUS is a very pretty winter flowering plant with rose-carmine flowers, and was brought to notice in 1856 as a garden hybrid, so that it is not a new plant to us by any means, yet not often met with in our plant stoves. One would almost think it belongs to the Euphorbia by the milky substance exuding from it when cut, but its natural order is Lobeliaceae, by Johnson, Campanulaceae, by Nicholson. There are half a dozen species and hybrids, but the above is the only one that I am acquainted with.

It is easy of propagation, especially so if a bit of old wood is attached to the cutting, and it is placed around 3-in. pots that have been filled with loam, leaf soil, and sand. Put the pots of cuttings in a close case, with a slight amount of bottom heat, care being taken that no damping takes place. The after treatment is similar to what has been advocated for Eranthemums and Plumbagos. It thrives well in cold pits or frames up to the end of September, and 5½ in. or 6 in. pots are large enough the first year, using a sprinkling of peat with the soil at the final potting. The long shoots must have supports when grown in pots, but if placed in baskets, for which they are well adapted, no staking is necessary. Grown in either way, and flowering in the depth of winter makes it a valuable plant for a warm stove or intermediate house. Shorten back the pendulous shoots a little after the bloom is gone over to produce cuttings, or cut to within a few inches of the ground if it is intended to keep the old plants and grow them on again, which is a good plan, these making fine bushes in 7 in. pots. Mealy bug is about the only pest I have noticed that worries them, and I need not say these must be given a wide berth.

BEGONIA GLOIRE DE LORRAINE.—This is a most beautiful decorative plant from October up to March when well grown; and, unlike the majority of Begonias, it holds its flowers on so well, even when carted to the mansion or moved from house to house. It should be largely grown where a bright and lasting display is looked for. Where a temperature of about 60° can be maintained, and very little syringing carried on, the plant will continue to flower for many months; in fact, it is scarcely ever out of bloom, for if you cut it down, hoping to get a good supply of young shoots for propagating, a large percentage will bolt into flower again. These shoots are no use whatever for that purpose, as they fail to make a satisfactory break, but recently growers have told to the world that this charming plant can be easily increased by the leaves, which is a decided gain, and that plants so propagated make better specimens than

side growths do, but as I have not yet tried the plan I cannot say much about it. Care will be required that the leaves do not decay before roots are emitted, and I should think cocoanut fibre refuse a good material on which to lay the leaves.

Plants from cuttings require pinching several times to get a good, bushy plant. I have not tried these in cold frames, though I do not see why they should not be safe there for three months. But wherever they are placed keep them well up to the glass. They do not require large pots. Nice little specimens, from 12 in. to 15 in. across, can be grown in a 48-size pot. During the flowering period the plants must neither be kept too wet, nor, on the other hand, too dry, as they soon suffer from either cause. A white variety has cropped up within the past few months, but to judge from specimens seen and exhibited at one of the Chrysanthemum shows it is not nearly so showy as the pink.—*Grower.*

(To be continued.)

THREE GOOD SORTS OF BEETROOT.

This is amongst the worst kinds of vegetables for seed growers to keep a good and true stock. Those who frequent gardens are aware of this by the patches they see, often in a very mixed condition. Added to this there is a large number of names compared with the distinct kinds. For several years I have been saving a few roots when I have them taken up, with a view to fix a variety I selected some years ago; and although I only grow the one kind I find great difficulty in fixing it.

The best lot of Beet I saw last summer was growing in the gardens at Diddington Hall, Norfolk. The rows were forty to fifty yards long, two rows of a kind, namely, Nutting's Selected, Dell's Crimson, and Pragnell's Exhibition. Out of the whole lots could only count six or eight rogues.

Pragnell's was perfect. Not one of the seed came from the original stock, as all the kinds came from Messrs. Veitch, of Chelsea. Generally, Pragnell's is considered by most growers as the best exhibition Beet in commerce.

The soil is light and sandy, and had been worked deeply. Many of the roots (as I saw them taken up) were two feet from crown to tip of the root, as straight as they possibly could be, and free from side roots. So good was the stock that I brought several home for seed. Both of the other kinds were good.—*J. C., F., Chard.*

BUCCLEUCH NURSERIES, HAWICK.

(Concluded from p. 347.)

CONSIDERING the hybrid origin of Begonia Gloire de Lorraine it is not at all surprising that it should have given rise to sports. In the case of the pink sport and Caledonia we see a partial separation of the colours of the two parents (B. Dreggei and B. socotrana), as if an effort were being made by Nature to throw off the dual character of the hybrid. Here the sporting ends for the present, for in no other respect does the white-flowered Caledonia differ from Gloire de Lorraine. Both of these were growing and flowering side by side in one of the warm pits of Mr. John Forbes, Buccleuch Nurseries, Hawick, who is naturally proud of being able to put such a fine thing into commerce. He has a large quantity of healthy stock. Another house contains strong plants of Rose Marechal Niel in pots.

CARNATIONS.

Tree and border Carnations are extensively grown at Hawick. To the former race Carnation Yule Tide belongs. A thousand plants of it were grown in 32-size pots last spring. It is a true perpetual, blooming at all periods of the year; and equally suitable for outdoor culture as under glass. In September last it was flowering outside and inside, while about a year previous it was flowering beautifully in beds in some of the London parks. The first year it was brought before the public it gained ten First-class Certificates. It seeds freely, but hitherto it has produced nothing so meritorious as itself, though a soft, flesh-pink seedling is a fair thing in its way.

Other tree varieties are well represented, chiefly in the houses. Very choice is the dark crimson Duke of York; whereas Robert Pringle is bright crimson slightly flaked with a darker shade. Helen Keller is white striped with scarlet; La Neige, pure white; Mrs. Leopold de Rothschild, otherwise known as

Mme. Therese Franco, pink; Miss Joliffe improved, flesh-pink; Winter Cheer, crimson-scarlet; and Uriah Pike, maroon-crimson. The edges of the benches are furnished with a fine lot of Campanula balchiniana, while Tropaeolum speciosum is stored under the stages. About half-a-houseful of fine young plants of Malmaison Carnations, in variety, gives promise of making fine flowering plants.

A considerable area of ground is, every year, devoted to the cultivation of choice named varieties of border Carnations. The newer varieties are placed in frames, where they can be looked after and their merits determined. The frames are, of course, kept open all the summer and autumn. Amongst last year's new ones are: Triumph, a wire-edged, yellow ground; Tangier, heavily edged with scarlet, and very attractive; Queen of Holland, producing salmon-apricot flowers of fine form; Professor Gerts, a handsome, steel-blue variety, flaked with bright scarlet (it produces large flowers, but, not being dis-budded, there is no bursting); Prince Bismarck, maroon; Kate Benary, a delicate flesh colour; Agnes, rosy-pink; and Nedda, white, with a large, red blotch on every petal, varying to scarlet, edged with white, and of the latter hue on the back of the petals. Of the above new varieties, the last named and Professor Gerts are very distinct, and charming fancy varieties, well worth growing in every collection. Older varieties are John Forbes, heavily edged with rosy-scarlet on a yellow ground; and Artemus, a satin-rose variety, flaked with steel-blue. There is a great run upon the former, but it is a vigorous grower with good grass.

The varieties grown in the open ground are so numerous that only the best of them can be mentioned. Corunna is a good and well-known yellow. Curtius is a fancy yellow variety, edged with salmon-red. Chameleon is handsomely striped with carmine on a yellow ground. Amongst selfs the bright scarlet Lady Benning is very fine; Ella Bander, rosy-salmon, very free, with good grass, and excellent for cut flowers; and Miss Ellen Terry, huge, pure white and choice. Queen of Bedders is deep rose and very free. Salamander is salmon-scarlet, and one of the best growers in the collection. Scarlet Gem is a very bright, new variety which was raised here. John Fraser is white, flaked and mottled with scarlet; and is both a strong grower and profuse bloomer. Distinct in its way and free is Col. Hope, with bright crimson-scarlet markings on a clear buff ground. All the varieties were of course layered by this time, and it was interesting to note the layers of Yule Tide in all stages of development towards flowering, thus demonstrating its perpetual nature.

Besides a few already mentioned there are other choice yellow ground Picotees, including President Carnot, with rose, purple and scarlet markings in mixture; Primrose League, the best of the yellow ground fancies here, being edged and splashed with red in a striking way, and the large flowers never bursting; and Mr. Nigel, with a heavy crimson edge, and certainly one of the most choice and handsome of all the yellow ground Picotees, the colours being decided and striking.

The true white ground Picotees, suitable for border work, also receive well deserved attention. Bailie Dunlop is characterised by a broad or heavy crimson edge, contrasting with the chaste and beautiful Boiard, having a rich rose, wire edge. The blooms of Edelweiss are very large, with a purple wire edge, that is, a very narrow line of colouring surrounding the white ground. Redbraes is characterised by a broad purple edge, and is one of the most handsome of its colour. Mrs. Arthur is a new variety, producing large, scarlet edged flowers, with great freedom.

HOLLYHOCKS.

As the years come and go the Hollyhocks thrive here, and the disease is never feared, being more of a name than anything else. Possibly the climate keeps the plants vigorous and healthy. In any case, a large breadth of them has been planted out annually for many years; and collections of the long and stately spikes are frequently exhibited. Though very old, Alba Superba, is yet considered the best of the double white varieties, being large, full and pure, Gem of the Yellows is a strong grower, with soft, primrose flowers, and is considered the best of its class. Hercules is also a fine old variety, having yellow flowers, more or less tinged with salmon. Another vigorous sort is Grace Darling, the large

and full flowers being rose and tinted with salmon. James Macdonald is a rose variety, more or less tinted with yellow in the centre. Lady Middleton produces pyramidal spikes of large, purple-crimson flowers, and is striking in its way. Mrs. Inglis is new or at least not very old, and is characterised by large, dark purple flowers. A bright crimson is met with in Memnon Improved, having beautifully wavy or undulated petals. Another good, standard variety is Mrs. Elliott, the flowers of which are light salmon, tinted with cream. The above are but a few of the large number of named varieties grown.

VIOLA AMOENA AT HOME.

VERY rarely do the botanical books condescend to mention this beautiful wild Viola, although it appears in a few gardening books, and occasionally in gardening literature. The name, translated, means pleasing, and a pleasing little flower it is. Well might it have been "the little western flower" of Shakespeare, except for the fact that he had little chance of seeing it. For many years it has been recorded in books as one of the parents of the garden race of Violas, and more recently it had been gathered on the Pentland Hills for the same purpose.

It is really a lovely rich blue-purple variety of Viola lutea, from which it differs merely in colour as far as I can see. The stems have the same slender, wiry habit, pushing out suckers or underground shoots from the crown of the plant. The lower portion lies on the grass amongst which it grows, while the flowering part is upright, and the long stalks carry the cheerful blooms aloft. It inhabits hilly and mountainous districts, even ascending above 2,000 ft., but it also grows in the bottom of the valleys. On the banks of the River Dochart it comes into bloom in May, before the snow has entirely disappeared from the tops of the mountains, when the melting snow, sleet, and rain have swollen the rills to mountain torrents that come down in a fleecy spray, and long, continuous cascades that roll and leap from rock to rock and ledge to ledge, reversing as it were the order of things, for the rivers then seem to be running over the mountain tops to the eye of one beholding them from the bottom of the valley. This they do by virtue of their feeding ground above and beyond the line of vision. All this time Viola amoena is blooming placidly amongst the fresh young grass on the bank of the main river above mentioned. It likes undisturbed ground, being a perennial, and blooms, more or less, till September. *Alchemilla*.

PLANTS RECENTLY CERTIFICATED.

The undermentioned awards were made by the Royal Horticultural Society on the 23rd ult.

Orchid Committee.

CYPRIPEDIUM SANDERIANO-CURTISII.—The parentage here is indicated by the name, and the seed-bearer was C. Curtisii. The leaves are large, broad, and without markings. The upper sepal has heavy purple veins on a yellow ground. The drooping, twisted petals are 6 in. long, brownish-purple, and spotted with crimson. The large lip is of a deep, dull purple. The plant is of great vigour, and the flowers (of which there were three on a scape) are a great advance on either parent, both in size and colour. (First Class Certificate.) Norman C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oak wood, Wylam-on-Tyne.

EPIDENDRUM WALLISII CILIARE SUPERBUM.—The flowers of this hybrid are very large and handsome. The sepals and petals are golden-yellow, fleshy, waxy, and shining. The lip is reflexed at the sides, and white, lined with purple on the lower half, with a yellow disc. It is a great acquisition to its class. (First Class Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

CYPRIPEDIUM ACTÆUS LANGLEYENSE.—The parents here were C. leeanum (female) and C. insigne Sanderæ (male). The dorsal sepal is orbicular, white, and spotted with light purple along the middle, with a green area at the base. The wavy, spreading yellow petals have a pale brown midrib. The lip is yellow, and marbled with purple internally. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

LAELIA MRS. M. GRATIX SUPERBA.—L. cinnabarina (female) and L. digbyana (male) were the parents. The lanceolate, acuminate petals are golden-yellow. The light yellow lip is deeply and sharply toothed and fringed round the margins of all the lobes, the hybrid being a very pretty one. (Award of merit.) Messrs. J. Veitch & Sons, Ltd.

PHALAENOPSIS SCHILLERIANO-STUARTIANA.—The name indicates the origin of this hybrid, which is quite intermediate. The dorsal sepal is white, shaded with purple on the lower half, the lateral ones being spotted on the middle like P. stuartiana. The suborbicular petals are shaded and mottled with purple at the base. The three-lobed lip is also white and spotted more or less with purple. The leaves are marbled with gray. (First-class Certificate.) Messrs. Hugh Low & Co., Bush Hill Park, Enfield.

PHALAENOPSIS INTERMEDIA BRYMERIANA.—The supposed parents here are P. Aphrodite and P. rosea. The sepals and petals are white, shaded with purple at the base. The side lobes of the lip are light purple, the middle lobe being intense purple, and handsome. The flowers are larger than those of P. rosea, and crowded in a short raceme. (Award of Merit.) Messrs. Hugh Low & Co.

LAELIOCATTLEYA FANNY LEON.—This is the product of Lc. exoniensis and C. labiata, the result being a large and handsome flower, particularly the lip which is of an intense crimson-purple, including the side lobes, all being beautifully laced with white. The throat and tube are lined with crimson and orange. The sepals and petals are rich purple. (Award of Merit.) H. S. Leon, Esq. (gardener, Mr. A. Hislop), Bletchley Park, Bletchley.

LAELIOCATTLEYA CALLISTOGLOSSA PRINCE OF WALES.—The sepals are long, and the wavy petals are of the palest silvery lilac. The lip has a white tube, orbicular lamina, and crisped edges, shaded with purple on a white ground, the colour being darkest at the base. The throat is white and yellow. (Award of Merit.) Sir F. Wigan (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

LAELIOCATTLEYA CHARLESWORTHII.—The parentage of this bigeneric hybrid was Laelia cinnabarina x Cattleya dowiana aurea, the flowers being intermediate. The sepals are orange, and the petals a shade or two darker. The lip is larger than that of L. cinnabarina, crisped and crimson. The plant stands about 18 in. high. (Award of Merit.) Messrs. Charlesworth & Co., Heaton, Bradford.

LAELIOCATTLEYA SUNRAY.—This is the product of L. cinnabarina x Cattleya superba. The sepals are of a rich orange, but the petals in addition are shaded with red. The lip is maroon-crimson, with long side lobes. The plant is yet only about 10 in. high, and handsome. (Award of Merit.) Messrs. Charlesworth & Co.

TAINIA PENANGIANA.—The sepals and petals of this graceful plant are fuscous yellow. The triangular lamina of the lip is pink. (Botanical Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

MAXILLARIA ARACHNITES.—The incurved sepals and petals of this species are yellow, while the lip is spotted with red. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

MAXILLARIA LEPTOSEPALA.—The long, white sepals are tinted with brown on the back; but the petals are white. The lip has a broad median band of yellow. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

CALANTHE REGNIERI HOLOLEUCA.—The flowers of this chaste and choice variety are wholly pure white. (Award of Merit.) Sir Trevor Lawrence, Bart.

DENDROBIUM MADONNAE.—This is the Madonna's Dendrobe, if the name is translated. Short racemes of medium sized, white flowers are produced near the apex of the stems. The lip alone is edged with purple, and folded up, forming a hood. (Botanical Certificate.) Messrs. F. Sander & Co., St. Albans.

Floral Committee.

RHODODENDRON MULTICOLOR TRITON.—The flowers of this new variety are a great improvement upon the original R. multicolor in size, being widely expanded, and salmon-rose, with a pale yellow throat, and produced in great abundance. It belongs to the hybrid greenhouse section of Rhododendrons. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

Fruit and Vegetable Committee.

APPLE HORMEAD'S PEARMAIN.—An Award of

Merit was accorded this well-known Apple for its merits as a cooking variety that keeps from November till April. Messrs. George Bunyard & Co., The Royal Nurseries, Maidstone.

APPLE NORMAN'S PIPPIN.—The origin of this Apple is unknown. It is of medium size, green, and slightly tinted with a russet shade. It is of fairly good flavour, and received an Award of Merit as a dessert variety. Messrs. George Bunyard & Co.

EARLY MELONS.

IF not already done, seeds should be sown at once in order to provide ripe fruit toward the end of May or beginning of June. The seeds should be inserted singly in 72-size pots, and if possible the pots plunged in a gentle bottom heat. If the soil is moderately moist, no water will be needed until germination takes place. A night temperature of 65° to 70° should be maintained.

As soon as the plants begin to make the second rough leaf they may be shifted into 54-size, care being taken not to damage the seed leaves. Pot firmly, and use a little mortar rubble with the loam to keep it open, and plunge the pots again.

Where possible, and many plants are wanted, and the remaining space can be utilised for propagating, etc., it is a good plan to raise them on a hot bed in the house, as they grow much sturdier under such conditions than where much fire heat is needed to keep the requisite temperature. A good plant in the first instance goes a long way toward success in Melon culture. A bad one is never worth troubling with. Before the roots get matted in the pots, preparations should be made for planting, the house first being thoroughly washed down and the walls white-limed.

In my experience, I have found nothing answer so well as the old-fashioned plan of planting on a good hot bed of leaves and manure. It should be trodden firmly all over to prevent irregular subsidence and consequent breakage of roots. Unless very wide, the bed may be covered all over with turves, which will keep the roots more in the surface soil, instead of striking straight down into the manure. It will, in a measure, as well, help to retain the heat.

The bulk of the compost for planting may consist of loam, eight barrows (if heavy so much the better), wood ashes and mortar rubble, one barrow of each, and a 32-potful each of soot and bone meal to each barrow load of the mixture. Where the loam is good it will be advisable to use less soot and bone at planting time, or to leave them out altogether, as rank growth may result, and a difficulty experienced either in getting sufficient fruit to show, or in fertilising them afterwards. Technically, I know, they are not fruits really, until fertilisation has taken place.

After mixing the compost thoroughly, a fair size ridge should be made along the front of the house—a board being placed against the pipes to prevent excessive drying—the soil well rammed previous to planting. As soon as the heat of the bed has declined sufficiently to make planting safe, the plants may be put out at two feet apart, lowering them until the seedleaves stand about half an inch clear of the soil, pressing the latter around the ball, raising it around the collar of the plant somewhat higher than the surrounding surface. Do not make the side of the mound so steep that watering is a difficult operation. Any plants showing signs of spotting on leaf or stem should be discarded. It is the incipient stage of the flagging disease, for which I know no remedy. Secure with a stake to the trellis, and settle the soil about the roots with a rosed can. Shade from bright sunshine for a day or so and syringe overhead twice on fine days. Keep all surfaces moist, and maintain a minimum night temperature of 65° (This last injunction would be somewhat difficult to carry out in the sense that I first put it.)

Only one stem should be carried up, which, except the trellis is very wide, should have its point rubbed out so as to place the last pair of lateral shoots on the top wire. All shoots below the bottom one must be rubbed out. A slight top-dressing may be given as soon as roots show through the soil.

The first three or four laterals may be stopped at the first leaf, and at the first leaf beyond the fruit at each leaf made after that. Avoid having to use the knife, although a little thinning of the leaves may be necessary later on. Ventilate carefully and close early. As soon as there are a sufficient number

of female flowers open, they must be gone over each day and fertilised, all overhead syringing being suspended. When it is seen that three or four fruits are swelling together, all others must be removed, taking care to distribute the crop over the plant, remembering that a fruit near the top wire will give one at the base a week's start in the matter of swelling. Keep all shoots and fruits below the wires. Another top-dressing of rich stuff should now be given and syringing re-commenced, and continued until the fruits are netted. In the case of varieties prone to splitting, it may be advisable to discontinue it as soon as netting commences, leaving a crack of air on the top ventilator at night as well.

Watering must be done with judgment. Do not keep the soil constantly wet, but allow it to reach the dry side—not so much as to cause the plants to flag—then soak it thoroughly, taking care to keep that around the stem, dry. Manure water, particularly deer or sheep, is very beneficial. Nitrate of soda is helpful, too, but needs careful usage. By the time the fruits attain their greatest size, waterings should be rather more frequent and less in quantity or splitting may ensue. The fruits may be supported with pieces of fish net, but those sold in various sizes for the purpose are infinitely preferable.

When colouring commences, just sufficient water must be given to keep the foliage fresh, at the same time admitting more air. Do not shade at any period of growth, except immediately after planting, if it is possible to do without it.

The fruits must be cut and removed to a cool place directly the odour emitted and the cracking round the stem say they are ripe.

The period during which the flavour of a Melon is at its best is short. It deteriorates very rapidly, too, after the fruit is once cut, making it advisable to use them soon after cutting, and only growing moderate sized varieties for general use.

For early crops there are no varieties much better than Hero of Locking and Blenheim Orange, white and red flesh respectively.

Earl's Favourite is a grand flavoured green flesh Melon, but is rather difficult to finish, and is longer about than some care for. Eureka and Frogmore Scarlet are both good scarlet-fleshed Melons, while if size and good quality are wanted Windsor Castle and Royal Jubilee may be grown.—*Practical.*

THE NEGLECT OF FLOWERING SHRUBS.

UNDER the above heading Mr. Geo. Bunyard, V.M.H., of Maidstone, lectured before the Fellows of the R.H.S., at the Drill Hall meeting of January 23rd. The outstanding points of the lecture were Mr. Bunyard's condemnation upon the too frequent exhibition of ignorant and unseemly pruning; the lack of knowledge which garden lovers or owners displayed when approached on the question of shrubs for their gardens; and then the cheapness of this ornamental section of vegetation, and the few limitations existing against the selecting of almost all members of the class, were points which gave matter for discussion. The proper methods of how to prune, and what to prune, received attention, the remarks fully corroborating what has lately been advocated so fully in *THE GARDENING WORLD*. A word of advice was offered to buyers. Very often the customers, especially lady and gentlemen customers, visited the nursery at a time when shrubs were very unattractive, during their resting season, with nothing to show save their bare stems. Did they but visit the same collections when these were in their hey-day of loveliness, the selections would most certainly be more liberal and suitable.

The bulk of our commonly planted shrubs could be obtained at the rate of 6d. a plant, while newer and rarer specimens might be had for thirty pence a-piece. Cheapness, Mr. Bunyard thought, was in some cases, even a deterrent, it being a source of satisfaction with certain folks to boast of the high prices given for the articles they own. Mr. Bunyard alluded in complimentary terms to the good work done by such frequent exhibitors of hardy flowering shrubs as Messrs. Veitch, Russell, Cheal, Paul, Waterer, Barr, Laing, &c.

The special characters of shrubs, or the classification of them, for particular situations, was unfortunately not seriously attempted. True, special reference to the Gorse for steep dry banks, to the Forsythias for nicely sheltered yet open positions

were noted, but save this, very little more. The more extended use of ornamental Crabs, the large number of flowering Cherries, the Rose Acacia, the Snowy Mespilus (not half often enough seen), the Dogwood's, Cornuses, *Leycesteria formosa*, Maples, *Splraeas*, the *Liquidambar*, *Tilia trifolia*, *Pavia macrostachya*, and the host of berried plants, the *Rhus Cotinus*, then the Azaleas for autumn tint of foliage, besides species and genera more frequently met with, each received special mention. Sufficient use was not made, said the lecturer, of the object lessons provided in our foremost botanic gardens, and in many public and private ones. The lecture was much appreciated, and the paper will furnish a valuable contribution to the R. H. Society's Journal. It, with Mr. Harry J. Veitch's paper on "Shrubs for Foliar Effect," span a great division in aesthetic outdoor gardening.

GARDENING MISCELLANY.

HARPALIUM RIGIDUM.

MEMBERS of the Sunflower tribe are quite common enough in our gardens; too common in some. But in *Harpalum rigidum* we have a tall growing and most graceful flowering plant. It may be increased by division, and so rapidly does it extend its limits when soil and situation are suitable that in the herbaceous border it becomes necessary to retrench its dimensions yearly. It furnishes a capital plant for naturalising in copses or in the more sparsely planted shrubberies. It grows from 2 ft. to 5 ft. in height, according to variety, bears large yellow flowers, is well clothed with foliage, and likes a deep soil.

FENNEL AS A DECORATIVE PLANT.

THE soft sprays of Fennel, like the fluffy feathers of an ostrich's back, are very full of beauty. The fact of their being dark, deep green too, is another attraction. Seen by a pond side in the early days of summer, I think nothing is more in keeping with the circumstance and surroundings than are plants of the Giant Fennel. Then later on in June, when the candelabriform umbels of yellow flowers have developed, how altogether prepossessing is the dignity of *Ferula communis*. It is very readily raised from seeds.—*H.*

CYTISUS NIGRICANS.

IN *C. nigricans* we have a shrub perfectly hardy in this country, yet one which from not being known is simply allowed to be neglected and to hang in the background. It blooms in June, the racemes being yellow, the individual flowers being blotched with purple spots. The leaves are tri-foliate, each leaflet being ovate and of a beautiful deep green. It grows 5 or 6 ft. high, having twiggy branches. Two flowering stems of the above are shown on a coloured plate of the *Revue de L'Horticulture Belge* for January.

AN ORNAMENTAL BEECH.

FAGUS SYLVATICA, the common Beech tree of our woods and parks, is certainly inspiringly handsome when seen in a good condition. We cannot call it a suitable subject for the pleasure grounds, however. But in the fern-leaved Beech, *F. s. asplenifolia*, we have a subject whose beauty and worth for such positions as above noted is unique. Yet, how seldom is any reference made to it. The tree grows in the form of a bush, putting forth twiggy shoots and long, deeply serrated or incised leaves. Its whole appearance well deserves the popular appellation of the Fern-leaved Beech.—*J.*

TIMELY HINTS.

Pot the following subjects:—Stove Plants, Tuberoses, Gladioli, Lilliums, Carnations, bedding Pelargoniums, or moss the roots and box them where pots are scarce, Canterbury Bells, &c.. Top dress Phalaenopsis and other Orchids. Sow Tomatoes, Melons, Cauliflower, Lettuces, &c. Prepare hot-beds for spring plants and for raising seeds, &c. Wash houses and plants. Prepare indoor borders for climbing plants, Asparagus, &c. Top dress fig-borders with maiden loam and lime rubble, watering afterwards. Finish cleaning late vinery. Early Vines must have the laterals pinched, troughs filled with liquid manure, and surface soil moistened. Start midseason Peach house. Early Peachery is in

bloom, and should be kept dry and balmy. Roses should receive attention, dewing them at mid-day when the weather is bright. Prune Apples, Pears, Gooseberries, and Currants, and mulch them.—*Recorder.*

OBITUARY.

MR. JAMES FRASER.

THE burgh of Turriff, Aberdeenshire, has lost its oldest inhabitant in the person of Mr. James Fraser, who passed away at his residence on the Castlehill, on the 18th ult., within two hours of being ninety-eight, and, therefore, within a year of being as old as the century. He was a native of the parish of Drainie, Elgin, and after being in the profession for some time, he went to Birkenbog, Portsoy, Banffshire. Leaving that place in 1843, he went to Ardmiddle House, Turriff, as gardener, where he stayed till about 1874 or 1875, when he retired to property he acquired on the Castlehill. The Turriff Horticultural Society for many a year has been much patronised by exhibits from Ardmiddle House; and Mr. Fraser was a staunch supporter of the same in his day; in fact, so long as he was able to move about he took an active interest in its affairs. The members of the society presented him with a silver snuff box, which he carried about, and treated his friends and acquaintances to a pinch of snuff. So well known was he that "Old Gardener Fraser" was the title by which most people spoke of him. Influenza was the ailment that finally carried him off; and he was buried in the old churchyard, Turriff, on the 22nd ult. His wife predeceased him in 1860.

"ALMOST A CENTENARIAN."—In all probability the father of Scotch gardeners has passed away in the person of the late Mr. James Fraser, gardener, who died at Castlehill, Turriff, on the 18th inst., aged 98 years. Mr. Fraser was engaged by the late Dr. Adam as gardener at Ardmiddle House, Turriff, in the year of the disruption, 1843, and for the long period of thirty-three years he conducted gardening operations at Ardmiddle with great acceptance by his employers. The gardens and grounds at Ardmiddle saw many improvements carried out under his management; and during Mr. Fraser's long engagement he served three generations of the family. It was with great regret that the late Mr. Milne parted with his faithful and trusted servant twenty-five years ago, when Mr. Fraser retired from active duty and took up his residence in Turriff, which just now by his death mourns the loss of its oldest inhabitant. Mr. Fraser was a pawky, shrewd, typical Scotchman, and a gardener all over. Locally Mr. Fraser enjoyed a reputation as being an authority on all matters connected with horticulture, and in his day few could outdo him in the art of growing good vegetables and hardy fruits; while, from personal remembrances, I can speak of him as an expert in the cultivation of Strawberries, Melons, and Cucumbers. The immediate cause of Mr. Fraser's death was a sharp attack of influenza, that deadly enemy of all mankind.—*John Mackinnon, Terregles, Dumfries, N.B., Jan. 27th, 1900.*

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of *THE GARDENING WORLD*, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. J. McAra, The Gardens, Kingsburgh, Prestonkirk, N.B., for his article on "A Suitable Position for Forsythia suspensa." Several others of the competitors were very close upon the first, particularly Mr. A. Dickson, The Gardens, Glenormiston, who had some fresh information on "Freesias."

QUESTIONS AND ANSWERS

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargonium, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Kinds of Tomatos in Cultivation.—*Scientific Gardener*: If you mean species of Tomatos, then there are three at least regarded as distinct species, namely, *Lycopersicum esculentum*, *L. pyriforme*, and *L. racemigerum*. Some writers would make out that there are more species, but most of them are referable to the first named. *L. pyriforme* has small, Pear-shaped fruits; and *L. racemigerum* bears small round fruits like a Currant and is usually named the Currant Tomato. The most useful of the three is *L. esculentum*, the true Tomato or Love Apple. It would be impossible to say how many varieties there are, because many of them only live for a short time, and degenerate or revert to some other or may be earlier form. Some of the best are Ham Green Favourite, Conference, Chemin, Perfection, Frogmore Selected, Peerless, Best of All, Duke of York, Eclipse, Golden Jubilee, Winter Beauty, Blenheim Orange, Sunbeam, Jubilee, The Cropper, Challenger, Sensation, &c. All of the above are good, some being more particularly suitable for one thing than another. There is no variety of Tomato you could pick out and say it is the best. All have their qualifications and recommendations, and for certain purposes one cannot be substituted for another. If you have any particular object in view you might state it and possibly we could tell you more precisely.

Competition Paper.—*Cestvain*: For a first attempt it is certainly very creditable, there being no mistakes in either spelling or grammar. The ideas it contains are very clearly put, and should furnish a useful hint or two for the rising generation. The subject is an old and well worn one, this being its weakest point, though to young men it is well worth perusal.

The Sword Fern.—*Scientific Gardener*: Several Ferns have been introduced to this country under the name of Xiphopteris, namely, *X. heterophylla*, *X. myosuroides*, and *X. serratula*. The proper name for the latter is *Polypodium serratum*, a native of the West Indies, Tropical and South America, &c. It is variable in form, and that named *X. myosuroides* is considered a variety of *Polypodium serratum*. You cannot, therefore, expect the Sword Fern to be found in any book dealing only with the British flora. We are afraid that the name you have heard is only a local one, or one that has been misapplied. The safest and best solution of the matter would be to get a fruiting frond, or, at least, a piece of one, and send it on to us for the name. The only British Fern that might be compared to a sword is the Hart's-tongue (*Scolopendrium vulgare*).

Is the Corn Blue Bottle a Native?—*Richard Nisbet*: This plant, that is, *Centaurea Cyanus*, is found all over the greater portion of this island, from Moray and Renfrew in the north, to the English Channel in the south. It is a wild flower, and a British native in the broad sense of the term, but the great authority on this subject, namely, Mr. H. C. Watson, considered it a colonist. The idea is that it is only met with in corn, Mangold Wurzel, or Turnip fields. It cannot maintain itself in a grass field, but there are many British plants to which the same term applies in all respects. If we are to exclude all cornfield plants, whether showy flowers or inconspicuous weeds, from collections of British wild flowers, then the number that would have to be excluded would be very great. It would exclude all the Poppies, some of which are a great nuisance to man, but British wild flowers all the same. We think it is a great pity that schedule makers and judges do not take a wider view of the subject. They cannot take any correct view of the subject, nor deal fairly with their patrons and competitors unless they state in the schedule that they are to abide by some book or author, whose book or opinion may be obtained in black and white, that is, in print. For instance, they ought to take the *London Catalogue* or *The Student's Flora of the British Islands* for their guide, and abide by that. *Centaurea Cyanus* is a wild flower, found in cornfields, &c., and is also cultivated in gardens. There are many British plants to which this would apply, and we do not see why one should be excluded more than another. We should advise you to get your committee to name the authority they are to abide by. The collectors on their part should bind themselves to certify that they do not gather any of their plants in the garden. That would be fair.

Names of Plants.—*A. C.*: 1, *Acacia dealbata*; 2, *Daphne indica*; 3, *Polypodium lingua*; 4, *Polypodium plesiosorum* var. generally known in gardens as *Goniophlebium appendiculatum*.—*W. M.*: 1, *Lastrea aristata variegata*; 2, *Polypodium pectinatum*; 3, *Senecio Kaempferi maculatum*; 4, *Ardisia crenulata*; 5, *Eucalyptus citriodorus*.—*T. B.*: 1, *Hamamelis arborea*; 2, *Hyacinthus azureus*; 3, *Myrtus com-*

munis.—*H. E. W.*: 1, *Chimonanthus fragrans*; 2, *Viburnum Tinus*; 3, *Euonymus radicans variegatus*.—*W. W.*: 1, *Cypripedium chamberlainianum*; 2, *Dendrobium nobile* var.; 3, *Odontoglossum Ros-ii majus*; 4, *Oncidium varicosum*.—*T. Harris*: 2, after more careful examination of the fronds sent, we could find no trace of spores whatever, so that you will have to grow the Fern till it bears fructification, and then send a frond.

Communications Received.—*W. Taylor*.—*W. Thomas*.—*Lady Macleod*.—*R. G. W.*.—*H. C. P.*.—*A. L. W.*.—*C. D.*.—*R. W. A.*.—*C. H.*.—*A. G. B.*.—*Ch. M.*

TRADE CATALOGUES RECEIVED.

Pinehurst Nurseries (Otto Katzenstein, Manager), Pinehurst, Moore Co., North Carolina, U.S.A.—Wholesale American seeds of Conifers, Palms, Trees, Shrubs, and Herbaceous Plants; also wholesale, North Carolina Woody and Herbaceous Plants.

JOHN SHARPE & SON, Bardney, Lincoln.—Seed Sower's Hand Book.

JOHN TURNER, North Street, Wetherby, Yorks.—Catalogue of Vegetable Seeds, Flower Seeds, Seed Potatoes, Greenhouse Plants, &c.

VILMORIN ANDRIEUX & CIE, 4, Quai de la Mégisserie, Paris.—General Catalogue of Seeds, Flowering Bulbs, &c.; also List of Novelties.

WILHELM MUHLE, Kais. u. Kon. Hoflieferant in Temesvár, Austria.—Twenty-fifth Year's Jubilee Catalogue.

L'ORTICOLE COLONIALE, Parc Léopold, Brussels, Belgium.—Catalogue of Plants—Economic for the Colonies, Tropical Fruit Trees, Useful, Official, Medicinal and other valuable Subjects for the Colonies.

Olive Oil in Commerce.—There is in Russia a brisk market for olive oil and the major portion of the supply comes from France, Italy only sending a very small quantity. The greater part of the trade is in the hands of some large German manufacturers who clear from 10 per cent. to 15 per cent. at wholesale prices. Some houses buy directly from the manufacturer without any intermediaries, although most orders are placed through travellers and agents. These have displayed a tendency to sell the oil as a national Russian production and French firms are seeing the necessity of insisting on having it sold as French produce and under special trade marks.

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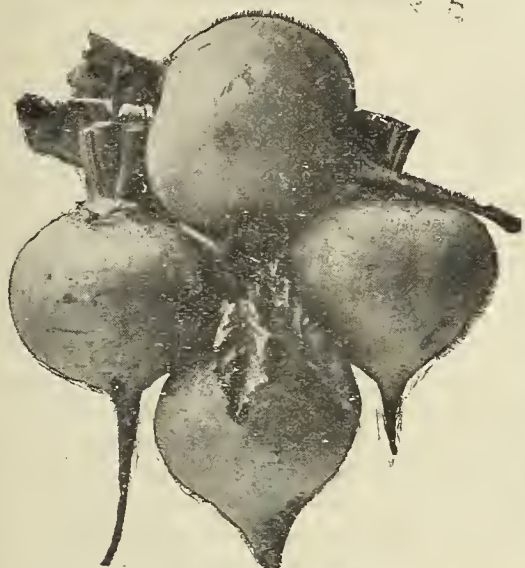
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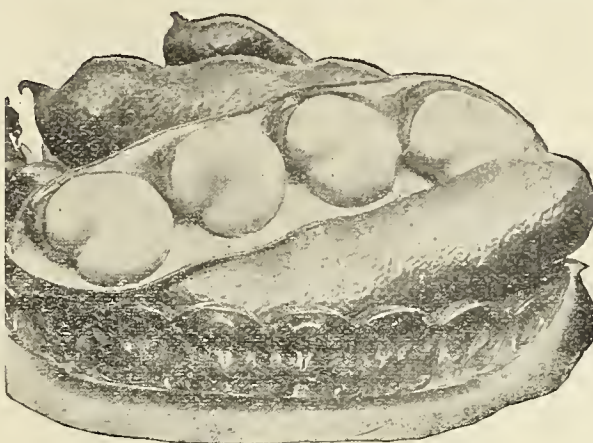
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mission on the following day. Visits were paid to Osterley Park, Syon House, Kew Gardens, Richmond, Windsor, the Beach Woods of Wycombe and Hampden, Hampton, Bushey Park, and the Prince's Coverts at Oxshott on the borders of Esher Common, where splendid Scotch Fir timber is to be seen. The evenings were also occupied with their annual general meeting, and the annual dinner. The whole of the time was well filled up, an intense interest being shown by many members to profit from what they saw both in the way of timber, forest keeping and planting, as well as fine samples of ornamental trees in parks and pleasure grounds, together with the rare trees that were pointed out to them on the estates visited, including many trees that could hardly be expected to flourish in the colder regions of the north from whence the bulk of them had come. All of the journeys, and what the members saw and did are recorded by several writers in the Transactions of the English Arboricultural Society, Vol. IV., Part II.

Some idea of the complicated nature of the itinerary may be gleaned from the programme for the day at Royal Windsor. The members visited and inspected the State rooms, after which they were conducted round the policies in the immediate neighbourhood of the Castle by Mr. Owen Thomas, who showed them all the rarest and most interesting trees growing there. After this they were hospitably entertained by Her Majesty in a marquee, erected for the purpose. Soon thereafter commenced the real business of the day, the inspection of Windsor Great Forest and Park, which have an extent of some 14,000 acres, and contain a great deal of splendid timber in the shape of Oaks, Elms, Spanish Chestnut, Scotch Firs, Larch, Birch, Beech, Holly Oaks, &c., worth coming a long way to see, as expressed by some of the members. The route was drawn up by Mr. Simmonds, the deputy surveyor, and the various journeys from point to point, when counted up, totalled 28½ miles, surely sufficient for one day's pleasure and profit. Most of the land of the forest and park was sold by the Commonwealth for £40,000, but as the purchasers did not pay up, the land was leased. The Crown took it over again as the leases fell in. The origin of the original planting of Oaks at Windsor was due to the dread of the Spanish Armada, whose general was ordered to cut down and destroy the Forest of Dean so as to effectually cripple the Navy of England. The plantation of Oaks on Cranbourne Chase was commenced by the sowing of Acorns upon it. The corner tree of the wood was sown in 1580, and is the true progenitor of the modern Royal Woodlands of England, and the system of planting Oaks where they did not previously exist.

Many of the huge Oaks in Windsor and Richmond Parks are of great age and are believed to extend back to the time of William the Conqueror. The Cedars of Lebanon at Osterley Park, Syon House and Windsor, as well as the Oaks, Chestnuts, Elms and Limes drew forth the admiration of those from the north where Nature has been less favourable to such trees in the matter of climate. For variety of trees and shrubs and the grouping of them for ornamental effect Syon House proved the most attractive of all. Great interest was manifested in the vast collections of trees at Kew, and in the fact of their being named; but the limited time at the disposal of the partly prevented anything like detailed inspection or note taking, so that only the general features could be grasped. After all they had seen, however, they came to the conclusion that the British are splendid arboriculturists, but that forestry is very imper-

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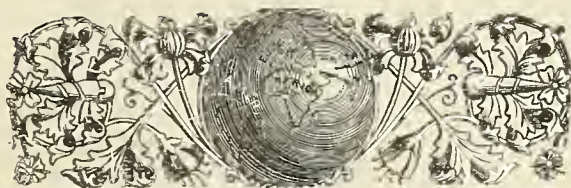
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, FEBRUARY 10th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, February 13th.—R.H.S. Annual General Meeting in the Drill Hall, Westminster.

FRIDAY, February 16th.—Royal Gardeners' Orphan Fund Annual General Meeting, at Essex Hall, Essex Street, Strand, W.C.

THE ENGLISH ARBORICULTURAL SOCIETY.—

It is interesting to observe with what zeal and industry the members of this society set themselves the task of combining what must be real work with the pleasure of taking a holiday. The same statement may be made concerning the annual outing of the sister society at Edinburgh, namely, the Scottish Arboricultural Society, as our pages from time to time have shown. The English society has its head office at Haydon Bridge-on-Tyne, and has a following of members from all parts of the northern counties of England, as well as from the south and from Wales. The week's holiday last year commenced on August 14th when contingents were poured into London from various sources, ready to commence the serious business of their

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fectly practised in Great Britain. The secretary of the society is Mr. John Davidson, Estates Office, Haydon-Bridge-on-Tyne.

Apples make cider, but "Pears" make soap

Winter Aconites are now in full bloom in London gardens. Stray Primroses are also to be seen. They furnish food for the slugs.

Gardeners' Charity Guild.—The annual concert of the G.C.G. (for the purpose of raising funds for our gardening charities) has been arranged for. This will be held in the Great Hall, Cannon Street Hotel, on the evening of Wednesday, March 14th. Tickets (1s. each) will shortly be on sale.

Hop Picking Machine.—A correspondent who signs himself Hereford, bewails the fact that a machine for picking Hops is likely to be manufactured. He evidently is not a Hop grower, or he would hail with pleasure such a desirable invention. Probably, if on 40 acres of Hops, he had paid, for simply picking them, £700, as I did last season he would view the matter in a different light, and think that the English farmer cannot *always* be a national philanthropist.—*A Kent Hop Grower.*

Weather in London.—On Friday night and Saturday a heavy and bitter snowstorm raged over London, as indeed it did over all the country. For a London snowstorm; it was heavy, and some amount of damage was done to broad-leaved, spreading Laurels, &c., and to the gutters and roofs of houses. The snow falling from the roofs annoyed the house-folks, and in cases crashed through lean-to glass-houses. Cleaner conditions have since prevailed. On Wednesday morning twelve degrees of frost were registered at Kew.

Glasgow Corporation.—We have to hand the year's report on the doings of the Corporation of the City of Glasgow by the Hon. Sir David Richmond, Lord-Provost, for the year ending November, 1899. The whole report shows the city to be vigorously advancing. Its area covers 12,688 acres, so that to provide "lungs," that is parks, for so large a city, the Parks Department are kept continually active. They have furnished two new parks during the year, and in many ways have increased the amenities of those previously existing. The good-keeping and the plans of some of the more important of the parks under Mr. Whitton's charge, have frequently been described in *THE GARDENING WORLD*. The street trees have now come under the Parks Department. From the Lord-Provost's report it is made evident that as much time, thought, money and care is being spent on these healthful areas as should amply satisfy the city's populace.

Dundee Horticultural Association. — This northern gardeners' mutual improvement association has published its syllabus for session 1900, and nineteenth annual report. The following is the syllabus as printed:—January 9th, "Japanese Gardens" (with lantern illustrations), by the patron of the association, J. Martin White, Esq., Balruddery; February 6th, a paper by Mr. F. M. Michie, M.A., High School, Dundee; March 6th, "Tea Roses in Scotland," by Mr. Robert Simpson, Dalhousie Nurseries, Broughty Ferry; April 3rd, "Ferns," by Mr. Wm. Holman, Vinebank Gardens, West Ferry; May 1st, "Vine Culture," by Mr. Robert Linton, Ballindean Gardens, Inchture; June 5th, "Horticultural Questions," by the members; July 3rd, "Cultivation of Small Fruit for Profit," by Mr. Wm. Williamson, Tarvit Gardens, Cupar, Fife; August 7th, "Tuberous Begonia," by Mr. James Halley, Rosemount Gardens, Newport; September 11th, Conversational Evening, members are requested to bring meritorious exhibits to this meeting; October 2nd, Tomato Conference, to be opened by Mr. James Beatts, Duncraig Gardens, with a paper entitled "Tomatoes for Profit"; November 6th, "Judging Vegetables," by Mr. T. Fender, Cultoquay Gardens, Crieff. The annual general meeting is to be held on December 4th, 1900. Abstracts of all last year's papers are given, and notice made of awards and exhibits. The membership of the association remains much about the same. The abstract of accounts proves a balance in hand of £3 1s. 8d.

"British Invention."—Such is the title of a new illustrated paper whose aims are "to help busy men by providing them with a concise and accurate record of what is advancing, altering, or improving in the particular industry with which they may happen to be connected." The paper, printing and numerous illustrations are clear and good. An important feature is the weekly list of new patents applied for. The paper will be published weekly from 55 & 56, Chancery Lane, London, W.C., price 1d.

Origin of McIntosh Red Apple.—Among the hardiest Apples grown in the Dominion of Canada, is the above named variety. *The Canadian Horticulturist* in its first issue for 1900, figures the original McIntosh Red Apple tree, not a beauty to look at, because of having been nearly burned down, but famous and interesting for a' that. Beside it stands its raiser, Allan McIntosh (of Scotch descent), clad in his Canadian gear. The father of Allan, having settled in Matilda, in clearing away some surrounding growth for a building, came across some young Apple trees which he spared. One of these was the original McIntosh Red. Allan, some thirty years ago, began to propagate it, and the nursery is still carried on by his son, named Harvey. The original tree has now ceased to stand; Allan McIntosh, also has "shuffled off this mortal coil" a year ago.

Devon and Exeter Gardeners' Association.—On Thursday, February 1st, Mr. G. Camp, gardener to E. Byrom, Esq., of Culver, gave an essay before the above association on "Gardening as a profession." The subject is a difficult one to handle, and it requires much thought to state the case or formulate any plan for the alleviation of the gardener's complaints. The various ways and means whereby the gardener's health is exposed to invalidations, the many worries, long tacks of duty, the small wages, the uncertainty of retaining or of securing situations and other items, formed a rather gloomy tale, but one only too true. Until the remuneration of gardeners was adequate to their worth, the vaunted pleasures of gardening would only be a fairy-tale to many workers. One of Mr. Camp's concluding remarks was a strong advocacy for the advisability of gardeners as a body, while health and security was with them, to subscribe, even in a small way, to the Gardeners' Royal Benevolent Institution. It does some amount of good with the limited funds at present at its disposal. Yet if each of the 20,000 (set down as 27,000 really) gardeners throughout the land gave one day's wage in the year, there would be provision enough for all needful cases, and if a subscriber never required the Institution's aid, though he could not get his money back, he would have the hope of definite security. This really is our one solution to guarantee help when infirm.

Scottish Arboricultural Society.—The annual general meeting of the above society was held at 5, St. Andrew Square, Edinburgh, on Thursday afternoon, the 1st of February. The Right Hon. the Earl of Mansfield occupied the chair. In his annual address, the president dealt with the practical training of foresters. Too little discrimination was made between the mere labourer and the young man whose aim and end was to be an efficient forester. Nothing was more disheartening or less emulative to the stock of would-be foresters. Something of the garden system of training was required, *i.e.*, after serving his "time," the young man should be a qualified and distinctive journeyman forester. His lordship strongly emphasised the fact of a need for a society if it were in a position to be looked upon as a central registry or office where foresters were concerned. Office bearers for the ensuing year were elected. The Raith Bursary was awarded to (won for the first time) Alex D. Crombie. The proposed French excursion of next year was abandoned as inadvisable. Owing to a difficulty in obtaining accommodation at the Glasgow Exhibition of 1901, the proposition to exhibit was abandoned. After the business had been transacted, Mr. M. J. Nesbit, D.Sc., F.S.I., addressed the meeting on "The present condition and future prospects of forestry in Scotland." The epoch of cheap timber was now almost at an end, and a few years must see a rise in the price. We were courting a timber famine, and the present condition of British forestry was most unsatisfactory. In the great majority of our forests, considerations of timber, were subordinated to sport.

Birdlime is prepared from the bark of the Holly and the berries of the Mistletoe.

Preservation of Fruit Nets.—An answer to a correspondent in a back number of *The Field* states that to preserve herring nets they might be steeped in a strong decoction of Oak-bark. This is not always easy to get. Immersion in oil would certainly help them.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will take place in the Drill Hall, James Street, Westminster, on Tuesday, February 13th. The various committees will assemble at noon as usual, and at 3 o'clock the annual general meeting of the society will be held at the society's offices, 117, Victoria Street, Westminster, S.W. The Council of the R.H.S., at its last meeting, unanimously requested the President, Sir Trevor Lawrence, Bart., to allow himself to be appointed to the vacant Victoria Medal of Honour.

"One and All" Garden Annual.—Again has the indefatigable E. O. Greening, Esq., published a booklet of clear, concise and useful hints on gardening and its benefits and pleasure. The rules and explanations laid down in the text are more pointedly demonstrated by means of very fine and well shown illustrations. The portraits of prominent men belonging to various of the learned professions and their views on gardening are compiled in the fore part of the work, while the practical hints by old and well experienced garden journalists, &c., follow on. It is a useful book.

Ealing and District Gardeners' Association.—The fortnightly meeting, and third for the present session, of the above horticultural association was held on Wednesday evening. The meeting was, as usual, held in a room of the Municipal Buildings, Ealing, Mr. C. B. Green presiding over a moderate turn-out. The paper for the evening was by Mr. Geo. Gordon, entitled "Roses in the Garden," upon which we shall furnish a few notes in our next issue. The competition for a dozen table plants, flowering or foliage, brought forth some pretty specimens. The prizes fell to Messrs. Hogg, Roberts, Edwards, and Holloway in the order given.

Chiswick Gardeners' Mutual.—A meeting of the above association was held on January 25th, at 8 o'clock. Mr. John Fraser, F.L.S., occupied the chair, and a fair attendance listened to an interesting lecture on "Onions," by Mr. A. Dean, of Kingston. The lecturer primarily classified the Onion tribe, and during his hour's discourse he embraced many points. A good Onion baked and taken at bed-time was cited as having been recommended with efficacy in a case of gout. As a nutritious heat-giving and blood-aiding vegetable this esculent bulb received the highest encomiums. By means of coloured diagrams, Mr. Dean was able to depict various types, such as the Tree Onion, the Potato Onion, the old Blood-red, the Coccoanut, and a selection of improved and more widely cultivated types. Hints on the early growing and various methods of treating Onions, as for exhibition, pickling, &c., were passingly referred to. Guanos were recommended as dressings or to be applied in the liquid state during growth. Liberal use of farmyard manure was advocated, and a capital thing it is for large bulbs. The abolition for autumn sowing of soft Onions, as the Tripolis, Giant Roccos and others was strongly emphasised, Mr. Dean declaring that these were far more adaptable for spring sowing, and *vice-versa*, than those so used. Experience and practical test had demonstrated the soundness of his views. Remarking upon Leeks, these being among the Alliums (*A. Porrum*) Mr. Dean held the belief (which was corroborated) that the aboriginal type of Leek was a distinctly bulbous plant, having been developed to its present form by methods of culture and selection. He threw forth a hint to the young men present to experiment with the Onion (*A. Cepa*) for the purpose of demonstrating whether the bulbous habit would not by rigid selection evolve a permanently thick elongated "stem-usable" vegetable such as the Leek is. Through inattention a few would-be critics construed Mr. Dean's remarks to mean that Onions should be grown according to a bottle-shaped pattern. This was not so. The subject of diseases and insect pests and their prevention or eradication, also the commercial aspect of Onion culture were points which time seemingly did not permit Mr. Dean to touch upon, more's the pity. A very warm discussion by many of those present was indulged in at the conclusion of the lecture.

A. Dingwall Fordyce, Esq., of Brucklay Castle, Aberdeenshire, has presented three large Palms for the new winter garden in the Duthie Park, Aberdeen.

Cyclamen repandum is said to be the most fragrant and one of the most superior of the Cyclamen fit for growth out of doors. So says one who has grown thousands and hybridised with a great many of our hardy Cyclamen. The flowers are rose-red, and the species hails from certain parts of South Europe.

Big Ben and the Snowstorm.—The snowstorm of the 2nd and 3rd inst. is the heaviest with which we have been visited since 1895. On Saturday morning, at 1.30, Big Ben, the clock on the tower at the Houses of Parliament, was unable to continue marking time owing to the heavy fall of wet snow which clogged the hands. The machinery was put in motion again soon after 10 a.m.

Odontoglossum duxivierianum.—This is a supposed natural hybrid between *O. nebulosum* and *O. maculatum*. In the eyes of Orchid collectors, the hybrid is a more desirable possession than either of the parents, or both taken together. The rarity of the hybrid, no doubt, accounts for the desire to possess it. Messrs. Stanley-Mobbs & Ashton, Southgate, N., brought up one to the Sale Rooms of Messrs. Protheroe & Morris, Cheapside, on the 2nd inst., when it was sold for 14 gs. It was only a small piece of six pseudo-bulbs, with one lead.

Richmond Horticultural Society.—At a meeting duly held on Thursday, the 1st of February, 1900, Thomas Skewes-Cox, Esq., M.P. (chairman), in the chair, the following resolution was proposed by him, seconded by Sir Edward Hertslet, K.C.B., and unanimously adopted:—"That the Richmond Horticultural Society hereby places on record its deep regret at the loss which has befallen horticulture by the death of His Highness the Duke of Teck, G.C.B., G.C.V.O., a prince who, for no less than twenty-six years past, had been the president and valued friend and supporter of this society, and begs to tender sincere and respectful sympathy to their Royal Highnesses the Duke and Duchess of York, and the other members of the late president's family in their heavy bereavement."

Bitter Rot in Apples.—*The Canadian Horticulturist* complains of the growing multiplicity of difficulties which beset the devoted fruit growers in Canada. "As if it were not enough to spray for Codlin Moth, Apple scab, and Grape mildew, we are now having added a most destructive fungus, the bitter rot of the Apple." We in England have the fungus to fight against. It originates from spores which float about in the air, settle themselves down upon the skin of the fruits, and send in penetrating mycelium within the "flesh" of the Apples. The effect of this is to cause numerous brown spots, which may extend broadly to the core. So bad do they become as to render the fruits unfit for any purpose whatsoever. Three sprayings of Bo.deaux mixture are recommended:—No. 1. After the buds swell; No. 2. After the fruits have set; and No. 3. when nearly full grown.

Royal Caledonian Horticultural Society.—The prize lists and rules for the shows to be held during 1900 by the above society are to hand. "As indicated in the report submitted last year, the council have considered the possibility of holding extra meetings during the year, and, as an experiment, have arranged for two such meetings, the first to be held at the beginning of May, and the second about middle of July. Particulars of these meetings will be found on page 19 of the schedule." Another feature worthy of special reference is the offer made by Dr. MacDougall, 25, India Street, Edinburgh, who takes in hand to name and advise upon all injurious insects, grubs, and larvae of gardens, free of charge, to members who care to send infested samples to him. He will make an exhibit of insects helpful and harmful at the April show. A strong feature at the autumn show will be the entry in Class I. for a decorated table of dessert fruit, 10 ft. x 4½ ft., for which the prizes are £7, £5, and £3, presented by the Corporation of the City of Edinburgh. The funds of the society for the year ending November, 1899, though showing a decrease of £91 18s. 7d., are still good, to wit, £758 19s. 11d.

Mr. Harcourt Webb and Mr. Frank Webb, sons of Colonel William G. Webb, of Wordsley, Stourbridge, who, after holding commissions in the 1st South Staffordshire Volunteer Battalion, recently joined the Imperial Yeomanry, embarked for South Africa on Saturday, the 3rd inst. Their many friends in the Stourbridge district abound in good wishes for them, and in the hope for their safe and early return.

Lady Gardeners Appointed.—Apropos of what we wrote in a recent number on the employment of "Eve" as head-gardener, we learn that another instance is to be recorded. Two lady gardeners (cannot we adopt a shorter appellation, as, for instance, the French word *jardiniere*?) lately, at the Royal Botanic Garden, Edinburgh, have gone seemingly as co-head-gardeners to take charge of a garden in Wales. The Marchioness of Bute was sued by the *jardinieres* referred to for breach of contract, she having engaged them and then cancelled the agreement. They received each £25 damages. The remuneration in their present situation is very satisfactory as gardeners' wages go. We wish them success.

Newton Stewart and Minnigaff Horticultural Society.—It is with satisfaction at the past year's results that the committee of the above society present their annual prize schedule for 1900. Last year's exhibition was the best in many ways which the society has held for many years, and to those who come forward to exhibit, and also to the many kind friends who are donors of special prizes, the committee tender their appreciation. Special arrangements will be made for greater attractions at this year's show. Mr. Kidd, Mochrum Park, Kirkcowan, was the winner last year of THE GARDENING WORLD volume offered for two ornamental foliaged Pelargoniums. The same prize is repeated this year for six bunches of Sweet Peas, to be arranged in vases.

Woolton Gardeners' Mutual Improvement Society.—The usual meeting of the above was held at the Mechanics' Institute on Thursday of last week, Mr. R. Pinnington presiding over a good attendance of members. The secretary reported that he had received an offer from the president of the society, Holbrook Gaskell, Esq., J.P., of a number of bound volumes of *The Gardeners' Chronicle* and *The Garden* as an addition to the library. The offer was gratefully accepted, and the secretary was requested to convey the thanks of the society to Mr. Gaskell for his generous gift. A Certificate of Merit was granted to Mr. R. Todd, gardener of Holbrook Gaskell, Esq., for a plant of *Cypripedium leeanum* carrying twenty-four flowers. The plant was raised at Woolton Wood, the seed sown in 1882, and flowered in 1888 for the first time. Mr. Duckett Cowan was then introduced by the chairman, who gave some interesting "Reminiscences of his travels, collecting Orchids in South America." Amongst the many places visited by the traveller were Port of Spain, Barbadoes, Trinidad, Caracas, Columbia, Bogota, &c. Bogota was described as the home of *Cattleya gigas*, some 9,000 ft. above the sea, containing 100,000 inhabitants. A special feature of the climate was the dense moisture from 6.30 to 9.30 a.m. Some few plants of the white *Sobralia* were also found here. Pacha was noted for *Odontoglossum crispum*, whilst from other parts *Cattleya Trianaei*, *C. Schroderae* and a small number of *C. surperba splendens* (white variety) were obtained. The lecture included the means of travelling, the manners and customs of the inhabitants, and the system pursued in obtaining the plants. Specimens of birds, butterflies and reptiles were exhibited and explained, whilst the costume worn by the traveller during his expedition caused considerable amusement when he appeared fully arrayed. The members throughout followed the lecturer closely in his unassuming manner, but with the details naturally and clearly expressed. Further details were asked for by many of the members, which were gladly replied to. A hearty vote of thanks was accorded to Mr. Cowan for his most enjoyable and interesting evening. Mr. H. Corlett contributed to the evening's instruction by showing under the microscope specimens of the Black Currant mite. A vote of thanks to the chairman concluded the successful evening's work.

A Rare Moss.—At a meeting of the Linnean Society of London, on the 21st December last, Dr. R. Braithwaite, F.L.S., exhibited specimens of *Hypnum Hochstetteri*, Schimp, collected by him on the Isle of Barra, Outer Hebrides, the only known locality for it in Europe, though found in the Azores and Canary Islands. It would be interesting, if it could be determined, to know how the moss in question has come to be established in such isolated and remote localities. The reasoning is that there were, at one time, land connections; or sea birds, the wind or ocean waves carried the spores.

R.H.S. of Ireland.—The schedule of prizes to be awarded at the society's shows during the year is now published. The money prizes amount to £420, besides which there are numerous challenge cups and special awards. It is to be hoped that these amounts will draw forth an effort from likely competitors. Among cups, &c., offered are the following:—The president, the Right Hon. Lord Ardilaun, offers three challenge cups, value £10 each, also a £5 cup. Messrs. Alex. Dickson & Sons, Newtownards Nurseries, present a £25 cup for Roses; and for a like competition Messrs. West & Sons, College Green, offer a £10 cup. Two £10 cups are presented by anonymous donors. Major Domville, J.P., offers a five guinea cup for hardy herbaceous plants. For Carnations, that the donors are specialists in the culture of, Messrs. Wm. Watson & Sons, the Clontarf Nurseries, offer a £5 cup; for a similar competition, Col. Jervis White, Wexford, presents a £5 cup. The gardeners of Ireland offer a £10 cup for Chrysanthemums. The Pure Ichthemic Guano Company, Ipswich, present a very handsome piece of plate, value £3 3s., for incurved Chrysanthemums; and Messrs. Waterhouse & Sons, 25, Dame Street, with their usual liberality, have for the third time offered a £10 cup for Chrysanthemums, cut blooms in vases. There are also to be competed for six silver-gilt, twelve silver, and ten bronze medals.

GRADUS PEA.

THE controversy *re* Gradus Pea has now reached a very interesting point. Originally commencing in a statement emanating from Mr. Carmichael so utterly unfair, untrue, and so divergent in opinion to practical Pea growers, it has now culminated in a grand notice for a grand Pea, which, in my mind, is the greatest improvement in early Peas ever effected up to the present. The point raised as to the many renamings of this Pea is very good. Mr. Harrison drove the nail in, and Mr. James Smith has clenched it. To put the matter briefly it was decidedly unfair for Mr. Carmichael to put such a severe condemnation on a novelty which he admits in his letter was procured from a firm who had nothing to do either with the hybridisation or original distribution.

I read, with disgust, not only in your valued journal, but in others, in "Gardening notes for the month," or whatever title it may be under, the persistent recommendation that "so and so's Jubilee has been vastly superior to any other," "so and so's Perfection should be sown now in preference to any other." It might be, if it were of any interest to me, I might get a friend to write in "notes" of this character that "Gould's Eureka" (were there such a thing) eclipsed all Peas on earth. I do not find fault with parties recommending such a thing as being very good, this is beneficial in bringing to the grower's notice novelties which might otherwise escape his notice. It is the twenty-four carat principle in the one particular item, and Brummagem ware in all others that I object to.—*Jno. Gould, Leicester, February 3rd, 1900.*

HAVING seen Mr. Carmichael's opinion of the Pea Gradus in THE GARDENING WORLD, to which I have been a subscriber since 1886, I endorse Mr. Harrison's and others' opinion who have tried the Pea and have been more than satisfied with it. I am of the opinion that it is the best of all Peas for any purpose. I sowed Gradus when first it was sent out, paying 2s. 6d. for a half-pint of it. I also recommended it to a man for market last year and he was more than satisfied with it; so much so that he has ordered one gallon to be sown in 1900. That I think gives it a very good record and brings mine, Mr. Harrison's and other gentlemen's opinions to the front. I may also state that I have sown Gradus, William the First and American Wonder, side by side on a south border on March 1st, and gathered from all on June 5th. I also sowed some of the Peas

of Gradus for seed the next year and they came perfectly true in height and fullness of pods, containing from nine to eleven large, wrinkled peas of the best of flavour; and my employer says, "Tell the gardener to bring in more of those large Peas, as they are something like a Pea to eat."—*Luscombe Cousins, Gardener, 46, Lesson Grove, Mutley.*

PEOPLE WE HAVE MET.

MR. WILLIAM TAYLOR.

WHO has not heard of Mr. William Taylor? Well there are at least half a dozen of the same name in the gardening profession, two special, and one in particular. We mean Mr. W. Taylor, the famous Grape grower and gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, London, S.E.

He is the son of a well-known Sussex gardener, Mr. George Taylor, for twenty-four years head gardener and bailiff to John Day, Esq., of Uckfield House, Uckfield, Sussex, and a successful exhibitor. On leaving school he went to work in the garden of General Clarke, C.B., at Church House, Uckfield, staying there about nine months. His father at this time leaving Uckfield, for Berwick Court, the residence of A. Burton, Esq., he went with him and stayed a twelvemonth. Mr. Taylor's next move was to Glass Castle, Ridgewood, a market garden adjoining the Rose Nurseries of Mr. G. W. Piper, where he had the opportunity of seeing successful Rose culture carried out, and helped to carry many a first prize box of Roses to the station, bound for the Crystal Palace and other shows.

Here he made a stay of three years, and then went to Alexandra College, Shirley, Southampton, where he planted his first Vine, and had the privilege of pruning one for the first time. After a three-years' stay he moved again to fill a situation at Lordswood House, Southampton. Here he had the opportunity of assisting in the making of a kitchen garden in an old, disused gravel pit, and had the gratification, during the following season, of seeing one of the finest outdoor crops of Tomatos it has ever been his privilege to witness.

After a stay of two years at Lordswood gardens, he found his way to Forest Hill in January, 1889, and obtained employment at Tewkesbury Lodge with Mr. Bury, the place at that time being unoccupied. He now saw Grape growing carried out as he had never seen it before. The estate being bought by C. Bayer, Esq., in July, he remained as under-gardener, rising step by step, and gaining much valuable information from Mr. Bury in Grape growing and general gardening. Mr. Bury left Tewkesbury Lodge in February, 1895, after fifteen years' service on the estate, and on his recommendation, Mr. Taylor was given the post of head gardener.

Numerous improvements have been carried out in the gardens since then, including a new range of Peach houses, with cross trellises, allowing room for pot Peach trees to stand between; also an orchard house, new vinery, Tomato house, potting shed, Grape and fruit room, all carried out according to Mr. Taylor's suggestions, and which have given entire satisfaction to his employer. All the improvements are proving themselves well adapted for the purposes for which they were respectively designed.

He has recently been put in charge of the garden of Hamilton Lodge, the residence of H. E. Bayer, Esq., adjoining Tewkesbury Lodge, and which has recently been laid out by Messrs. J. Cheal & Sons, Crawley, Sussex. This was in addition to his previous duties. We gave an account of both establishments in THE GARDENING WORLD last autumn. Hamilton Lodge has been built, and the grounds laid out with consummate skill on the steep slope of a hill of London clay.

Mr. Taylor has thus, gradually, by his own energy, perseverance, and love of gardening, combined with hard work and study, graduated in the school of practical experience, and climbed to the highest rung of the ladder of the profession, where we hope he will yet accomplish much that cannot for the present be foreseen or imagined.

The largest job, he has been called upon to undertake on the Tewkesbury estate, was the removal of a landslip in the carriage drive, in the spring of 1897, when some hundreds of loads of clay completely blocked up the drive and had to be carted away.

The London clay on various parts of the steep ridge, across the summit of which runs the boundary line between Kent and Surrey, is notorious for its slipping propensities. The great gap in the bank was filled up again with Kentish stone, chalk and ballast. The entire job was carried out with satisfaction to his



MR. WILLIAM TAYLOR.

employer; and at the present time the shrubs and trees look as if they had never been moved, with the exception of one or two Scotch Firs. He has been very successful with fruit trees in pots, Chrysanthemums and Tomatos, as our pages testify. The prizes he has taken during his comparatively short career as head gardener are a standing testimony to his surpassing skill as a gardener and fruit grower particularly. He has taken 100 first, 68 second, 21 third, and 1 fourth, prizes, making a grand total of 190, 111 being for Grapes alone—55 firsts, 42 seconds, and 14 thirds, besides 15 medals, 2 Silver Cups, and 12 Awards of Merit, at the exhibitions of twelve societies. The most important prize was that from the Royal Horticultural Society, awarded at their show of British grown fruit at the Crystal Palace in 1896. This was for twelve bunches, in six varieties, of Grapes. During the same autumn Mr. Taylor took the first prize, out of thirteen competitors, at the Jubilee Exhibition of the National Chrysanthemum Society, at the Royal Aquarium, for twelve bunches of Grapes, in four varieties. The Gardening Press acknowledged that it was well won. On the same occasion he took two first prizes for Alicante and Gros Colmar Grapes. He has also staged large collections of Grapes at the Drill Hall meetings of the R.H.S., for which he has been awarded two Silver Gilt and one Silver Knightian Medals.

At Beckenham, on October 29th, 1897, he staged forty-four bunches in fourteen varieties, on the occasion of Mr. J. Wright lecturing on Grapes to the Beckenham Horticultural Society, receiving the society's Silver Medal and Certificate, on the recommendation of the lecturer. Mr. Taylor has also staged large tables of fruit, not for competition, at the Dulwich Society's show.

Gardening on this Surrey-Kent hill of London clay is no easy matter; but it must not be supposed that Mr. Taylor thins out his Grapes to a few bunches on the rod for the sake of taking prizes. The varieties grown are Gros Colmar, Gros Maroc, Alicante, Madresfield Court, Muscat of Alexandria, Trebbiano, White Gradiska, Alnwick Seedling, Gros Guillaume, Foster's Seedling, Black Hamburgh, Buckland Sweetwater, Lady Downes, Mrs. Pearson and Mrs. Prince. The two last named are the only unsatisfactory varieties here. The borders are inside, 11 ft. wide, and have been made of the native turf of the clay hill. The Vine rods are about 15 ft. long, above the lowest supporting wire, and are allowed to carry from twelve to sixteen bunches according to the variety and the strength

of the rod. The bunches vary in weight from 2½ lbs. to 6 lbs. and 9 lbs., 4 lbs. being a good average. Mr. Taylor feeds his Vines with dressings of super-phosphate, nitrate of potash, sulphate of ammonia and magnesia, in mixture, applied once a week, during the period of swelling, at the rate of 3 oz. per square yard. The borders are then liberally watered.

His employer, C. Bayer, Esq., is enthusiastic over his Grapes and gives his gardener every encouragement. The older Vines were planted by Mr. Bury; but his successor, Mr. Taylor, has brought them even to still greater perfection than that most successful cultivator; and we wish him many years of success in his favourite culture as well as in the others under his care. He is a member of the Committee of the Gardeners' United Horticultural Benefit and Provident Society, and a vice-chairman and delegate to the N.C.S. of the Dulwich Chrysanthemum Society.

ACALYPHA SANDERII.

THE name by which it is best known has undoubtedly reached the most of our stoves ere now, as the novelty, I think, has commenced to wear off a bit. Whether this or its beauty made it such a rage when first introduced is principally a matter of opinion. It is, nevertheless, a very pretty and useful plant, either in the stove or for decorative purposes, the latter more especially, when the colour of the room lends itself to enhance its beauty, with its long, pendulous tails of red. There is still a little difficulty experienced with some in striking cuttings, but if a side-shoot can be obtained now and taken off with a heel about four or five inches long and thrust into small pots singly, in a compost consisting chiefly or wholly of sand, and stood in a brisk bottom heat, this difficulty should soon be overcome. Failing this, they might be tried from eyes placed either in sand or fibre giving the same heat. A little shade should be given them during the summer when flowering, so that the foliage does not lack its freshness. They are usually grown on the single stem system, but if the points were pinched out, the shoots thinned and regulated, I do not see why it should not make a very pretty bush plant, though my experience with this subject has not been long enough for me to confirm this.—*W. Waite, Southfields.*

AMARYLLIS.

A GOOD batch of these should now be started, choosing the most forward. Many will be showing the tip of their spikes if thoroughly ripened off during the late summer. Examine each pot by knocking out the bulbs, re potting those you think require it, and top-dressing the remainder after loosening the surface a little with a label, care being taken not to bruise the fleshy roots. The potting soil should consist of loam, peat in a small quantity, leaf mould, and plenty of coarse river sand, with a little soot. Let the pots, from 5 in. to 7 in., be well drained. In potting shake all the old soil from the bulb, removing any decayed roots, and cleaning off just the loose particles of the bulb. Place a small mound, as it were, of the compost in the centre of the pot, so that the base of the bulb rests on the same, the roots being more towards the outside of the bulb. In filling in well shake the bulb, so that the soil may work well in among the crowd of roots. Clean and dry pots are essential or else the roots cling to the sides, and when they are next turned out a host of valuable roots are sacrificed. A night temperature of 60°, rising 10° or 15° on bright days, will grow them well, and if a little bottom heat can be afforded them so much the better, though not absolutely necessary, guarding against over-watering.—*J. Mayne, Bickton.*

FERNS SUITABLE FOR RAFTS.

THE method of growing Ferns on rafts is very applicable for many species, especially those with long creeping rhizomes, as, for instance, *Acrostichum scandens*. The rafts are made in different sizes, and are very simple, somewhat resembling trellis work. The compost, suitable for many species, is a good fibrous loam and peat in equal parts, and a moderate quantity of broken sandstone. The loam and peat should not be chopped small, but in rather large pieces, as the coarse will be wanted to lay over the

bottom of the raft, and also to build the outside of the mound, keeping the fine in the middle. The plant or plants should be placed in position and the soil made moderately firm. *Acrostichum scandens* produces abundant, healthy, green, sterile fronds, from 4 ft. to 5 ft. high, and occasionally throwing a fertile frond, covered with sporangia. The mound of soil should be rather flat for this species, as the creeping rhizomes rapidly cover the raft. *Davallia hirta cristata* is a very graceful species. The long drooping fronds are also 4 ft. or 5 ft. long. *Nephrodium Sloanei*, *Polypodium irioides*, and *Polypodium Heracleum* are varied in appearance. *Nephrolepis rufescens tripinnatifida* should have conical mounds of soil, and should, if a large plant, be divided and planted all over the mound in rather small pieces. A temperature of 60° to 65° should be maintained, and should any soil be visible and look unsightly plant *Selaginella kraussiana*, or the walking Fern, *Fadyenia prolifera*. — *C. P. Cretchley, The Honeys, Twyford, Berks, Jan. 30th, 1900.*

CELERY FLY.

EVERYONE that takes a delight in his garden knows all there is to be told about the raising, pricking off, planting out in trenches, and earthing up of his Celery; but it is not everyone that can tell you how to effectually defeat the aims and objects of the Celery fly (*Tephritis Onopordinis*). There is nothing with which to fix the date of its first appearance, as so much depends on the season. Generally speaking, however, it emerges from the chrysalis state early in May, and at once begins to deposit the eggs on the leaves of the young Celery plants, and if left alone will soon do a lot of harm. As they hatch at intervals during May, June and July, or even later, whatever remedy is applied should be persevered in. Here is a remedy as simple as it is effective: as soon as there is the slightest signs of their work, dust the plants over, either late at night or in early morning, with ordinary flour. This should be repeated as it becomes washed off by showers during the months of May, June and July, and again in autumn should they again attack the plants. Whether it is the colour that keeps them off or what I know not, but it does so. — *S. Cooke, Rosefield Gardens, Sevenoaks.*

POPULAR BULBOUS-ROOTED PLANTS.

THE under-mentioned subjects are magnificent free-flowering, bulbous-rooted plants, admirably adapted for open-air culture. *Chionodoxa Luciliae* (Glory of the Snow) is a comparatively recent introduction from Syria, of great popularity, and is one of the prettiest spring flowering plants extant. It will succeed in almost any ordinary garden soil, and delights in a warm sunny situation. *Monthreas* are a magnificent group of plants, resembling miniature *Gladioli*, and are admirably adapted for cutting purposes. A few clumps of the choicest named varieties are remarkably effective in the herbaceous borders. They revel in a rich, moist soil and sunny situation. The *Fritillaries* are an interesting family of plants, comprising several species which contain numerous varieties. The varieties of the *Meleagris* type are perhaps the most extensively cultivated, and the handsome chequered markings peculiar to the *Fritillaries* are probably more pronounced in them than in any of the others. *Irises* (*Xiphions*) are a magnificent group of Orchid-like flowering plants. The genus comprises many species, but it is to the bulbous rooted section that I refer, and is the peculiar shades of colour found in the Spanish variety particularly render them exceedingly popular. The *Gladiolus* is the largest genus in the *Iris* family, and comprises nearly 100 species, which contain some thousands of named varieties, so, therefore, to make a selection would be a difficult matter indeed; but the choicest named hybrid varieties of the *Lemoinei* and *Gandavensis* sections are truly magnificent. — *John Peebles, Craigisla House, N.B.*

THE FLOWER GARDEN.

PRUNING OF DECIDUOUS SHRUBS is occupying a few hands at the present, and will do so during the good weather which is to follow. I merely refer to the subject here as it has been singularly beaten upon lately in these pages. So long as favourable weather

exists, trees and decorative shrubs may still be planted. A collection of evergreen and flowering shrubs suitable for the outer edges of the flower garden area, or as centre pieces to the beds, and for placing at the angles wherever these occur, should include dwarf Box plants, variegated and evergreen; the various bushy types of *Euonymus*, *E. radicans* variegata, *E. japonicus*, *Cupressus lawsoniana* erecta-viridis, *C. l. lutea*, *C. l. macnabiana*, and others; *Retinosporas* such as *R. plumosa*, *R. filifera*, *R. pisifera*, *Cryptomeria elegans*, *C. e. Veitchii*, and *Taxus baccata fastigiata*, and the golden and silver forms of these, together with other neat growing plants may all be chosen.

STANDARD ROSES.—A selection of suitable varieties of these may embrace Mrs. John Laing, Alfred K. Williams, Baroness Rothschild, Captain Christy, Crown Prince, Mdme. Victor Verdier, Gustave Piganeau, La France, Charles Lefebvre, Duke of Edinburgh, John Hopper, and others. Standard Roses might be more frequently used.

LEVELLING LAWNS, &c.—Work in this direction is brisk at present. There are very few gardens in which this work does not enter as a yearly item. Edges get broken down or the grass—where edges are of grass—dies out, necessitating renewal. Borning and levelling rods are required, and these, with a hammer, some wooden pins, a rake and a spade will furnish the needful in the operations of levelling. Begin from some central point of the lawn, or flower garden that is to be done. Even the naked eye can fully enough detect uneven lawns. Having decided that a certain area is all in need of attention, carefully lift the turf. Cut it in lengths of about 8 ft. to 10 ft., and in breadths from 12 in. to 15 in. or more. Lay the line out so as to be guided in straight cutting and use the edging iron. Roll up the turf into bundles, cutting the base as evenly and level as possible. Two inches depth is quite enough. Then, having cleared an area, proceed to take the proper levels. Choose a central or suitable point from which to judge, and make the levels from this point outwards on all sides. Care and thought should be given to fix the sighting point high enough to lift the general level up to the adjoining path, or drive, if these are present. Otherwise circumstances must needs dominate the case. Three men will be required to operate together. Two of the borning rods should be exactly of the same height, and the sighting one may be an inch taller than the others. Generally the sighting rod has a small circular hole bored through it exactly in the centre of the cross bar which is fixed at right angles to the rod, the hole being 1 in. from top. Three, or three and a half feet, rods are tall enough.

The sighting rod is placed at one end of the ground to be levelled, another rod being fixed at the other end, the two being sometimes 20 yds. apart. Stakes and short pins should now be distributed in a very straight line between the two rods. The third rod now comes into use. By sighting over or through the hole of the sighting rod the middle rod is raised up or lowered so that the top bar comes in line with the tops of the other two. The small pegs already referred to should have a level head and the base of the rod should, of course, likewise be level. By knocking down or pulling up these pegs the exact level, according to the sighting rod, is found. Short distances, not more than 8 ft. or 10 ft. at a time (if the work is to be particularly performed), should be taken between the pegs. So after having found the first level, go on to the next pin, the man with the central rod alone requiring to shift, and so on up to the other end. Then the ground in the exactly opposite direction can be done in the same way, afterwards doing the cross directions. From the central position, when the pegs have all been sighted upon, the ground all around will present a mapped out and marked off appearance.

It only now remains to loosen all the surface, taking material from the high ground to the lower portions, and if need be (generally required) new soil may be dressed over in addition. Long rods or lines may be stretched between the pegs to secure accurate levelling. In cases of great irregularity the highest ground may be taken as a starting point for the borning rods, and the desired level may be found by measuring to the ground line, or line of level at which the surface is desired to run, fixing a peg or stake at this level and so obtain an even surface. The surface must be beaten or trodden firmly and levelled by raking and rolling. Finely riddled cinders

are usually dressed over the prepared surface, previous to replacing the turf which was lifted. If the turf was bad, that of better quantity should be got. — *J.H.D.*

PLANTS UNDER GLASS.

The Stove.

APHELANDRAS.—Knowing how very appreciable for winter display any brightly flowering stove plant is, the *A. aurantiaca* and its varieties, besides other species of the genus, might be just a trifle more frequently taken in hand. They are not the most tractable subjects to take in hand, yet these are just the plants which worthy gardeners mostly care to make a specimen from. The foliage of *A. aurantiaca*, which is a very fine member, is broadly ovate, drooping down around the surface of the pot. In the brilliant crimson flowered variety, *A. a. Roetzli*, the foliage is quite glaucous, while the stout but short spike stands erect above them. Dwarf plants can be got from cuttings, and nicely flowered in 4-in. and 5-in. pots.

For the edge of the stove stages, or in massed groups at intervals along the same, these *Aphelandras* are very much to be recommended. After blooming them, somewhat dry them off, placing them into a cooler house, and finish up by cutting them hard back. Cuttings of the young shoots from old plants can be struck in the strong bottom heat of a propagating case. In all cases, much care should be taken in the shifting-on, keeping near the glass for dwarfness (when raising young plants), and in watering them. They are apt to lose their leaves, without which they are mere bare sticks. A good loam and peat compost answers their needs.

MIMOSA PUDICA OR SENSITIVE PLANT.—This *Mimosa* exhibits in a fine degree, sensitiveness, or irritability in plants. There is no call for me to describe this pretty bright green pinnate-leaved plant, with little peachy flower-heads, but I would throw out the hint not to rush the plants upward too strongly, nor allow them to become so drawn as some do. Seeds may be sown in pans now, these being plunged among fibre in a warm case.

MONSTERA DELICIOSA.—Readers of these notes may be concluding that I am ferreting out a list of peculiar or "prepossessing" plants. The above, though a very strong growing plant, can yet be confined to a very restricted corner. Indeed, we grow it quite in a corner against the wall, and at the back of a door in a warm corridor. The perforated foliage, the aerial or adventitious roots, and the delicious Pine-flavoured (or mixture of flavours) fruit spikes, all combine to give merit and distinction. The fruits are much appreciated. Plant strong suckers or rooted cuttings in strong, deep and rich soil. It likes plenty of moisture.

GLORIOSA SUPERBA.—This handsome stove flowering climber, a bulbous plant to boot, may now be potted up and started in a brisk heat, 70° F. being none too much. During its summer growth, a Croton house, with a temperature ranging often between 80° and 100°, and a moisture laden atmosphere and good feeding, are factors greatly in its favour. A rich, porous, loamy compost suits it. Pot 1½ in. deep, harming or loosening the brittle roots as little as you can. Water with tepid water. Seeds and offsets for propagating the *Gloriosa* should at once be prepared and started.

Pits, &c.

CYCLAMENS are now into the 3-in. and 4-in. pots. We still keep them in a house, ranging in temperature between 55° and 60°. Always be exact, careful, and timely in watering.

PRIMULAS.—These, of course, are now in full bloom in the show houses and rooms. It is interesting in passing to point out how quickly new forms and types are arising from the efforts of the cross-breeders and selectors. We have the old type, *P. sinensis*, then there is the longer stalked *Star Primula*, of which Sutton's *Star Primula*, The Lady, and Lady E. Dyke, are types, the latter more spreading, greener in leaf and stalk, flatter and whiter in flower, but otherwise having much of the grace of The Lady. Messrs. Cannell have also added "Kentish Beauty" as a new type. It has the tall petioles of the star strain, and the large flower trusses and individual blooms of *P. sinensis*. Then there are some doubles of lavender colour, and Fern-leaved *Primulas*, all under development. — *J.H.D.*

HINTS FOR AMATEURS.

Paeonies.—A very eulogistic reference is made by Messrs. Kelway in their "Manual" to the charms and merits of Paeonies. They say—and no growers understand more about Paeonies than they—"Herbaceous Paeonies are the most beautiful, the noblest, and the grandest of all hardy and perennial plants, and should be in every garden, large or small; in beds, borders, shrubberies, or drives; in parks, by grass walks, or woodland. They should be planted in masses for distant colour effect, in straight lines or curving on the margin of shrubberies, and in groups between shrubs. They are handsome in large and small beds in the midst of turf, in borders at the foot of walls, and in mixed borders at constant intervals. The less expensive kinds should be planted freely in copses, woods, and the rougher parts of the garden; all these situations they adorn."

Anyone who has grown the Paeonies in groups, or even singly, cannot but endorse the foregoing lines. One great drawback in my eyes, and a point which might be overcome somewhat by culture and selection, is that they do not last long in bloom, and are soon past the heyday of their beauty. Their culture, however, is very simple, and they may be planted over a period extending from October up to the end of March. A rich soil is very much preferred by them, and for mechanical texture a medium loam, that is, a soil which drains well, yet is moderately heavy. By the addition of leaf soil, road scrapings, and other light material heavy soils can be made more suitable. On the other hand, dung and other holding matter can be liberally supplied to sandy soils, and in planting in such choose a shaded position. Staking is necessary to uphold the heavy, branching system, and great balls of bloom. A summer mulch is another item very much to be remembered. Indeed, for the growth of good plants we always mulch in April, and again after growth has finished, especially on the drier borders where the tree varieties are growing.

Practically these are all the points to which the attention of the amateur may be drawn. They enjoy almost perfect immunity from insect affliction, so that from this cause there comes no worry or expense. The ease with which the Paeonies, or at least, the old *P. officinalis* and *P. o. rubra plena* are cultivated is demonstrated by the fact that in the far north of Scotland, and away down in Devon, and along the south with every shire between, the lord's garden and the labourer's plot shine red year after year with plants rigorously undisturbed. The newer varieties of Paeonies are quite as easy to deal with, and are much improved in many of their most desirable points.

For the benefit of those who care to increase their own stock a word might be dropped. The herbaceous Paeonies may be increased by division of bushy plants, but do not be too severe in the operation, nor repeat it too often. They are also propagated from seeds or by grafting pieces of nice shoots (scion) on to the fleshy roots of the common red Paeony mentioned above. This grafting operation is usually performed in August, the healthy roots afterwards being severed and planted with the grafted scion into frames and kept close for a while. Leave them there until the spring, whence plant them out. Propagation may also be done by layering.

Tree Paeonies differ from the herbaceous group in being shrubby. They form woody growths, and a thickened rootstock. They are very serviceable, and can be used for north borders where others of the Paeony tribe would not thrive. A dry autumn aids the next season's blooming powers of Paeonies. Where the crowns or buds start early, and are in danger of being nipped by frosts (which does occur, more especially among the Moutan or tree varieties) a protection of some light sort must be applied.

Sections of Paeonies.—There are reckoned to be about two dozen species and sub-species of Paeonies, but so linked are many of the species that it is a difficult matter for any but the most careful specialists to distinguish good species and their subsidiaries. Mr. Baker, of Kew, who has done so much for systematic botany, applied himself to the study of Paeonies nearly twenty years ago, and he classified them into two sections. The first of these is the Moutan Tree Paeonies; the second is the section

which dies down every autumn, the herbaceous Paeonies. A further classification was made by making three groups of them according to the characters of the follicles or seed carpels. One group has hairless follicles, another has follicles bearing upright hairs, while the follicles of the third group bear hairs arranged in star-shaped fashion when mature. The names of the species selected by him were arranged under the groups to which they belonged. Thus, we see that there are two sections, a herbaceous *P. officinalis* and *P. albiflora*, and a shrubby *P. Moutan*. Among the species belonging to the former, differences in hairiness define the group to which they belong. The old red Paeony represents the hardy European section; the original white species, *P. albiflora*, represents, as, of course, does the old red one, the hardy herbaceous Paeonies. *P. Moutan* is the original Tree species, which is so widely cultivated in China and Japan. The varieties are suitable for forcing to flower in February. Paeonies belong to the same natural order as do Buttercups, Celandines, Delphiniums, Aquilegias, &c., and members of the family are found in the temperate regions of both the Old and the New World. So much taste is there in choosing varieties that we leave that to the fancier of these plants.

A Backyard Garden.—A subscriber to the GARDENING WORLD, who has but lately become endowed with the desire to garden well, and to advance the aesthetic role in his little suburban garden, asked me to guide him in a selection of suitable plants and shrubs for the beautifying of his area. I was able to visit his home, and his circumstances are so true a prototype of the gardens and the means of so many others, whether readers or not, that I prefer to offer some general hints, broadly applicable to the needs of all in our friends' status. He is an artisan, amateur gardener, living in the out reaches of west London, so that his situation for fine gardening is not the most preferable. The garden is, roughly, only one long border of 10 ft. to 12 ft. in breadth, and surrounded on all sides by walls, that on the east side being 10 ft. high, the others about 7 ft. It might be thought that such a small yard, with such high walls, would be over-shadowed and frequently dull, yet, no. The garden lies south-east and so receives sunshine till late in the afternoon. Well, then, my first hint is to have the vacant ground deeply dug. He, having been exceedingly generous to it for three years past, I advised the addition of no further natural manure, but to give a dressing half-an-inch all over the surface with unslacked lime. Gardens which have been scantily manured should be supplied with all the kitchen and room slops, weak soapy water, and fertilisers, such as soot, very fine coal and wood dust-like ashes, and guanos. On light soils, however, make every endeavour to add what is called organic matter, which is to be found in clean vegetable mould, sea-weed, stable-litter, and moss, leaf-soil, and, of course, soppy "muck," that is, farmyard or dairy manure. Heavy soils are generally well filled, natural larders, and more frequent lime-dressings tend to liberate the goodness they hold. And one more point on soils before we go onward:—To preserve moisture in the under-depths of the garden, where the roots of the crops are one of the best hints which I or any other gardener could give is, never to lay aside your Dutch hoe during hot weather. There may be no weeds to hoe out; so much the better then. But, as Rudyard Kipling might say, hoe, hoe, hoe,—loosen the surface soil and keep it loose; it is a capital system of "mulching," and the why and wherefore of all this may be found in some of last summer's "Hints."

Now to consider a list of cheap, beautiful, and in all ways suitable plants for a garden such as I have under notice. Say it is devoid of plants, as this one nearly is, for clothing the walls and small buildings, I should advise the following subjects:—Roses, Gloire de Dijon, Félicité Perpétuelle l'Idéal, Crimson Rambler, and Blairii No. 2. These are vigorous and very free.

Shrubby Climbers.—For winter flowering use the yellow Jasamine, *Jasminum nudiflorum*; then for spring the mountain Clematis, *C. montana* is fine, for it throws out wreaths of starry white flowers when it does well. The Traveller's Joy or Old Man's Beard, *Clematis vitalba*, comes in for summer; while for July, August, and onward we have the large blue-flowered Clematis named Jackmanni, which is seen in most gardens, and should be absent from none. One of the Apple tribe, *Pyrus japonica*,

is a pretty crimson flowering wall plant for a nice sunny corner. It flowers in spring-time, but needs to be pruned. *Wistaria chinensis*, like a blue-flowered Laburnum, is a capital plant for walls and for covering exposed roofs. Secure good plants to start with. Then for soft-wooded climbing plants choose *Tropaeolums*, the Canary Creeper, and the Flame Flower. Packets of seed of the latter can be had for a few pence. The Flame Flower likes a somewhat shadier position and cool bottom. Any of the wall plants may be obtained for 6d., 1s., and 1s. 6d. a piece. In small gardens only half-a-dozen good Roses need be grown in borders, and these should include a little hedge of *Rosa rugosa* and its forms; China or monthly Roses, and one or two good hybrid Perpetuals. The following shrubs are also cheap, hardy, vigorous, and sure to give satisfaction, provided due care is exercised in planting to start with:—*Cornus mas variegata*, a bright leaved and yellow flowered shrub; *Daphne Mezereum*, a sweet-scented spring bloomer; *Cytisus scoparius*, the common Broom; *Forsythia viridissima*, for a sunny corner, yellow sprays; *Diervilla rosea*, plant anywhere, very pretty; *Ribes sanguineum* or flowering Currant; *Spiraea prunifolia*, graceful, and bearing white flowers, open position; Tree Paeonies (see "Hints"); *Philadelphus coronarius*, the Mock Orange; *Rhododendron ponticum*, perfectly hardy and free flowering, prefers peaty soil, but this is not essential, any position. As a smaller, but very useful plant, *Fuchsia Riccartoni* should certainly be planted. Place it next a sunny wall. More for the foliage effect one might advise *Yucca recurvata* and *Y. gloriosa*. If these are surrounded at the base by trailing Ivy they are very handsome. I find my space now too limited, however, to go further in the meantime.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Lawn Seed for small area.—*Jos. Gloag*: Follow out the directions given on page 216, and for your area (about $\frac{1}{2}$ of an acre), 10 lbs. of any good mixture would be enough.

Mushrooms in Barrels.—*J. Thompson*: If the barrels are well cleaned and scrubbed with hot lime-water, then aired and sawn in halves, each end may very suitably be filled to secure a mushroom crop.

Thuya orientalis is the true Chinese Arbor Vitae. *Trinity* knows the shrub no doubt, it being of thick upright growing habit, not straggling and so close that a good specimen appears like a great verdant, baggy column. Quite a number of *Cupressus*, especially those which have a fragrance, receive the name of Arbor Vitae.

Gherkins.—*M.*: This is the name applied by growers to a species of ridge Cucumber. The plants fruit late in the season, the produce being small, stout, prickly looking green fruits like very stunted young Cucumbers. These, and many other very acid and peculiar but health-giving vegetables and salads are more grown by Continental gardeners than by our own horticulturists.

Eucharis Mites Troublesome.—*Jas. Nixon*: You are right; on examination we find the mites have destroyed the power in a number of roots, and penetrated some of the bulb scales. It is a difficult matter to entirely eradicate them. Mix 4 oz. of soft soap with half a pint of paraffin oil, and when these are blended add just over a gallon of boiling hot water. Immerse the bulbs in the water when its temperature is at 95 to 100 degrees. Steep them for some time, then plunge again. A second steeping and hand-wash may be given in a hot lime-water solution. Pot the bulbs up in fresh loam three parts, one part of leaf soil and sand. Do not over-water them till they start again in vigour. Allow them strong bottom heat. As a preventive we have used top-dressings of soot.

Raising Ferns from Spores.—*J. H.*: Secure thoroughly matured fronds, examine their edges or under surface, and if the sori, as the groups of spor-

angia are termed, seem fresh and good, peg the fronds to nicely prepared and well filled, shallow pans. Or you could partially dry the fronds and shake off the spore on to clean paper, sowing these afterwards. Use moist soil, and water from below by placing the pans in saucers of water. Cover the pans with circles of glass, give them a warm house, and in a few weeks Fernlets will result.

Seeds for Garden Plots.—*Jas. Bidwell*: To guide yourself and other amateurs who seem to prefer fuller hints on the quantities of various vegetable seeds necessary for garden plots we take the following from a table supplied by Messrs. Harrison & Sons, of Leicester:—

Asparagus, bed of 15 sq. yds.	..	..	1 lb.
Beans, Broad, row of 50 ft.	..	..	1 qt.
Beet, row of 50 ft.	..	..	2 oz.
Broccoli, 4 sq. yds.	..	..	1 "
Brussels Sprouts, 4 sq. yds.	..	..	1 "
Cabbage, bed of 8 sq. yds.	..	..	1 "
Carrot, drill of 100 ft.	..	..	2 "
" bed of 12 ft.	..	..	2 "
Cauliflower, 4 sq. yds.	..	..	1 "
Celery, 4 sq. yds.	..	..	1 "
Cress, 3 sq. yds.	..	..	2 "
Endive, 4 sq. yds.	..	..	1 "
Kidney Beans, row of 80 ft.	..	..	1 pt.
Leek, 2 sq. yds.	..	..	1 oz.
Lettuce, 4 sq. yds.	..	..	1 "
Mushroom Spawn, 6 sq. yds.	..	..	1 bsh.
Onion, 6 sq. yds.	..	..	2 oz.
Parsley, row of 80 ft.	..	..	2 "
Parsnip, drill of 200 ft.	..	..	2 "
Peas, row of 60 ft.	..	..	1 qt.
Potatoes, row of 30 ft.	..	..	½ pk.
Radishes, 2 sq. yds.	..	..	1 oz.
Savoy, 4 sq. yds.	..	..	1 "
Spinach, 10 sq. yds.	..	..	2 "
" drill of 120 ft.	..	..	2 "
Turnip, 4 sq. yds. or 60 ft. drill	..	..	1 "

FREE BEARING BUSH APPLES.

Most observing cultivators will agree that the cultivation of Apples has made an upward march during the last twenty or thirty years. In some parts of the country this is most visible. In many instances this is where the land and rates are high. It is to be regretted that those owning land as well as those cultivating it, in the west where the climate and surroundings are highly favourable, do not realise this and destroy the present existing orchards, which are worthless; and plant fresh land. There is no disguising the fact that there is mooney in Apples, whether planted as standards in orchards or as bush trees, when the work is properly executed and right kinds chosen.

Many of our market growers know the advantages of the bush form of tree as is seen by the number of trees grown in this form in Mr. Walker's establishment at Ham Common. When I visited it many years ago I learnt a good lesson on the advantage of selecting good and free bearing kinds.

The pyramid form does not answer for some kinds. Nor do I recommend it for Apple culture generally. While the bush type has many advantages, not one of the least is its ease in management. Added to this they may be grown profitably in almost any size. As an illustration of this I may say in our own garden, three years ago, I bought a small bush tree of Lane's Prince Albert, 3 ft. high, for which I paid 1s. 6d. The first year I gathered 8 lb. of fruit from it; the following year, 20 lb.; the third year, 10 lb.; and some years the fruit was worth 2d. per lb. in March, according to our local markets. I may say this tree grows but little, being cropped so heavy. The size of tree I favour most is from 8 ft. to 12 ft., and about as much across. The tree here photographed (see illustration), is 8 ft. by 8 ft. It was planted seven years ago and cost 2s. 6d. The first year it gave a few pounds, and every year since it has given good crops.

In the autumn of 1898, when the photograph was taken, this tree gave 64 lb. of large fruits. Last year 36 lb. was gathered. These are clean and handsome, keeping well till February or March; and if only realising 1½d. per lb., this brings a good return. Growing under this is Lily of the Valley, which gives good returns in bloom.

As an early kind Domino is a great favourite with me, for this form of tree, I have one standing close

to a corner by my cottage. It is 6 ft. × 6 ft. Most years this gives me from 50 lb. to 60 lb. So heavy is this crop that I make a point of thinning the fruits as soon as large enough, selling them for cooking, and they make good prices. Loddington Seedling does equally well, giving large, handsome fruit. This does not grow as freely as Domino, although growing side by side and treated in the same way.

Dumelow's Seedling is most satisfactory grown in this way. This year (1899) a tree planted four years ago, and now 5 ft. high and 5 ft. across, gave me nearly a bushel of the most beautiful fruit you could wish to see; and these would command good prices in March, as they are not spotted.

[They are firm, plump, highly-coloured, and otherwise in fine condition.—ED.]

Seaton House cannot be too highly praised for such culture. This is an excellent keeping kind, and

NOTES ON FOREST TREES.

THE effect of the great storm that swept over Britain five or six years ago is still manifestly visible in many parts of the country. Its violence must have been severely felt in many parts of Forfarshire, as the destruction to woods and forests in that county is simply appalling. The beautiful lake of Lintrathen, from which the town of Dundee obtains its water supply, was, a few years ago, almost surrounded with a wide expanse of dense forest, but to-day it looks a bleak and desolate sheet of water with scarcely a standing tree within miles of it. On the extensive estate of Airlie Castle, "The Bonnie House o' Airlie," there are some hundreds of acres of young planting, about 20 ft. high, composed chiefly of Pines, Spruce, and Larch, and in some places there is scarcely a single tree left standing. The whole of them were blown over, and are lying level



BUSH TREE OF APPLE LANE'S PRINCE ALBERT.

soon grows large enough for cooking. This I generally thin and use the fruits early in August. With me this keeps well till the end of April. Mr. Temple often gives this a good word as growing in his northern garden. Lord Suffield, Worcester Pearmain, King of Pippins, Beaumann's Red Reinette, and many others too numerous to mention in this limited space, can be relied on to give good and profitable fruits yearly.

I find no stock answers for this form of tree as well as the broad-leaved Paradise, as the trees are quite strong enough in annual growth.

Amateurs should not lose sight of this profitable hobby. Even those with ever so limited a space may grow a few trees. If grown in the shrub border or on the lawn few things are more ornamental when in bloom and fruit.—*J. C., F., Chard*

on the ground, and it is surprising to see how the branches on the upper side are shooting straight upwards again, and growing vigorously.

To stand at the outside and look across one would think it was a beautiful young planting about 8 ft. or 10 ft. high, but when he enters the thicket he is surprised to find the main stems or trunks lying level on the ground, and that the vigorous growths that are shooting so straight upwards are simply the side branches of the fallen trees.

Having had occasion to go through these woods a good many times during the last few months with shooting parties I took the opportunity to measure a few of the leaders of these branches, and I find that many of the Larches have made a growth of 30 in. to 33 in., and the Spruces 28 in. to 30 in. during last summer. The durability of the respective

timbers might also be mentioned. About one-half of the fallen trees died after they were blown over, and the other half is still quite green and growing vigorously. The main stems or trunks of the young trees (the Pines) are completely rotten and absolutely useless; the Spruces are still sound, and could be used for light work; and the Larches, although having lain five or six years and are quite dead, are still sound and durable, and quantities are being taken out and cut up for fencing purposes.—*John Peebles, Craigisla House, N.B.*

[A bundle of last year's shoots, consisting of the leaders of Larch and Spruce trees, was sent us by Mr. Peebles, quite confirming his statements as to the remarkable growth of the trees blown down by the hurricane mentioned. The leading or upright shoots of the Spruce were 30 in. to 31 in. long, perfectly healthy, as straight as an arrow, and of most wonderful vigour. The Larch leaders were 30 in. to 34 in. in length, and, though not so thick as those of the Spruce, were otherwise a standing testimony to the suitability of the soil and climate for these forest trees.—Ed.]

NOTICE OF BOOK.

GARDEN LAWNS, TENNIS LAWNS, PUTTING GREENS, CRICKET GROUNDS. By Sutton & Sons, Reading. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 1899. All rights reserved. Price 2s. 6d. Without illustrations, and in paper covers, 1s.

The two books are one book, so to speak, the text being entirely the same in both; but the smaller one is in paper covers and without illustrations; while the larger edition is bound in very pale green, cloth boards, and is interleaved with half-a-dozen illustrations. The latter consist of reproductions of photographs of scenes in the grounds of private establishments, and represent expanses of well kept grass, having a background of tall, umbrageous Cedars, Spruces, Sequoias, and other Conifers, as well as masses of deciduous trees in their full summer garb. They are done in two or more shades of colour printing; and some of them contain views of ornamental water away behind the trees.

The aim of the book is not the discussion of the beauty or utility of well-kept lawns and pleasure or recreation grounds, but to elucidate the best and least expensive method of producing a smooth and velvety turf that will be soft and elastic to the tread, and to suggest the means by which they may be kept in good condition. There are two well-known methods of making a lawn, and these are to lay turf or sow seeds. By the former method a green sward may be got ready for use in a little less time than it takes seed to develop to the same stage. The questions that arise in connection with the former are the possibility of obtaining turf, its cost, and condition. The latter is, perhaps, the most serious, because in a state of nature there are generally had weeds in the turf, and coarse grasses to disfigure it as well. The trouble and expense of rectifying these evils afterwards more than counterbalance the advantage of an earlier use of the ground by employing turf. An acre of ground would require nearly 15,000 pieces of turf, each 3 ft. by 1 ft. in dimensions, so that the cutting, carting, and relaying the same are calculated to reach nearly £100; whereas seed of the best quality to sow that area is procurable for £5, or £7 10s. at the most. Where any appreciable area of land has to be turned into green sward, the difference in the item of expense between the above two methods is obvious. The initial cost of levelling and otherwise preparing the ground to be turned into grassy sward would be the same in both cases.

The book is mostly taken up with the operations necessary to prepare the ground, so that, when covered with grass, a minimum of labour will be required to maintain the turf in good order. Soils vary in their capabilities of retaining a sufficiency of moisture, and so does the slope. The ease or difficulty of maintaining a green sward during the summer months also varies, and is vastly influenced by the character of the season. The skill of the landscapist will best be shown by his making the most of the natural advantages at his command. There are articles on grass slopes, drainage, preparatory work, weed seeds in soil, enriching the soil, surface preparation, selection of seeds, quantity of seeds, sowing, worm casts, water and shade, bird scares,

mowing, rolling, destruction of weeds, improving old lawns, moss in lawns, &c. The article on "weed seeds in soil," refers to the need in some cases of getting soil elsewhere to fill up hollows in the ground. The seeds of pernicious weeds may be introduced in this way. The chief remedy advocated is to burn such strange soil before using it. The burning of clay land or a portion of it is an excellent hint for improving the qualities of land either for the benefit of grass, or flower gardening, as we have had opportunities of observing.

Special information is given for the making of putting greens and cricket grounds; so that those who contemplate the formation of lawns would do well to arm themselves with the information here placed at their disposal.

CHEMISTRY FOR THE GARDEN.

III. GASES—(CONTINUED.)
(Continued from p. 363)

HYDROGEN, in addition to the portion it forms of water, is also found in all vegetable and animal products. It is what none of the previous gases are—inflammable, burning with a pinkish-blue flame when ignited. It is easily prepared, but, owing to its highly explosive nature when mixed with air, care is required when it is ignited that all the air contained in the vessel in which it is generated should be exhausted, otherwise a very serious explosion may happen. Hydrogen has a great affinity for carbon. They are, in general, co-operators. Where there is flame they are working in unison in the performance. Hydrogen is only inflammable in the company of oxygen; and any flame is just no more nor less than hydrogen oxidised, resulting in the formation of water, the oxide of hydrogen. A somewhat similar process takes place in the animal lungs, when the hydrogen of the food combines with the inhaled oxygen. The action results in heat, of slower combustion, of course, than that which takes place in flame. By mixing hydrogen and oxygen in the proportions already mentioned, and igniting the mixture, a sharp explosion occurs, and water is formed. Water can also be decomposed into these gases. This is done by electricity. Plants do this feat continually without any apparent difficulty.

AMMONIA GAS.—This substance is a compound of nitrogen and hydrogen, and, as its behaviour in forming compounds, resembling those of metals, led the older chemists to place it among the metallic elements, the hypothetical name Ammonium was given to it. However, little foundation for any suspicion in that direction has yet been discovered. It belongs to the alkaline group of chemicals, having the same natural causticity as lime, potash, and soda, but, unlike these, ammonia is extremely volatile. Our dung heaps, stables, urinals, &c., where great quantities of this valuable substance are generated, readily give indication of its presence by the pungent odour as it escapes into the air. Although the atmosphere contains but a small proportion of ammonia, it can be produced from various other sources where its component parts act an important part. It is abundantly formed in the distillation of shale, coal, and animal matter, as well as in the ordinary putrefaction of all animal matters. If urine is exposed to the influence of the air till it gets into a state of putrefaction it is very rich in ammonia.

The student can satisfy himself of this by distilling the putrid urine, along with caustic lime, into a receiver with pure water, when he shall have a fair sample of liquid ammonia or hartshorn, properly speaking, carbonate of ammonia. This form is also volatile, and, for manurial purposes, except for immediate use, is useless till it is fixed into the sulphate, which binds the ammonia so that it is unable to fly away into the atmosphere. This gas has a strong affinity for water, hence it is a judicious thing when a large body of stable or other manure is in the process of fermentation, to use water pretty liberally; for it absorbs a large quantity of the ammonia that otherwise would escape into the air. This essential is neglected to a shameful state among many farmers who, we suppose, are quite ignorant of the fact that their gold thus evaporates, before their eyes, into the air.

It is extraordinary that those who are in charge of these natural sources of this valuable fertiliser allow it, without a murmur, to be dissipated, when they pay so much money for the artificial product each year. There are several other things which can be

used for fixing the ammonia formed in dung heaps, the weak solutions of sulphuric acid can be used with good results. Kainit also liberally thrown over the heap is said to be fruitful of good results. Wood charcoal, wood ashes, or any of the alkaline sulphates ought also to meet the required want.

The oxidation which takes place when dung is undergoing fermentation results in the liberation of a great deal of heat, as most of us are aware. Ammonia in any form but that of the sulphate, on account of its volatile tendencies, as already shown, if not arrested, as we have above stated, will escape, and leave behind, sure enough, what is termed "well rotted" dung, but of little more value than if the whole had been consumed by fire. The only difference, perhaps, is that such dung when incorporated with soil makes it rich in humus, and humus is one of the best absorbers of ammonia from the air.—*Oxygen.*

(To be continued.)

ROSES IN THE GARDEN.

IN another column we briefly refer to the lecture given by Mr. Geo. Gordon, V.M.H., before the members of Ealing and District Gardeners' Mutual Improvement Society. Mr. Gordon's story proved to be thoroughly practical, and useful, recalling to the minds of the audience the salient points necessary all along the line of cultural routine. Poetry was sandwiched with practice, the result proving highly acceptable. Our notes must be condensed merely to a summary, the outstanding points alone being recorded.

Citing the case of amateur gardeners and their purchase of varieties, especially where they desired and chose standard trained Roses, they frequently erred by compiling a selection of varieties from the first prize show collection. Often enough they chose weakly growers. The following H.P.'s were recommended for standards as being vigorous as well as beautiful:—Alfred Colomb, Augustine Guinoisseau, Baron de Bonshetten, Duke of Edinburgh, General Jacqueminot, Mdme. Victor Verdier, Margaret Dickson, Mrs. John Laing, Paul Neyron, Clio, Thomas Mills and others. The choice of suitable varieties forms the foundation of satisfactory results. Of H.T.'s for the same or other purpose, being vigorous and good, the following were named:—Caroline Testout, Kaiserin Augusta Victoria, La France, Mrs. W. J. Grant; while of Tea-scented varieties enumerated as suitable for standards were Bouquet d'Or, Gloire de Dijon, Mdme. Marie Hoste, The Bride, Aimée Vihert, Félicité Perpetué and William Allen Richardson.

A strong point is to give plenty of room for the spread of the heads and to keep the stems clean and unencumbered by climbers. The three varieties last mentioned should be huddled at a height of 6 ft. or 8 ft. As stocks, the cutting Briers were preferred to the seedling Briers from the bad habit the latter has in producing suckers. The wild Brier again becomes too rank rooted. The Manetti makes a larger plant in a shorter period, but its qualities are not so lasting. A selection was given of the Polyantha section so useful for edges or margins to broad walks. The Japanese Rose, *R. rugosa*, is very desirable for the forming of loose hedges and for massing in groups. In autumn its fruits are a beautiful and attractive feature. Far more might be and ought to be done in garden ornamentation by employing climbing Roses for pillars, bowers, tree trunks, sloping sunny banks, pergolas, trellises and arches. The selection of lovely varieties is replete enough, and once planted very little after care is demanded.

Mr. Gordon referred to suitable soils, manuring and mulch both in autumn and again in summer; abundance of feeding Roses enjoy, and a deeply worked well drained soil must always be given, guanos, superphosphate and other fertilisers being helpful.

In regard to pruning he advocated what we ourselves and all others, who use reason, practice, not to prune hard back. For first-class exhibition blooms certainly prune back to one or two buds, but for a wealth of garden Roses, why sever the loads of well-ripened strong and fertile shoots which from most gardens are yearly extracted? Unripened ends and weakly shoots only should be cut in. Lists of climbing Roses as Cheshunt Hybrid, Reine Marie Henriette, Gloire de Dijon among Teas, and Rêve

d'Or and W. A. Richardson from the Noisettes, besides Turner's Crimson Rambler, the Multiflora Duplex, the Ayrshires and Evergreen Roses, of which latter section Félicité Perpétuée was given as the finest variety—these and others were mentioned as really trustworthy.

November was given as the best month to plant, though where circumstances forced one to hold over to a late date, say March or April, plants from pots ought to be chosen for the purpose. A concluding eulogy to the merits of Penzance Sweet Briers for hedges and for beds brought Mr. Gordon's address to a finish.

THE GORSE DEBATE.

OF course I accept the statement of "C. B. G.," confirmed by Mr. Wright, that the Furze on Bucklebury Common in the third week in November was a blaze of bloom. It is very extraordinary, but facts are stubborn things, and all the text books are wrong. I should like to hear later on from Mr. Wright whether this state of bloom continues, for I should imagine that it must have a close time.

As to fogs, that point has been answered by "Qno.," who points out that the elevated plateau, extending from High Beach to Epping is quite above their region, and enjoys an unusual amount of sunshine.

Here there are hundreds of acres of Gorse and occasionally even now rather stunted plants may be found covered with buds; but the great mass of luxuriant bushes, from 6 ft. to 8 ft. high, are quite devoid of flowers.

Last August, in Ireland, I passed through many miles of Furze, and in no case could see a single bloom; but at Killiney, in Dublin Bay, saw a magnificent bush growing on the top of a loose wall completely covered with flowers.—*Sigma*.

To those whom it may concern there are still some authorities that might be quoted as showing the diversity of opinion that has always prevailed upon the subject of the flowering of the Furze or Gorse. G. C. Druce, in "The Flora of Berkshire," says that the Furze blooms from January to April, and sometimes in the autumn; while the Dwarf Furze flowers from July to October, and sparingly in the spring. F. J. Hanbury, in the "Flora of Kent," says that the Furze blooms from February to May, and again in the autumn; and that the Dwarf Furze blooms from July to October. W. Withering, in "British Plants," says the flowering period of the Furze is May, and occasionally at all seasons; the Dwarf Furze, he says, blooms in autumn. C. C. Babington says February to June is the flowering period of the Furze, and August to September that of the Dwarf Furze. Sir J. D. Hooker says February and March, and August and September for the Furze, and July to November for the Dwarf Furze.—*Qno*.

Surely a' this collieshangie aboot the Furze and Gorse is mighty muckle adae aboot naething. Cud the Furze floer aneath ane to forty feet o' snaw? Ony wye, it's gey cauld here awa the noo; an' it wud be forgettin' itsel gin it were to floer amon' snaw. Gin ye were to speer at me whan it floers I wud say it blows whan it can, an' that wudna be i' the noo. It's fell cauld hereawa, ye may jalouse, whan the hulls wear thir Furze a' the year roon. Na, na; snawba's are mair in fashion than yallow floers o' ony kin'; an' gin ye dinna tak' my word for't, come an' see for yersel.—*Geordie Tam*.

TIMELY HINTS.

CONTINUE to pot up or box bedding Pelargoniums, placing them in a closed frame with a temperature about 50°. Topdress or replace in basket Phalaenopsis, and report other Orchids. Pot also *Carex brunnea variegata*, *Panicum*, *Isolepis gracilis*. Pot up any old zonal Pelargoniums which are to be grown on for summer flowering. Stake and tie Malmaison Carnations. Take cuttings of soft-wooded bedding plants, such as dwarf Lobelias, *Ageratum*, *Mesembryanthemum*, &c. Clean and re-arrange stove plants, especially where potting is well advanced. Sow Cabbage, Lettuce, Cauliflower, Sprouts, Leeks, Onions, and Spinach. So soon as the Melons germinate place them near the glass, but free from any draughts.

Paint and wash the rods in late vineries with Gishurst Compound solution in the first instance, and a paint like mixture of clay, soot, lime, cow dung, and sulphur, working it well into the cracks and hollows. Go over Vines in the early house with soft brush and bottle of methylated spirits, placing just a drop on any mealy bugs which may be found. Set the blooms in the early Peach house. Nohlesse is very shy, so that pollen should be taken from another and more vigorous variety, such as Early Rivers. Fumigation may be advisable in the early Peach house, no harm accruing from XL All vapouriser, even though the trees are in full bloom. Figs just breaking should be watered and constantly syringed. Strawberries should be kept clean. Ten fruits per plant is quite enough to leave.—*Recorder*.

PUBLIC PARKS AND GARDENS.*

London is, happily, not entirely covered with houses, as a glance at its map will show some green spots. Before going the round of the parks, to note in detail their present condition and possibilities, we will take a general survey. No capital in the world can surpass London in the number and extent of the parks and gardens situated within its confines. Other cities may be able to show more beautiful gardens; and if Epping Forest be excluded more extensive parks; but they are generally to be found on the outskirts of the towns. The parks and gardens in the interior of foreign capitals are few in number, and small in extent when compared with those in London. The three famous parks of Paris, the Bois de Boulogne, the Buttes de Chaumont, and the Bois de Vincennes, are on the borders of the city, as are also the Theiergarten and the Victoria Park at Berlin, and the Prater at Vienna. The Central Park of New York can hardly yet justify its name. The citizens of other large towns of America have all to journey long distances before they can reach large parks. In Paris the gardens of the Tuilleries, of the Parc Monceau, of the Luxemburg Palace, and of the Champs Elysees are within the city. Boston has a common, and Chicago has two fine parks in their centres, but there is no other town on either side of the ocean which can show such a list of public open spaces entirely surrounded with houses, and over ten acres in extent, equal in number and in size to that of the following parks and gardens situated within our own metropolis:—

	Acres.		Acres.
Battersea Park ..	138	London Fields ..	26
Blackheath	267	Meath Gardens ..	11
Bishop's Park ..	17	Myatt's "	14
Clapham Common ..	220	Paddington Recreation	
Clissold Park	53	Ground	25
Deptford "	12	Peckham Rye & Park	113
Dulwich "	72	Ravenscourt Park ..	34
Finsbury "	115	Regent's "	473
Greenwich "	185	South Hackney Com.	20
Green "	54	Southwark Park ..	63
Hackney Downs ..	41	St. James's " ..	93
Highbury Park ..	27	Thames Embank-	
Hilly Fields	43	ment Gardens ..	14
Hyde Park	361	Victoria Park ..	244
Kennington Park ..	19	Waterlow "	30
Kensington Gardens	275		

Those in the following list are partly surrounded by houses:—

	Acres.		Acres.
Acton Green	12	Ladywell Recreation	
" Recreation G'd.	25	Ground	47
Back Common	12	Maryon Park	12
Barnes "	100	North Mill Field ..	23
Bostal H'th & Woods	111	Petersham Park ..	111
Brockwell Park ..	78	Plumstead Common	100
Bushey "	994	Richmond Green ..	10
Ealing Com. & Green	50	" Park	2,358
" Lammas Lands	24	Royal Victoria Gdns.	10
Eel Brook Common	14	South Mill Field ..	26
Epping Forest ..	5,348	Streatham Common	66
Hackney Marshes ..	345	Sydenham Rec. Grd.	17
Hampstead Heath ..	505	Tooting Beck and	
Hampton Court Park	752	Graveney Common	207
Highbury Woods ..	70	Wandsworth Com.	183
Kew Gardens	246	West Ham Park ..	80
" Green	11	Wimbledon Com.	1,412
Kilburn Park	30	Wormwood Scrubs	193

(Approximately 17,000 acres.)

Several others might be named which, if not already, will soon be added to the above list.

Some critics have held that a garden and not a park is the place for flowers; that the attraction of a park should consist only of leafy glades, soft turf,

and fine timber, and should depend altogether on the beauty of its landscape scenery. This may, in the abstract, be true, but, on the other hand, it must be remembered that brilliant and artistic displays of many coloured bloom and foliage plants may not form part of the park scenery, yet they are a powerful inducement to the people to spend their Sunday evenings and holidays in the park rather than the public-house. Each year this feeling is growing stronger, and I am sure that any attempt to reduce the flower display would provoke discontent. Then again, the finest scenery, when it has become familiar to the eye, no longer excites admiration of the uneducated, and would therefore, after a time, fail in attracting to the parks those very people for whose especial benefit they were intended.

One thing is quite clear, that whatever is attempted in the way of gardening in our parks should both as regards the laying out of the beds and the arrangement of the flowers be as complete and perfect as possible. To design the patterns of 200 beds in Hyde Park is a most difficult task for any man, especially as they are in such close proximity to each other. The remedy here is to dispense with a large number of the beds. Attempts have been made to compare the cost of maintenance between the parks and gardens of London and those of Paris, but such a comparison is quite fallacious. No one denies that the Bois de Boulogne has been well laid out, but what sum would it cost to do Hyde Park in the same way? The fact is, as a rule very little money has been spent on the artificial lay out of our parks. In many cases a space is bought, and immediately thrown open to the public, and the improvements are done little by little. Compare our expenditure with France or America. The Central Park, New York, 300 acres, cost over £2,000,000 in twelve years. The expenditure in the last year was £108,000—nearly as much as the London County Council spends on the whole of its parks and open spaces, which are over 3,000, against 300 acres in the Central Park, New York. The French parks cost considerably more than ours.

Some of the Royal Parks should be a good investment for the Government. When Regent's, Battersea, and Victoria Parks were laid out, the outer circle of land was reserved for building leases; and as these are producing ground rents there is no excuse for niggardly economy. Many improvements might be made in Hyde Park, especially on the north side, to hide from the eye the untidy paper strewn Sahara in the centre. I know from experience the difficulty of preventing the nuisance of waste paper blowing about, which is very trying to those in charge of public places; therefore I am not surprised that private owners of parks are rescinding the privilege of allowing the public to use their grounds, simply because the people will throw their waste paper and other rubbish about, which has to be collected at the owners' expense.

Another great eyesore in many of the public parks is that people will make short cuts from point to point. The average Londoner has a decided objection to walking on a path made for that purpose. He prefers going on the edge of the turf, on either side of it, or striking out a new tract for himself. One does not see abuses of that sort on the Continent, as people there seem to respect public property; therefore, the edges of their paths always look trim and neat. Our parks are not large enough, and are too much used, ever to be able to suggest to the minds of visitors the fiction of wilderness. It would be better to treat the grass on the outskirts of the park much in the same way as St. James' Park has been dealt with, by fencing the spaces near the entrances, keeping the grass inside these inclosures neatly mown, and interspersed with raised shrubberies and a few flower beds; to leave the larger portion of grass behind these enclosures for public use. By this means the untidy parts would be more concealed from the eyes of the pedestrians who follow the ordinary paths; and by breaking up the park into portions, its apparent extent and the number of views and surprises offered to the visitor would be greatly increased. Of course, there is a difficulty if large spaces are required for games, but these should only be allowed in very large parks. Footballers and cricketers should not be allowed to spoil the turf, but avail themselves of the cheap locomotion to get further out into the suburbs, where there is more space and less chance of accidents.

*Read by Mr. W. B. Gingell, superintendent of Ravenscourt Park, at a meeting of the Ealing and District Gardeners' Society, January 2nd, 1900.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual general meeting of the above society was held at Carr's Restaurant, 265, Strand, W.C., on the 5th inst., at 7 p.m., the chair being taken by Percy Waterer, Esq.

The following report was presented, and accepted as read; but on the invitation of the chairman it was decided that an addition should be made to it in respect of the visit to Lord Rosebery's Mentmore seat on the occasion of the annual outing. Mr. Waterer spoke most enthusiastically of this outing, and of the great kindness of the noble Earl.

REPORT OF THE EXECUTIVE COMMITTEE, 1899.

In presenting their annual report your committee feel they can congratulate the members upon a condition of affairs in relation to the society of a generally satisfactory character. Their exhibitions have maintained their high quality without decreasing in extent; the hold of the society upon the numerous provincial and foreign societies affiliated to it is as wide and firm as at any time; the work of the floral and classification committees has been carried out with spirit; the financial position of the society is decidedly encouraging—the balance sheet statement for the year showing a substantial balance in hand, while the assets of the society are of an improved character. Your committee recommend that the sum of £50 of the reserve fund, now on deposit, be increased to £100.

The three exhibitions held by the society, although affected to some extent by the incidence of a late spring, and summer so continuously hot and dry as to materially affect the well-being of the plants, yet brought together singularly fine blooms of the Japanese type; though the incurved blooms were scarcely so numerous and refined as in previous years. Still, let the character of the season be what it may, the cultivators of Chrysanthemums rise superior to antagonistic influences, and are always found producing blooms of high excellence. It is not without feelings of regret your committee note that the incurved, the reflexed, and the Anemone-flowered types appear on the exhibition stages in decreased numbers, though this fact may not, of itself, justify any apprehension that there is an actual lack of interest in the culture of the varieties of these sections.

The vase class was the leading feature at the November exhibition, and made a most imposing display, arousing a large amount of public interest. The competition was numerous and keen, though some who had entered for competition found themselves at the last moment unable to bring their flowers. The large-hearted liberality shown by Messrs. James Green & Nephew in providing such a considerable number of handsome vases free of charge for the purposes of the class was highly appreciated by your committee. At all the exhibitions, miscellaneous exhibits, mainly supplied by the trade, afforded features which enhanced the interest of the various displays, and imparted an attractive variety as well.

It is satisfactory to notice that the competition among affiliated societies for the possession of the Challenge Trophy is maintained with spirit. Still, it is desirable more societies should take part in the annual contest. The possession of the Holmes Memorial Cups appears to continue to fire the ambition of growers, and give occasion to close competitions.

Your committee are under a great obligation to their president, Sir Edwin Saunders, for his valuable special prizes; to Mr. P. Waterer for his special prizes for an essay on the "Chrysanthemum Rust," which failed in its objects; and to other donors of special prizes which enable the committee in a few instances to introduce special features into their schedule of prizes.

A sub-committee have had under consideration the relation existing between the National Chrysanthemum Society and affiliated societies, and having reported that it is desirable certain amendments be made to the privileges enjoyed by affiliated societies, your committee have adopted the same; and as alterations in the rules are made necessary, such alterations will be proposed for adoption at the annual general meeting.

In November last a deputation from your committee visited Lyons, in response to an invitation from the secretary of the French National Chrysanthemum Society, for the purpose of taking part in

an important exhibition of Chrysanthemums; and an interesting account of the proceedings of the same, compiled by Mr. C. Harman Payne, will be published with the annual report, &c. A very hearty vote of thanks was passed by your committee to the deputation; they, at the same time, placing on record their belief that the exchange of international courtesies in this and other ways between home and foreign cultivators and lovers of the Chrysanthemum is most desirable, and should be promoted in every possible way.

FINANCIAL STATEMENT, 1899.

Dr.		RECEIPTS.		£	s.	d.	£	s.	d.
To	Balance brought forward	...	...	...	...	...	18	0	11
	Annual Subscriptions, 1897	...	...	0	5	0			
	" " 1898	...	...	11	5	6			
	" " 1899	...	...	253	18	0			
	" " 1900	...	...	1	5	0			
							266	13	6
	Donations and Special Prizes, 1899	...	...	146	1	0			
	" " 1900	...	...	5	5	0			
							151	6	0
	Royal Aquarium Company—								
	October Show	...	...	75	0	0			
	November Show	...	...	250	0	0			
	December Show	...	...	50	0	0			
							375	0	0
	Bill Posting, as per contra	...	...	...	...	...	11	14	10
	Entry Fees	...	...	...	...	...	16	5	0
	Rent of Space, 1898	...	...	19	18	0			
	" " 1899	...	...	39	3	6			
							59	1	6
	Affiliation Fees, 1898	...	...	7	17	6			
	" " 1899	...	...	61	19	0			
							69	16	6
	Affiliated Societies, Medals, &c., 1898	...	...	4	4	0			
	" " 1899	...	...	60	2	0			
							64	6	n
	Medals sold	...	...	...	...	...	6	6	2
	Sale of Catalogues	...	...	...	...	...	2	6	10
	Sale of Year Book, as per contra	...	...	...	...	...	0	4	3
	Sale of Tickets	...	...	...	...	...	12	11	9
	Advertisements in Schedule, 1898	...	...	5	5	0			
	" " 1899	...	...	24	14	0			
							29	19	0
	Donation to Expenses of Annual Dinner	...	...	...	...	...	1	3	4
	Foreign Corresponding Secretary's Account—								
	Foreign Members' Subscriptions	...	...	6	2	4			
	Affiliation Fee	...	...	0	10	6			
	Medal	...	...	0	16	6			
	Catalogue	...	...	0	1	0			
	Advertisements	...	...	0	12	6			
	Tickets	...	...	0	2	0			
							8	4	10
							£1,93	0	5

Cr.		EXPENDITURE.		£	s.	d.	£	s.	d.
By	Prize—October Show	...	...	84	9	0			
	November Show	...	...	379	13	0			
	December Show	...	...	44	11	n			
							508	13	0
	Medals Awarded at Shows—								
	4 Large Gold, 7 Gold, 16 Silver	...	...	...	...	...			
	Gilt, 19 Silver, 11 Small Silver, 13 Bronze	...	...	...	...	...			
	Judges' Fees	...	...	...	...	...	24	3	n
	Printing and Stationery	...	...	...	...	...	69	19	6
	Expenses of Audit, 1898	...	...	...	...	...	1	13	5
	Donation to Royal Aquarium Employees	...	...	...	...	...	2	2	0
	Solicitor's Costs re Siredwick	...	...	...	...	...	5	18	7
	Medals, Messrs. Spink & Son's Account	...	...	...	...	...	142	5	3
	Illustrated Address	...	...	...	...	...	3	15	0
	Vases	...	...	...	...	...	3	0	0
	Cartage	...	...	...	...	...	7	2	6
	Expenses of Floral Committee	...	...	...	...	...	1	14	5
	Expenses of Annual Dinner	...	...	...	...	...	12	9	9
	Expenses of Floral Committee Dinner	...	...	...	...	...	3	4	0
	Commission on Advertisements	...	...	...	...	...	2	2	0
	Advertisements in Gardening Press	...	...	...	...	...	6	15	0
	Fire Insurance Premium	...	...	...	...	...	n	7	6
	Tickets, Royal Aquarium	...	...	...	...	...	8	0	0
	Clerical Assistance	...	...	...	...	...	2	2	0
	Judges' Luncheons	...	...	...	...	...	22	1	9
	Sundry Expenses at Shows—								
	Staff Luncheons	...	...	2	17	9			
	Labour and Assistance	...	...	10	8	6			
	Paper for Tables and Pins	...	...	0	10	6			
	Gratuities	...	...	4	6	6			
	Hotel—Secretary, and others	...	...	2	1	0			
	Secretary, Out-of-Pocket Expenses	...	...	0	12	6			
	Sundry Items	...	...	4	14	7			
							25	11	4
	Bill Posting, as per contra	...	...	...	...	...	11	14	10
	Petty Cash—Postages	...	...	41	12	5			
	Telegrams	...	...	1	2	1			
	Travelling and other Expenses	...	...	4	3	2			
	Carriage	...	...	1	17	3			
	Sundries	...	...	0	6	3			
	Messengers	...	...	0	4	1			
							49	5	3
	Secretary's Salary	...	...	...	...	...	100	0	0
	Foreign Corresponding Secretary's Account	...	...	...	...	...	1	5	11
	Transfer to Reserve Fund	...	...	...	...	...	0	4	3
	Banker's Charges	...	...	...	...	...	1	5	8
	Balance at Bank	...	...	...	...	...	76	4	6
							£193	0	5

RESERVE FUND.

Dr.		RECEIPTS.		£	s.	d.	£	s.	d.
To	Balance on Deposit Account	...	...	...	...	...	50	0	0
	Balance on Current Account	...	...	...	...	...	22	11	9
	Cash	...	...	...	...	...	0	7	3
	Interest on Deposit	...	...	...	...	...	1	2	2
							74	11	2
	CR.								
By	Balance on Deposit Account	...	...	...	...	...	50	0	n
	Balance on Current Account	...	...	...	...	...	24	11	2
							74	11	2

BALANCE SHEET.

LIABILITIES.		£	s.	d.	£	s.	d.
To	Advertisements in Gardening Press		4	2	6		
	Engraving Metals and Cups ...	13	14	6			
	Messrs. Spink & Son—Medals ...		3	4	6		
	Printing and Stationery ...		6	9	0		
	Hire of Rooms for Meetings ...		3	10	0		
						31	n 6
	Balance of Assets over Liabilities...	...	...	225	13	2	
						£256	13 8

ASSETS.				£	s.	d.	£	s.	d.
By	Balance on General Account	...	...	...	...	...	76	4	6
	Balance on Deposit Account	...	...	...	50	0	0		
	Balance on Reserve Current Account	...	...	...	24	11	2		
							74	11	2
	Arrears, Members' Subscriptions	...	...	...	10	0	0		
	Arrears, Affiliation Fees	...	...	...	11	11	0		
	Due for Medals	...	...	...	14	9	c		
	Due for Advertisements	...	...	...	2	11	0		
	Due for Space	...	...	...	23	15	0		
	Due for Tickets	...	...	...	2	8	0		
							64	14	0
	Tickets (96) in Hand at Cost Price	...	...	...	2	8	0		
	Medals in Hand at Cost Price	...	...	...	26	16	0		
	Jubilee Catalogues in Hand, Estimated at	...	...	...	5	0	n		
	Various Properties at the Royal Aquarium	...	...	...	7	0	0		
							41	4	0
							£256	13	8

Audited and found correct { JOHN R. CHOLMELEY.
F. J. BERRIDGE.

January 22nd, 1900.

In moving the adoption of the report, Mr. Waterer spoke appreciatively of the committee's work, and, in a reference to the annual dinner, he said that it should be self-supporting.

Messrs. J. T. Simpson, Moorman, and Newell also spoke, and then a vote of thanks to the auditors was passed unanimously. In replies made by Messrs. Cholmeley and Berridge, they drew special attention to the fact that the accounts were £52 better than last year.

On the proposition of the chairman, Sir Edwin Saunders, F.R.C.S., &c., was re-elected president.

Mr. J. W. Moorman easily secured the re-election of Mr. Percy Waterer as chairman of executive committee. Mr. D. B. Crane was the successful proposer of Mr. Thomas Bevan to refill the vice-chair. Mr. W. Jones's proposal to again appoint Mr. C. E. Wilkins as treasurer was carried with approbation, and was followed by a remark from that gentleman to the effect that the assets of the society were better by £3 2s. than what the statement showed.

Mr. R. Ballantine was favoured in proposing that Mr. C. Harman Payne be again appointed honorary foreign corresponding secretary. As there is possibly no other member of the society who could and would do the duties connected with this office in such a masterly way as Mr. Payne has for many years, the proposition was carried with acclamation.

The chairman then nominated Mr. Richard Dean as general secretary, and spoke very warmly in appreciation of the work that gentleman had done for the society during his long lease of the office. Mr. R. Ballantine, in seconding this, also referred in most eulogistic terms to the manner in which the secretarial duties had been performed. An amendment was moved by Mr. Thomas Bevan in these words—"That the election of general secretary be postponed; and that an advertisement be inserted in the gardening papers for a properly qualified person to fill the post at a salary of £100 per annum." Mr. Bevan supported his amendment with quiet reasoning and citations, showing that he was convinced of the necessity of adopting some secretarial restrictions.

Mr. W. Wells seconded; a few other members had something to say in the matter; and then Mr. Dean replied to the various criticisms in such a way as to carry his re-election with only three dissentient votes.

On the motion of Mr. H. J. Jones, the vacancy amongst the auditors was filled by the election of Mr. Wm. Seward.

Fifteen vacancies on the committee were filled by the ballot, showing that Messrs. Witty, Moorman, Ingamells, Lyne, Newell, Sturrock, Cuthbert, Cholmeley, Holmes, Reeves, Swales, Broods, McLeod, Foster, and Dove had received more votes than the other eight nominated.

Various amendments to the rules were then proposed, and some carried; these, of course, will shortly appear in the society's Annual Report.

The election of new members and societies for affiliation was succeeded by a spontaneous vote of thanks to Mr. Percy Waterer for his efficiency as chairman.

STARVATION.

I WAS staying again with my friend in the country, and as before was up and out quite early. It was a lovely morning in September, and although the country still looked beautiful, I could not help contrasting it with the last time I saw it, when it was clothed in all its tender May green.

"I hope you have not heard any grumbings and complainings this time," said my host, as we sat down to breakfast.

"Yes, a great many," I replied, watching with amusement my friend's astonished face.

"The dickens you have!" he exclaimed, "well! I never knew such a fellow; but which were grumbling this morning, plants or insects?"

"Neither," I answered, "it was the land this time."

"The land," he exclaimed. "Why you don't mean to tell me that you understand what the land says?"

"Yes, I do, and I will tell you all I have heard if you care to listen, only first answer me one question. Do you believe in the rotation of crops?"

"Certainly not," was the emphatic reply.

"So I presumed," I answered. "But to proceed. The first remark I heard as I entered the kitchen garden was 'give it up, give it up.' I listened attentively to hear what was speaking and soon found it was the land on which the French Beans were growing, calling across to the Cabbage land."

"Give what up?" was the reply.

"Why, trying to grow a good crop. I have long ago. When I tell you this is the fourth year in succession in which I have been expected to grow Beans, you will not be surprised at my not trying any longer."

"Have you had any manure?" asked the Cabbage land.

"Some farm-yard the first year, and nothing since but a little nitrate of soda, and that of course the Beans don't make any use of."

"Why not? I only wish my poor Brassica crop could have the chance of some nitrogen."

"Well you see it's in this way. Beans belong to the Natural Order Leguminosae, and all plants belonging to this order are fortunate enough to be able to absorb enough nitrogen from the air, by means of nodules on their roots; therefore it is pure waste to give nitrate of soda, sulphate of ammonia, or any nitrogenous manure to land on which Peas, Beans, &c., are growing. But now tell me what is your chief complaint? I only heard a little of what you were saying to your neighbour, the Cauliflower land."

"We are both in the same predicament. Last year we grew Cabbages and Cauliflowers, which were badly attacked with Plasmodiophora Brassicae, commonly known as club-root, finger-and-toe, or anbury. Well, instead of the master taking up the plants, burning them, and then gas-liming the land, he had them all dug in last winter, and the consequence was as soon as ever the Brassica crop was planted again, the spores which we now contain in myriads of this slimy fungus attacked them again, and I don't believe a dozen Cabbages have been cut, and not as many Cauliflowers."

"The master ought to be ashamed of himself to treat any ground so badly," replied the Bean land. "But I daresay it is the same tale of neglect all over the garden. Out of curiosity I will first ask a few questions and see."

"I say, Asparagus beds, what kind of a crop did you have this year?"

"Poor, very!" was the reply, "and as no liquid manure nor salt has been given us the whole summer, we shall produce worse next year."

"Turnip land, have you any Turnips fit for boiling with mutton and beef?"

"None larger than a bantam's egg, but I have had no sulphate of lime nor superphosphate for two years, so how can I be expected to grow good Turnips?"

"Potato land, when your crop was lifted were you satisfied with what you had grown?"

"Not at all, but it was not my fault. I was short of potash, therefore could not have produced large tubers, even if the crop had not been attacked with Phytophthora infestans, or the potato disease."

"Leek land, what are you doing?"

"Growing the worst lot of Leeks I have ever grown. They are hungry feeders, and I am short of

nearly everything they want, such as humus, potash, iron, phosphorus, magnesia, lime, soda, and chlorine."

"Well, Cabbage land, I do not think I need ask any more questions," called out the Bean land, "for it seems to me that every plot of ground in the garden is in the same state as ourselves, starved."

"Yes," replied the Cabbage land, "and until the master makes up his mind to feed us properly, and go in for the rotation of crops, he must be prepared in the near future to have no vegetables at all."

My friend's face at this concluding remark was a picture.—*Solanaceae*.

GARDENING MISCELLANY.

WOODSIA ALPINA.

AMONG the Woodsias we possess some of the prettiest Ferns which adorn our hardy gardens or cool conservatories. *W. alpina* or *W. hyperborea*, the former said to be the garden name of the latter, is a British species, though it is not confined to our Islands. In the present (January) issue of *The Fern Bulletin*, Mr Willard W. Eggleston refers to it. In 1876 it was discovered in the United States by C. G. Pringle, author of "Botanical Rambles in Vermont," and is still very rare in Vermont State. In this southern State it is necessarily found at great elevations, being 2,500 ft. above sea-level at Willoughby, Vermont. *W. alpina* is said to be much confused with *W. glabella*. This latter, however, is comparatively common while, as we say, *W. alpina* is very rare. It is found dispersed over Arctic Europe, the name *hyperborea* meaning in this case, "extreme-northern." The fronds only measure from 3 in. to 6 in. in length, and the root stock though short, is very stout. It is an interesting subject for the lover of hardy Ferns.

HELICHRYSUMS.

EVERLASTING flowers have a fascination for many people, and really when one comes to reflect upon the dry, chaffy leaves or bracts surrounding the heads they really are objects of deep interest. They are an economical class of flowering plants, too, for the amateur who may only have a rood of land can yet grow a sufficient stock of pretty flowers to give him decorations during all the dreary winter. It is to be regretted that they are somewhat stiff flowers; more grace would greatly improve them. They can be raised from a yearly sowing of seeds. These should be sown in boxes in March, pricked off when they are strong enough, and planted out whenever it is safe enough to do so. The flowers for drying should be gathered before they are quite matured. Hang them up in a cool, airy room for some time to dry, and they will retain their particular colours for an indefinite period.

TOMATO PRIDE OF ITALIE.

DURING the past autumn I was calling at Newcomb's, at Crediton, near Exeter. Among other interesting things I saw was a Tomato under this name growing on low walls in front of the fruit houses. The trusses of fruit were enormous. Mr. Lock told me some had over 100 fruit on a truss, and I can quite think it was so by the size of the trusses. The fruits were oblong in the way of cluster, very bright-red, and, as far as I could see, fairly good. I noted this was exhibited at one of the meetings at the Drill Hall in the autumn. It is evidently a good grower.—*J. C., F., Chard*.

HEDYCHIUMS.

FOR the Water Lily house indoors the Hedychiums, or Indian Garland Flowers, are among the list of plants most adaptable and frequently used. All the species are natives of tropical Asia, though *H. gardnerianum* is a species quite suitable for the greenhouse, or, better still, an intermediate house. A fault, if fault it may be termed, is that under favourable conditions the plants grow very tall. They have also to be raised on pots, &c., when placed in the warm-water tanks, so that they stand only 2 in. or so in the water. The plants can generally be seen to at this time of year, and large rhizomes can be divided and repotted into large sized pots, using a rich compost. Saving for a time at first, when the plants are becoming established and are developing foliage, they may be kept plunged 2 in., as mentioned,

in water. During this active growing season they require a great deal of water. A warm house, say with a temperature of 75° to 80° is required all summer. The plants may be cut down in late autumn, rested, and restarted the following spring.

POTATO DUKE OF YORK.

I FIND this a very good second early kind. It is an abundant cropper. The tubers are of good even size and very clean. It comes off the ground in time enough to plant green crops. The flesh is yellow, to me this is an advantage, as I consider this is an indication of good quality. I saw this magnificent Potato in a garden near Minehead some two years ago.—*J. C., F., Chard*.

FESCUE GRASS.

WHILE collections of florists' flowers are frequently to be seen in gardens, and collections of hardy flowering plants, Ferns, Roses, or Shrubs are often conspicuous features of other very pleasant gardens; yet in these days when we are all striving to be original, and somewhat beyond our neighbours, why does not some man of genius introduce new ideas in the arranging and growing of a liberal collection of beautiful Grasses? I mean, grow them in the open, out next to the shrubberies or in breadths on suitable slopes. Grassy paths could be led between the irregular breadths of the Grasses. No finer ornamental Grass for the border, &c., exists than *Festuca glauca*, or another well-known one, *F. nigrescens*. A list of ornamental grasses should be added to the seed order.

FITTONIA GIGANTEA.

Few, if any, of our dwarfier stove plants have more attractiveness than the *F. gigantea*, and *F. argyrea*. Both represent the acme of simplicity in cultivation, being specially easy to raise as cuttings, and after they are taken from the propagating cases to be potted on for their places in the ordinary plant stoves, no more trouble is needed. The veins are lovely. A goodly stock should be propagated at the present time.

METHOD OF PROPAGATING ASPLENIUM BULBIFERUM.

WHILE passing through the temperate Fern-house at Kew, I was struck by the remarkably novel manner they have there adopted with this Fern. A number of plants are growing in hanging baskets, the lowermost fronds of which have been pegged into the soil in the basket. This allows the young bulbils or Fernlets to throw out roots and establish themselves, so that in a very short while the baskets, which are of a goodly size, should present a very refreshing sight. This Fern throws out the bulbils freely on its matured fronds.—*Argus*.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. A. Thatcher, Aldenham, Herts., for his article on Hardy Nymphaeas.

A COMPETITOR writes: "The Hardy Nymphaeas deserve the award this week, there is not the least doubt, though I think the depth of water he advocates, 3 ft., rather much for the smaller kinds. I consider 15 in. to 18 in. from the surface of the water quite deep enough for most, in fact all, of the hybrid varieties; but the matter is not worth contesting, for no doubt he finds they thrive at the depth he gives."

AN APPRECIATION.—A correspondent from Edinburgh refers, as have several others, in a pleasing strain, to the above competition. She says: "I really think the short papers an improvement. There has been a lot of reading in your paper lately."—*M. R., Rosehall, Midlothian*.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Apple Mussel Scale.—A. G. B.: The present is the best time for undertaking operations against the Apple Mussel Scale (*Mytilaspis pomorum*), while the trees are bare of leaves. Various preparations are used, and a good one for this class of insects out of doors is 9 lbs. of resin, 2½ lbs. of caustic soda (70 per cent strength), fish oil, 1½ pints, and water to make the total amount up to 50 gallons. The way to prepare this mixture is to put the resin, caustic soda, and fish oil into a kettle, with sufficient water to cover the whole. Get the water to boil till the materials are dissolved, and while this is being brought about the contents must be stirred. After the materials are dissolved boil them briskly for an hour, taking care not to let the mixture boil over by dropping a little cold water into the kettle when that is likely to happen, without taking it off the boil. After the process has gone on for an hour, boiling being continued all the time, then cold water must be added to bring the whole up to 50 gallons. The preparation will then readily mix with water. Before using the mixture it should be strained through a wire sieve or piece of muslin to remove impurities that would choke the syringe or spray. Make every part of the tree, but especially the rough bark of the trunk, quite wet, driving the spray with some force into the crevices.

Chrysanthemum Leaf Miner in Winter.—H. C.: The fact of this little enemy being at work just now indicates that the temperature of the house in which you grow the Marguerites is sufficiently high to hatch out the pupae. There are several broods in the course of a season, the number being dependent upon the temperature. If the pupae were out of doors the cold weather would compel them to remain dormant till spring. Soon after being hatched out the females set about laying their eggs, and the latter soon hatch out if the temperature is sufficiently high. The young grubs then commence burrowing operations. The present is, however, the best time for exterminating all that make their appearance under glass. The worst of the leaves should be removed and burnt, the rest being squeezed between the finger and thumb, so as to crush the grubs in them. The lower side of the leaf will show where to find the grubs or pupae. Syringe the plants about every ten days with tobacco water, so as to drive away the female flies and prevent their laying their eggs upon the foliage.

Propagating the Strawberry Tree.—Ch. M.: This shrub can be propagated by seeds, layers, cuttings in sandy soil, and by grafting. Plants raised from cuttings would take a long time to reach the flowering stage as compared with those of the other methods mentioned. Grafting is only necessary in order to increase and perpetuate varieties, such as *Arbutus Unedo rubra*. There remain the two ready methods of increase by layers and cuttings. Provided you can get shoots near enough to the soil you could prepare a peaty bed for them and layer them. Cut a notch or tongue at the place where you can bring the shoot in contact with the soil; peg it down and cover with the soil. By this time next year, or a little later on in the spring, the layers should be ready for removal and planting in nursery lines.

Black Currants with Swollen Buds.—T. B. H.: The swollen buds are those of the Currant Mite (*Phytolius Ribis*). Carefully pick off and burn every bud showing undoubted signs of unnatural swelling. In the case of badly infested shoots the better and quicker plan would be to cut off and burn them. When whole bushes are very bad, the best plan would be to grub them up and make a fresh plantation. The plantation might be got partly into bearing before the old is destroyed to furnish a supply of fruit.

Raising New Varieties of Aucuba.—A. L. W.: The usual method adopted is to collect the berries when they are ripe, and sow them rather thickly in beds. This should be done as soon as the berries are ripe, as the seedlings require some little time to germinate. If you already have some distinct varieties, there will be the greater chance of getting something good. The variations are chiefly confined to the variegation, but there is a variety with long, narrow leaves, namely, *Aucuba japonica longifolia*. There is also *A. himalaica*, a species with narrower leaves and rounder berries than the better known species from Japan. You could intercross the varieties of *A. japonica*, or hybridise it with *A. himalaica*. For the convenience of this operation, you should put plants into pots, and bring them into bloom in a pit, greenhouse or other structure, with a temperature of forty-five degrees or thereby, and a relatively dry atmosphere. Collect the pollen from the male flowers with a camel hair pencil, and apply it to the stigmas of the female flowers when fully developed.

If these are not open, you can keep the pollen for two or three weeks between two pieces of glass kept dry.

Names of Plants.—A. L.: 1, *Asplenium bulbiferum tabianum*; 2, *Asplenium flaccidum*; 3, *Lastrea decomposita glabella*; 4, *Asplenium bulbiferum minus*, often called *A. Collensoi*.—W. C. G.: 1, *Eranthis hyemalis*; 2, *Helleborus niger latifolius*; 3, *Ficus falcata*; 4, *Narcissus Tazetta Paper White*; 5, *Physalis Alkekengi*; 6, *Iris foetidissima*.—R. M.: 1, *Carex Moravii variegata*; 2, *Fuchsia procumbens*; 3, *Begonia angularis*; 4, *Dendrobium findlayianum*; 5, *Phalaenopsis stuartiana*; 6, *Acacia platyptera*.—T. W.: 1, *Eucalyptus citriodorus*; 2, *Asplenium lucidum*; 3, *Acacia verticillata*; 4, *Cypripedium leeanum*.

Communications Received.—A. E. Thatcher.—E. R. J.—J. Mayne.—R. G. W.—Beginner (next week).—W. F.—D. G.—A. M.—A. B.—T. S.—W. D.

TRADE CATALOGUES RECEIVED.

JOHN RUSSELL, Richmond, Surrey.—Catalogue of Choice Garden Seeds.

W. ATLEE BURPEE & Co., Philadelphia, Pa., U.S.A.—Burpee's Farm Annual.

DICKSON, BROWN, AND TAIT, 43 and 45, Corporation Street, Manchester.—Catalogue of Farm Seeds.

W. ATLEE BURPEE & Co., Philadelphia, Pa., U.S.A.—Burpee's Blue List for 1900—Wholesale Prices for Market Gardeners and Florists.

JOHN FORBES, Nurseryman, Hawick, Scotland.—Catalogue of Florists' Flowers and Hardy Border Plants, &c.

The flow of Sap.—It is a mistake to think that sap flows upward through the whole stem of a tree. The region of up currents is in the younger portion of the wood nearest the bark. The central heart-wood is dead, at least, it is hardened and dry, remaining sound of course for greater or less periods of time.

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ROYAL GARDENERS' ORPHAN FUND.—Secretary, B. WYNNE, 8, Danes Inn, W.C.
UNITED HORTICULTURAL PROVIDENT and BENEFIT SOCIETY.—Secretary, WILLIAM COLLINS, 9, Martindale Road, Balham, S.W.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, FEBRUARY 17th, 1900.

NEXT WEEK'S ENGAGEMENTS.

THURSDAY, February 22nd.—Annual Meeting of the Kew Guild.

FRUIT GROWING UNDER GLASS.—From time to time we hear growls about foreign competition when one speaks of developing any industry in the way of fruit, flowers and vegetables. There is undoubtedly a large market for these things, both in London and many of the large midland and northern cities and other populous centres; and it is to the credit of foreigners that they should have discovered it. At the same time a considerable section of the gardening fraternity in this country have also discovered the fact and turned their knowledge to practical account. We have seen evidence of this fact in several directions, independently of the fruit and vegetables which come from the Channel Islands and the flowers from the Scilly Islands. The foreigners themselves feel the effect of the competition now marshalled against them, for the open air produce grown by them cannot compare with the article grown under glass in this country, and therefore properly ripened within a few miles of the market.

Mr. William E. Bear has been continuing his summaries and statistics about "Flower and Fruit Farming in England" in the *Journal of the Royal Agricultural Society*; and the expansion of the hot-house industry during the past thirty years, as here revealed, is something remarkable. That this will continue there is little doubt. The new industry (new as compared with ordinary farming) is not likely to be taken over to any great extent by the old farmers, but by young men who are in training for present day requirements, armed with the necessary technicalities of the business, as well as with a greater knowledge of the physiology of plant life than has been at the command of past generations of pushing young men. They have to grow into and up with the new business as it were. The Continental growers had the start of us, but as we are slow in adopting new methods it takes time to get the Saxon up to date, but our onward march is sure once a commencement has been made by the more enterprising. Thirty years ago, says Mr. Bear, there was only one hot-house in Cheshunt, Herts, but at the present day there are at least 125 acres covered with glass, exclusive of outside borders and roadways in the market gardens or nurseries of that parish. There has been a similar increase in neighbouring parishes. Four brothers in the district have 90 acres of glass, and they only commenced about eighteen years ago. There has also been an enormous increase of the hot-house industry, during the last ten to thirty years at Ponder's End, Finchley, Enfield, Tottenham, Edmonton, Whetstone, Mitcham, and other districts within easy reach of the

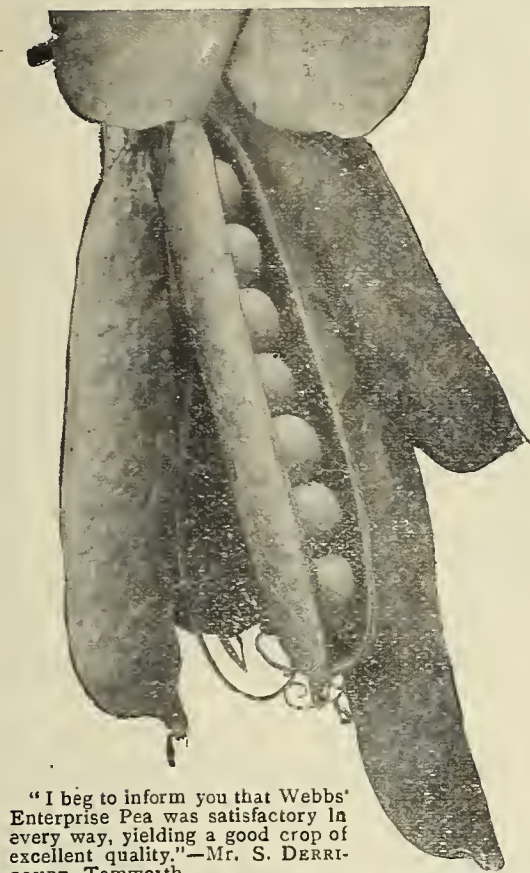
Metropolis. To the southward again the industry has been growing rapidly at Bexley, Swanley, Erith, Belvedere, Worthing, &c. Thirty years ago the area covered with glass in England could scarcely have exceeded 100 acres, whereas to-day it is estimated at 1,100 acres. Another method of calculation is based upon the area of glass insured against hailstorms. About a year ago this was 25,108,197 sq. ft., which is reckoned less than half the area of commercial hot-houses in England. Mr. Bear estimates the total at 60,000,000 sq. ft. Many private establishments market fruits, flowers and vegetables, but they are not included in the above calculations. Another way of taking a mental glance of the area covered with glass is that if the houses were placed end to end they would extend to 600 miles, at 15 ft. wide.

By far the greater proportion of the glass is occupied with fruit, mainly Grapes, but also including Tomatoes and Cucumbers. According to the estimate of the superintendent of Covent Garden Market about 1,000 tons of Grapes are grown in the United Kingdom, annually; also 6,000 tons of Tomatoes, and 500,000 dozens of Cucumbers. The weight of Grapes per acre under glass varies according to the variety and to the condition of the Vines; but 14 tons per acre is reckoned a good average for Vines in full bearing. The highest recorded weight is here put down at 19 tons 8 cwt. 104 lbs. per acre. The heaviest cropping varieties are Gros Colmar and Alicante. Muscat of Alexandria and Black Hamburgh are extensively grown, but the yield is much lighter, and only half the weights above recorded if they have been forced. Two or three crops a year are taken out of houses devoted to Tomatoes. The weight per acre is variously estimated, but at 3 lb. per plant this would give 16½ tons; 4 lb. would give 22¼ tons; 5 lb., 27¾ tons; and 6 lb., over 33 tons. A fair average is estimated to be 20 tons per acre of Tomatoes.

Attar of Roses is the oil which floats to the top in the distillation of Rose petals.

The Smell of Fresh Earth.—We have it from a scientific source that Nuttall has determined that the smell of fresh earth is due to the growth of a bacterium, the *Cladothrix odorifera*. This bacterium multiplies in decomposing vegetable matter, more rapidly when heat and moisture are also present. From this cause it is that earth is said to smell so strongly after a shower, or when moist earth is disturbed. But we are perhaps nowadays ascribing too much to bacteria. They seem convenient means by which to bolster up a theory. Could not the smell of earth be caused by certain chemical changes independently of bacterial presence?

Death of Hubert Jean Van Hulle.—The *Revue de l'Horticulture Belge et Etrangere* mourns the death of its editor, which took place on January 13th last. He was buried on the 16th of that month. M. Hubert Jean Van Hulle was one of the founders of the Belgian monthly above mentioned, and on the day of the funeral obsequies there was an imposing manifestation of grief and regret. An enormous crowd pressed around his grave. Le Comte de Kerchove de Denterghem, president of the Royal Agricultural and Botanical Society of Ghent, and of the Belgian Circle of Arboriculture, as well as M. Rodigas, director of the State School of Horticulture, made speeches, and recalled in affectionate terms the part played by the deceased in the development of the Belgian horticultural industry. The *Revue* profoundly regrets the death of its devoted editor. Hubert Van Hulle has been veritably a model horticultural publicist. During almost forty years he has enjoyed great popularity with all those who have any horticultural title whatever in Belgium. The *Revue* takes a very active share of the mourning of his family, and associates itself with the regrets which the Comte de Kerchove de Denterghem expressed at the grave of the deceased.



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Mr. F. G. Brewer, for three years head gardener at Oaklands, near St. Albans, Herts., has been appointed in a similar capacity to R. E. Johnston, Esq., Ferlings Park, near Harlow, Essex.

The Gardeners' Royal Benevolent Institution.—The Duke of Portland has kindly undertaken to preside at the 61st anniversary festival dinner of this institution, at the Whitehall Rooms, on May 18th next.

Gardeners Charity Guild.—N. N. Sherwood, Esq., has graciously consented to act as chairman of the great smoking concert arranged for March 14th, in aid of the funds of the Gardeners' Royal Benevolent Institution.

Weather in London.—Those who wished for seasonable weather are now having it. Thursday and Friday of last week gave 17° and 20° of frost respectively. On Saturday evening a very heavy fall of snow came, and frost, with snow and sleet showers at times, has continued since.

Webb's Annual Catalogue of Farm Seeds.—The Messrs. Webb & Sons, of Wordsley, Stourbridge, do a tremendous trade, as we all know, in horticultural seeds, &c., and it would seem as though their trade in seeds of the farm was proportionately great. The firm's annual farm seed list is to hand. It is exceedingly well arranged, and the numerous photographs and records of recent awards are alone sufficient guarantee to the worth of the seeds they furnish.

Hop-Picking Machine.—In deprecating the use of the above in our Hop-yards, I was afraid that I should be placing my head in a hornet's nest with the growers, but not so with the pickers, I venture to say; and surely Kentish Hop-growers, who paid £700 the past season for picking, must have helped the deserving, the majority of whom I have always understood are East End poor. Of course, I was pleading the cause of hundreds of poor creatures who look upon this Hop harvest as a perfect godsend for the time being, not always to the financial side, but to the recuperating of their healths as the surest tonic that can be given them. This alone should make your correspondent pause ere he puts forth his hand to rob them of this (their all); for what are we, one and all, when health fails us?—more inclined to be irritable than cheerful, I am afraid.—*Hereford.*

Canadian High-grade Fruit in English Markets.—The Canadian fruit growers have been, and are now making earnest endeavours to place their very finest fruits in first-class condition on the English markets. That their efforts are being attended with success is proved by testimonials which their Commissioner of Agriculture at Ottawa has received. An authoritative fruit trade journalist, who has made choice fruit production, packing, and distribution a special study for twenty-five years, writing about some English imports of Canadian fruits, gives the growers great praise for the great pains they had manifested in placing such fine shipments in England. The size and appearances of the Apples were strikingly handsome, the packing very carefully performed, the packages of a suitable size, and, in general, everything was highly creditable.

The Utility Poultry Club.—Recognising the fact that of the many millions of eggs consumed in these islands, thousands and thousands come from abroad and need not, to stop this business, and to forward a movement for egg production in this country, the above-named club has been formed. The objects of the club are:—To encourage the breeding of pure or cross-bred birds; to give prizes for the most efficient and economical system of packing and marketing poultry produce, and for table poultry. Prizes are also awarded for eggs at exhibitions, &c. The club also desires to secure the best advice for members on all matters relating to the selection, breeding, and keeping of poultry; to facilitate change of blood from good laying strains between members; and lastly, to encourage the formation of local clubs pledged to carry out the development and improvement of utility characteristics in poultry. The subscription is only 2s. 6d., so as to put membership within the reach of all. Any further particulars will be supplied on application to the Hon. Secretary and Treasurer, Mr. B. W. Horne, 49, Gloucester Gardens, London, W.

The name of *Begonia Gloire de Lorraine* is subject to frequent contraction. "Glory" is often heard, but "Lorraine" or "Lorraine Begonia," would be more advisable. We have *Begonia Gloire de Sceaux* as a very popular member.

Begonia Caledonia.—A copy of the coloured plate of this beautiful white sport from *B. Gloire de Lorraine*, now being published by Mr. John Forbes, Buccleuch Nurseries, Hawick, N.B., has been sent us. The plate is 12 in. by 9½ in., and is an admirably executed piece of colour printing, showing off the general features of the flowers and foliage, as well as the general habit of the plant to perfection. Evidently Mr. Forbes does not intend to hide the qualities and recommendations of his novelty under a bushel. If growers generally succeed in growing the plant to the size and form here depicted, no one will have cause to grumble with the new comer.

Tree Planting for Healthiness.—The comments made in a contemporary upon the goodness of trees in promoting the health of regions, particularly where miasma and malaria prevail, are very reasonable. The effects following the planting up of dry regions with forests have been proved efficacious for attracting rain, a blessed present to such quarters. On the other hand, marshy land from which arises the poisonous gases, when drained and properly planted become completely transformed. Instead of regions of abominations and pestilence the trees act in purifying the air of its hurtful contents, in drying the too moist land and in diverting injurious currents. Tree growth and vegetation are one of Nature's greatest means of sanitation.

Seed Propulsion.—The methods adopted by seeds as their means of distribution form one of the most interesting chapters in botanical science. Some have parachutes attached to them as the Dandelion and other Compositae; while yet other Composites have hooks as in the genus *Bidens*. Others are very temptingly coated or embedded in matter which is devoured, the seeds themselves being excreted in distant parts, and so on. It is of those which are propelled to a distance that special notice is here made. The Witch Hazel is said to be very powerful in this respect; the seeds being shot forth to a distance of 45 ft! The common Gorse or Whin bursts its capsules with a loud report and the seeds fly off like miniature bomb-shells. Herb Robert and other Geraniums have similar means of propulsion, though on a lesser scale. The Wood Sorrel being in great quantity and gentle, to boot, forms an amusing diversion to children by its burstings. The *Impatiens Roylei*, a quick growing annual Balsam, forms another to the list of well-known and commonly-to-be-observed seed-shooting plants. The idea is that the seeds may fall into fresh soil.

Notes from Hamilton.—We are having extremely severe winter weather just now. For the last ten days the frost has been very keen. On two occasions we registered 21° and 25° Fahr. The latter, which was on Friday night, the 9th inst., was a record frost in our experience. The "Roaring Game" is going ahead with great zest all around. On Friday snow began to fall, and now we have a covering of 6 in. It was urgently needed to cover many things from the rigour of black frost. The members of the Hamilton Gardening and Forestry Association partook of supper together in the Douglas and Clydesdale Hotel, on the 9th inst., to mark the close of their first year's existence. Mr. Moir, Earnock, was in the chair, supported by Ex-Councillor Gibson, and Mr. D. N. Cross. Mr. Graham acted as croupier. A pleasant evening was spent in toast and entertainment. Mr. Graham, in replying for the new association, said that by its success it had more than answered the reason for its existence, and he hoped it would continue, and aid in the progress of their art in the district. The monthly meeting was held in the Y.M.C.A. room, on Tuesday, the 6th inst., Mr. Graham, Coltness Gardens, presiding. A paper, entitled "Hints to Young Gardeners," was read by Mr. M'Quater, Millheuch Gardens, Blantyre. There was a fair attendance of gardeners and others interested. While reading his paper he said that young gardeners with a love for their profession should never lose time. Reading and writing were most useful recreations, and would prove most advantageous to them.—*Gamma.*

The Horticultural Club annual dinner was held on Tuesday evening, the 13th. A detailed report will be given next week.

Dendrobium splendidissimum grandiflorum.—This beautiful hybrid Dendrobe still enjoys considerable favour amongst collectors and connoisseurs of Orchids, and is, indeed, well worthy of a place amongst the most select collections of this gorgeous family of plants. A small piece of it was brought to the sale rooms of Messrs. Protheroe & Morris on the 9th inst., by Messrs. J. McBean & Sons, Cooksbridge, Sussex, when it found a purchaser at nine guineas.

Sweet Pea Bi-Centenary Celebration.—It is highly interesting and satisfactory to learn that the financial success of the projected Sweet Pea Bi-Centenary Celebration is already assured. The preliminary schedule of prizes has been thoroughly overhauled by the committee, and will shortly be issued in its present form; so that we hope gardeners will presently be on the outlook for it in order to prepare for making the exhibition an unqualified success, as far as they are concerned. A great many influential people throughout the country have already identified themselves with the issue of the celebration; and we hope to be able to show the world that the country in which the Sweet Pea revival originated can celebrate the bi-centenary of so sweet, useful, and popular a flower in befitting fashion.

Bamboos at Glasgow.—As far as climate is concerned there seems no reason why Bamboos should not be successfully grown at Glasgow, even though "it sometimes snaws," as the boy said, when not raining. Bamboos have already been grown for some years in one or two of the parks under the care of the Corporation of Glasgow, and their success would seem to warrant a more liberal planting of the same. They furnish a kind of vegetation that would be difficult to surpass in gracefulness by any other class of shrubs or woody vegetation that can be planted in the open air in this country. There are some of them in the Kibble Palace, in the Glasgow Botanic Gardens, but they chiefly, if not wholly, belong to *Arundinaria Falconeri*, which is certainly a very slender and graceful species, but here liable to attain the flowering stage, after which it dies, practically after reaching perfection. Mr. Dewar, the curator, has very much at heart the idea of getting a collection together for planting in the open ground in some sheltered position. A Bamboo garden, in a suitable position, and sheltered from cutting winds, would constitute a great source of attraction to the public.

Maidenhead Mutual Improvement Society.—On Tuesday evening, February 6th, a very interesting and instructive paper was read before a very good attendance of the members by Mr. J. Gibson, head gardener to R. W. Hudson, Esq., Danesfield, Great Marlow. Mr. Gibson appropriately commenced his paper by stating how few young gardeners of the present day cared to make themselves proficient in the art of raising vegetables fit for exhibition and home consumption. Perhaps one in fifty might be found competent in this respect, the other forty-nine caring only for work under glass. He then drew his listeners' attention to the importance of gardeners throwing all their energy into this branch of the profession. Commencing with the Potato, the king of vegetables, he passed over very ably in the short time allowed him, Peas, Onions, Beans, Leeks, Celery, Tomatos and Brassica tribe, giving various cultural hints for exhibition vegetables and useful recipes for combating the attacks of the various insect and fungoid pests, particularly drawing conclusive evidence to a fact which he has always found to recommend itself in the cultivation of the Potato, viz., to resist disease, plant further apart in the rows and between sets so that the air and sun can do their prescribed work. On this paper a good deal of discussion ensued and much practical good must come from such sound advice as that given by the lecturer. A fine lot of Primulas was staged by Mr. Challis, gardener to A. Kennedy, Esq., and gained the maximum number of points. A hearty vote of thanks to Mr. Gibson was unanimously accorded. The next meeting will be on February 20th, when Mr. H. J. Jones, of Ryecroft Nursery, Lewisham, will discourse on Chrysanthemums.—*J. W. Stone, Hon. Sec.*

Mr. James Pallett, superintendent of Waterlow Park, Highgate, London, was attending to his usual duties on the morning of the 5th inst., but when he returned to his residence about noon he complained to his wife that he felt weak, and sitting down in a chair expired almost immediately. Waterlow Park is beautifully situated on one of the higher ridges just within the boundary of the County of London, and was added to the metropolitan parks about nine years ago. It is a small but pretty park, having been a private estate till taken over by the London County Council. The deceased was buried at Brookwood, Woking, on the 9th inst.

Croydon and District Horticultural Mutual Improvement Society.—The gardeners of this district have amalgamated and formed a much needed society for the numerous members of their craft dispersed over this populous and influential corner of Surrey. There is already a Croydon Horticultural Society which identifies itself with an important fruit, flower, and vegetable show once a year, including the interest of cottagers and cottage gardening. The new society is not intended to compete with the old one, as its aim is purely to cultivate the intellect of its members, and diffuse a knowledge of the art among the same by the reading and discussion of papers on horticultural subjects. The meetings will be held monthly for the first half-year at least, and, possibly, fortnightly after that. The opening night will be Tuesday next (20th inst.). The hon. secretary is Mr. John Gregory, 60, Canterbury Road, Croydon. Already sixty members have been enrolled, belonging to Croydon, the Norwoods, Addington, Purley, Kenley, &c.

Long Waves of Winter Weather.—According to Mr. Alex. B. MacDowall, M.A., writing in *Knowledge* for February, we are now in a period of declining cold. "We can hardly suppose this decline will be continuous (*i.e.*, without temporary rise) to the supposed minimum, nor is it likely to be so rapid as it has been since 1890; and in any case it would be difficult to fix in advance, with much precision, the character of the individual winters covered by it. But at least it seems probable that, for a good many years to come, we shall not be visited with such an accumulation of cold as that in the ten years about 1890 . . . the ten-winter group 1886-95 being the coldest of all the 49 groups considered. That group is also conspicuous for its quantity of N. and E. wind, and shows less than the average precipitation. It may be useful to look at those ten winters, from the standpoint of frost days. The average in September to May being about 55, we have the following numbers and relations:—

	'86.	'87.	'88.	'89.	'90.	'91.	'92.	'93.	'94.	'95.
Frost days	75	80	90	60	45	82	73	48	42	62
Relation to average	+20	+25	+35	+5	-10	+27	+18	-7	-13	+7

Thus we see that seven out of those ten winters were severe; that 1888 had the largest number of frost days; and that 1890 itself was one of the three mild winters. Those ten winters show a total of 657 frost days, being 107 over the average."

Well-grown Primulas.—On Wednesday, February 7th, I paid a visit to the nurseries of Messrs. Sutton & Sons, the object being, of course, to make a renewal of friendship with the Primulas. Just let me say I never have seen a finer and cleaner and more even lot of stuff as now displayed in any other establishment. The first thing which more than any other struck me was the dwarf stocky strain which is now staged by them. The Giant White and Pearl are the first to attract one's notice. Crimson King, though not so large in the bloom, is very handsome. The Reading Pink and Blue are both well worth growing. The Double Blue is sure to be much appreciated. Amongst the thousands of Primulas to be seen, the Star variety is certainly well fitted for cutting purposes. I was struck by the appearance of a certain bloom in one of the houses and likened it to an Auricula. The hybridiser who was busy at work amongst his blooms informed me that he had tried crossing the Auricula and that this particular bloom might have some Auricula blood in it. At the time I mention *Primula floribunda* was being used for crossing. I have tried myself with this, *P. obconica* and *P. rosea*, but up to the present have failed to obtain any good results. Some of the batches of seedlings awaiting trial are very attractive, one variety particularly having almost mossy foliage. Of these we shall hear later on. *J. W. S.*

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of this society was held at St. John's Parish Room, Redland, on Thursday, 8th inst., Mr. W. E. Groves presiding over a good attendance. Mr. Rogers, of Staple Hill, supplied the paper, which was on the subject of "Tuberous Begonias." Dealing with the culture of the plant in a very skillful manner, he said seed should be sown in January, in a temperature of 60 to 70 degrees, the seedlings pricked off as soon as possible, and kept potted as growth proceeded. The soil recommended for all purposes was loam, leaf mould, and sand. For greenhouse purposes the plants should be kept in a light house, and as near the glass as possible, a damp atmosphere being the best for them. Mr. Rogers strongly urged the use of Begonias for bedding, and gave much valuable information regarding the culture for this purpose. A good discussion followed and Mr. Rogers was accorded hearty thanks for his attendance. Prizes for an Orchid in bloom were awarded Messrs. Bannister and Newberry; and a Certificate of Merit to Mr. Maddock for a well grown pan of Cyclamens.

Death of W. H. Lumsden, Esq., of Balmedie.—We regret having to announce the death of W. H. Lumsden, Esq., at his residence, Balmedie House, Aberdeen, late on the evening of the 7th inst., in the 48th year of his age. He was born in the city of Aberdeen in 1852, but Balmedie House is eight miles north of the River Dee, as the crow flies. He was educated at several private schools, and at the Gymnasium, Old Aberdeen, before proceeding to Magdalen College, Oxford, where he took his degree of B.A. in 1872. His ambition, however, did not lead him further in the direction of science or literature, but he gave his full attention to farming, farmers, farm servants, and farm stock, like a true country gentleman. When his father died in 1876 he succeeded to the family estates of Balmedie and Balthangie, in the district of Foveran, and of Johnston, near Inch. He was very much belied by his tenants. He was, in fact, laird, farmer, stock breeder, and dealer. He had a well equipped garden, including a fine collection of Orchids. His illness was due to an internal complaint, which later assumed an acute phase. His ailment was believed to be the cause of the reduction of the place. We recently announced that Mr. G. W. Cummins, the gardener, was returning to the South. Mr. Lumsden leaves a wife and four sons, the second of whom is with the 1st Battalion Gordon Highlanders at the seat of war.

The "Woman's Agricultural Times" (edited by the Countess of Warwick).—*The Woman's Agricultural Times*, which is the official organ of Lady Warwick's Agricultural Scheme for Women, is making steady progress along the enterprising lines which it has marked out for itself. It aims at bringing into touch with each other the rapidly increasing numbers of women interested in the lighter branches of agriculture, and the revival of rural industries generally. There are monthly articles on dairy and poultry work, bee-keeping, and the various branches of agriculture and horticulture, so that the reader may benefit by the actual experience of others whose purpose it is to make their particular industry a sound and profitable undertaking. News of the Lady Warwick Hostel and the work carried on there, is an interesting feature of the paper. The warden contributes a monthly letter, and the students also give accounts of what they are doing in the garden and dairy. It is proposed, during the coming year, to publish a series of interviews, which will give the opinions and advice of experts in the various outdoor occupations dealt with in the paper. The column devoted to the Lady Warwick Agricultural Association is the beginning of a system of co-operation, which is spreading out branches in different parts of the kingdom. The economics of "buying and selling," or how to market agricultural produce to the best advantage, will be fully discussed during the year in a series of articles by the warden. Through the registry, employers can find trained workers, and already many posts and partnerships have been offered. It embraces all kinds of women's work, and a list of country cottages to let, lodgings, and houses where board and residence can be obtained, is also kept. The paper, which is issued monthly, is published at Lady Warwick Hostel, Reading, and can be obtained for 2s. per annum, post free; or at Messrs. W. H. Smith & Sons' bookstalls, price one penny.

Death of Mrs. and Mr. James Reid.—This worthy old couple were laid up with a severe attack of influenza. Last week Mrs. Reid died, and her husband followed her five hours later. Mr. James Reid had been gardener to Lord Kyllachy, Strathdearn, Inverness-shire, for many years. He was 85 years old at his death; and his wife was 77. Both were very much respected.

Grand Yorkshire Gala.—This northern floral and horticultural fete, now in its forty-second year, has been arranged for the 13th, 14th, and 15th of June, 1900. The fete will be held in Bootham Field, York. The prizes in all amount to £750, being variously divided thus:—£300 for Orchids and greenhouse plants; £200 for Pelargoniums, Carnations, Begonias, &c.; £160 for Roses, cut flowers, &c.; and £90 for fruits and vegetables. Special attention is directed to classes 29 and 30 for pot Roses, for which large prizes are offered. The first prize for a table of Orchids is £12, the others being £10, £7, and £4. There are four prizes for a table of fruits arranged for effect, the first award amounting to £15. Special classes with good money prizes are given for high-class floral designs and effective arrangements. The classes number 100. All entries close on Wednesday, the 6th of June. Further particulars or schedules, can be obtained from the secretary, Mr. Charles W. Simmons, The York Hotel, York.

Commons and Footpaths Preservation Society.—At the usual monthly meeting of the Commons and Footpaths Preservation Society, held at 1, Great College Street, Westminster, on Monday, the 5th inst., the Right Hon. G. J. Shaw Lefevre presiding, the report of the society's solicitor, Mr. Percival Birkett, on the private bills to be dealt with by Parliament during the current session was considered. It appeared that 42 bills come within the purview of the society, which, in the aggregate, threaten to absorb nearly 3,000 acres of common land, and a large number of rights of way. Among other bills to which exception was taken by the society, and which it was resolved to vigorously oppose, in the event of satisfactory terms in the public interests not being forthcoming, are the Huntingdon Corporation Bill, and the Hoyle and West Kirby Improvement Bill. Under the former bill power is sought by the Huntingdon Corporation to deal with 356 acres of common land in its area. Of this large extent of open space, it is proposed to allot only 10½ acres for the purposes of a public park, the remaining land to be sold, let on building leases, and otherwise dealt with. This bill was felt by the society to be a serious attempt to avoid the machinery constituted by Parliament under the Commons Act, 1876, for the safeguarding of public interests, and it was unanimously resolved, on the motion of Sir John Brunner, Bart., M.P., to oppose the bill in Parliament. The society also determined to oppose, in its present form, the Hoyle and West Kirby Improvement Bill, on the ground that its provisions are likewise contrary to the principle of the Commons Act. It is proposed under the bill to allot about 108 acres of the common lands in the manor of Great Meols to the persons legally interested in the land for building and other purposes. A further 33 acres of land would be devoted to recreation grounds and the provision of public streets, while 45 acres (partly reclaimed) would be developed to defray the cost of the construction of a sea wall. Exception was also taken to provisions in the Great Northern Railway and London County Council (General Powers) bills. The former bill proposes to give the company power to absorb 42 acres of Hexthorpe Ings, Doncaster, and, under the latter bill, an effort is being made to enable the Battersea Vestry to deal with 11 acres of allotment land set out under an Inclosure Act (1 & 2 Will. IV., Cap. 42). Part of the land is to be utilised for workmen's dwellings. In 1888 the Battersea Vestry promoted a bill to enable it to build on the land, but, in face of the strong public opposition evoked, the bill was withdrawn. Amongst the water schemes proposing to deal with common land are: the East London Water, Exmouth and District Water, Paignton Urban District Water, and the London Water (Welsh Supply) bill. These affect over 1,700 acres of common land, and the society determined to endeavour to secure the insertion of clauses in the bills to give the public a right of recreation over the large catchwater areas which it is sought to establish on the commons involved.

Syringing young tree and Malmaison Carnations with sooty water does not improve their beauty, but it has been found very effective in preventing Carnation-leaf disease.

Two New Grasses in the Channel Islands.—At a meeting of the Linnean Society on the 1st inst., Mr. Cecil R. P. Andrews, M.A., exhibited two non-British grasses which he had found last year in the Channel Islands—*Phalaris minor*, Retz., from sandy shores and fields in Guernsey and Alderney, and *Milium scabrum*, Merl., from the cliffs of Guernsey. He maintained that they were both native plants, as the former is indigenous on the west coast of France and on the north coast as far as Cherbourg and Barfleur, while the latter is a native of West France as far north as Vendée, and reappears on the coast of the Netherlands. He suggested that the former had been passed over owing to its resemblance to *P. canariensis*; the latter owing to its inconspicuous habit, its early flowering, and the fact that it grows on the lower slopes of the cliffs in an unfrequented part of the island. A discussion followed in which Messrs. James Groves and G. C. Druce joined, and Mr. Andrews replied.

Sutton's Farmers' Year Book.—Breeder of cattle know the value of a pedigree, and growers of roots appreciate the importance of securing crops from pedigree stocks. Among the keen competitions of the past year for acreage crops and pulled roots, scarcely an instance can be named where a prize has been won with roots of an unknown stock. The fact is that great weight per acre, high feeding quality, and freedom from fangs, can only be obtained by continuous selection of the finest types of roots during a long term of years. A very lucid exposition of this principle is given in "Sutton's Farmers' Year Book" for the current season. The illustrations and the text show what a first-class firm can do to promote the interests of individual farmers and the general prosperity of agriculturists. A well-grown pedigree stock not only yields a heavy crop of shapely and nutritious roots, but it is economical in the cost of lifting and cleaning. For this feature alone the work referred to is worth the attention of all who are engaged in cultivating land, and there is a natural fitness in the feeding of pedigree cattle with roots and fodder possessing the highest nutritive qualities. But apart from this the "Farm Annual" of Messrs Sutton & Sons must, to the agriculturist, be full of interest. Photographs of remarkable field crops, groups of extraordinary roots, and reports from successful competitors of crops which won the leading prizes of the last year cannot fail to arrest attention. So long as the present conditions of farming prevail the increase in grass land will continue, and in this branch of agriculture the great Reading house has rendered signal service in popularising knowledge concerning Grasses and Clovers. All the varieties of real value to the farmer are described in plain terms, and the majority are beautifully illustrated. An excellent farmers' calendar and a number of serviceable tables complete the usefulness of a work which meets the special requirements of farmers. A copy may be obtained on application to the publishers, Sutton & Sons, Reading.

HARDY NYMPHAEAS.

I AM obliged to your correspondent, "Competitor," in your last issue, p. 381, for the compliment he has paid me respecting my short article on "Hardy Nymphaeas," and with your kind permission, Mr. Editor, I should like to make a short reply on his friendly criticism. I notice he considers 3 ft. of water too much for any of the hybrid Water Lilies.

My article was based entirely on the mode of treatment which they receive here, and appears to answer most satisfactorily. The whole of them, except the pygmaea varieties, are growing in the depth I stated; those last mentioned certainly will do better in 18 in. to 2 ft. Owing to the limited number of words to which I was confined in order to make my article eligible for the competition, I could not enter largely into details. I may mention that we have *N. alba* and *N. a. plenissima* growing to perfection in 5 ft. of water.—A. Thatcher, Aldenham, Herts.

WALLFLOWER UNDER GLASS.

AN easy method of having double German Wallflower for conservatory decoration, in the month of February, is to sow the seeds thinly in a box at the beginning of August, and place them outside in a slightly shaded position, until germinated. Afterwards take it to the frame ground, so as to come more under notice for watering, when needful. Allow it to remain there until November, then lift it inside a frame, to afford protection during the winter. In the following spring shift the seedlings to an outside border, planting them in rows, 18 in. apart each way. After they become established, if any show signs of flowering, the flower buds can be pinched out, leaving the plants to grow undisturbed until autumn. By that time they will have become nice bushy plants, with eight to ten shoots each. At the end of October or beginning of November, they will have commenced forming flowers, which is a good time to lift and pot. The plants should be got up with large balls of soil, potting them into 8-in. pots, then taking them to a cool greenhouse, and given a good watering, overhead as well. They may remain there until the flowers begin to open, when they should be placed in the conservatory, in which they soon become showy plants, the flower heads being of various colours, and having a sweet perfume. They last quite as long as the general run of flowering plants at this season.—R. B. Mansefield, N.B.

IRIS KAEMPFERI.

OF all the species of Iris now in cultivation, this is without doubt the most charming. It was introduced from Japan in 1857, and during the last few years the varieties have been greatly improved. Not even the most beautiful Orchid can out rival them. The varieties and colours are numerous, from pure white to dark purple. They succeed fairly well in the herbaceous border, or dotted about in the shrubberies. Indeed almost any part or position in the garden, but, unquestionably, the most suitable and natural place is on the margins of a lake, pond or stream. Holes 18 in. in diameter, and 1 ft. deep should be taken out and filled in with three parts good fibrous loam and one part peat or well-rotted leaf mould, into which the crowns should be planted early in April, when they will be found to grow away rapidly, increase yearly, and in this position they will continue to flower freely throughout the summer and autumn. An annual topdressing of the compost advised for planting is all the attention, except keeping clear from weeds, that they will require. These are equally valuable for cutting purposes and when cut with long stems and arranged with their natural foliage in large vases, are very pleasing and effective. One of the prettiest fireplaces I have ever seen decorated for a ball-room was with these, intermixed with foliage of the common Bulrush.—A. Thatcher, Aldenham, Elstree, Herts.

COLEUS.

THESE are capital plants for the decoration of the greenhouse or conservatory during the summer months, and, though properly belonging to the stove, after about the middle of June onwards, will succeed without any artificial warmth until September is on the wane. They are rather difficult things to preserve through the winter; but if a place on a light shelf in a house, the temperature of which never falls below 60°, can be afforded, they usually come through all right, and a single plant will afford scores of hundreds of cuttings in the spring. Those who are unable to keep them can always purchase young plants in the spring very cheaply, and with plenty of warmth and moisture they grow really like weeds. We always stop them once while in small pots, utilising the tops for cuttings, if required, and when they break again shift them into 5-in. or 6-in. size, potting them rather firmly in rather rough loam and leafsoil, with a little coarse sand. Placed on a shelf near the glass in a light house or pit, and lightly shaded, they grow rapidly, and soon form bushy examples, with from four to eight shoots. Some really fine and distinct varieties are *Ada Sentance*, *Mrs. Steddall*, *Sir G. Wolseley*, *Resplendent*, *Marquise de Nadaillac*, *J. L. Toole*, *Mrs. K. Hugessen*, and *Choulex*. The colours and marking of the foliage of the various kinds it is almost impossible to describe.—H. J. Hughes, Ash Wood, Whitchurch, Salop.

POT VINES AS DECORATIVE PLANTS.

SMALL Vines, grown in pots and carrying several bunches of ripe Grapes, form very pretty and appropriate plants for the decoration of the rooms in the mansion. To obtain these, suitably placed shoots should be left on the old Vines when the winter pruning is done. Just before the Vines are started take these canes through the bottom of a 7 in. or 8 in. pot to the desired length, fix the pot on a shelf if convenient or on a stand of some sort, and after filling the pot with a suitable compost, which should be made firm, fix a wire framework on which to train the shoots as they grow. When the buds break rub off all those below the pot, and stop those above at the first joint past the bunch, or bunches; but the stopping and tying of these will be regulated to a great extent by the size and form of the plant desired. The cane will root freely into the soil, but constant attention must be given to watering as the pot gets full of roots. When the Grapes are ripe the cane should be cut from the parent Vine just below the pot, by degrees, and in a few days the young Vine will be ready for the room. In order to give a better finish to the plant, some *Selaginella* may be planted on the surface of the soil about two months before the Grapes ripen.—R. Bullen, The Gardens, Kilthey Court, Worthington, near Wigan.

PLANTS UNDER GLASS.

STOKING.—The proper upkeeping of heat in the warmer houses requires the critical attention of the stoker in these days of constant change. Keep the fires brisk and clean at all times. It costs more coals and work to raise fallen temperatures (especially when winds are blowing) than the constant glow of steady fires demand. To check the fires when the sun breaks through, ashes or "slack" may be banked over the live coal. In restarting them, which should be done before the sun goes off, give them a proper raking out and full draught. Check this in about half an hour.

DAMPING-DOWN in the ferneries, *Cattleya* houses and warm stoves should be done, both on stages and paths, night and morning, night signifying late in the afternoon.

PROPAGATION AND POTTING.—The propagation of *Crotons*, *Dracaenas*, *Aralias*, *Acalyphas* and many other stove plants should be undertaken now. The plan thrown out in a hint by Mr. J. Mayne, of rooting cuttings in bottles of water, may prove handy to some. I prefer to use up all my small pots and pans and the space they may occupy before I try bottling. Nearly all the pits are requisitioned for one thing or another. Pieces of the fat *Dracaena* roots, cut in lengths and plunged among fibre along the sides of the cases strike root and also throw up shoots freely, after which they may be potted up. *Begonias* and other plants, which are propagated from the leaf, need only be fastened in at the base among the warm moist fibre. They soon throw out roots.

To make the fibre go further, I have used along with it a quantity of clean sawdust. Sawdust used alone is quite satisfactory enough for many plants, but it has to be renewed once in every two years at least. When kept moist and warm in such a body it soon decomposes and becomes mouldy upon the surface. *Ixoras*, *Gardenias* and other very popular flowering stove shrubs may likewise be rooted from nicely chosen cuttings. The old plants of *Ixoras* which were pruned hard back at an earlier date are now breaking. Watch that the young shoots do not become crippled from insect attack. Young plants must not in any way whatever receive a check. Pot them firmly in a nice peat and loam compost, give the supply of water regularly, and be watchful to allow the developing shoots enough room. *Abutilon Swartzii*, which was specially referred to last summer in this paper, is another very ornamental stove plant. It possesses brightly variegated foliage. Members of the Palm tribe which really require a shift may now be potted. *Tournefortia*, *Kentias*, *Cocos*, *Arecas*, *Latantias* and other graceful Palms should always be kept up in a young stage. Large plants are often necessary for heavy decorations, otherwise where house room is valuable, it is best to try and dispose of the very large plants in favour of smaller ones. *Alocasias* must now be seen to. A potting mixture should contain peat of a fibrous nature,

sphagnum and a free mixture of charcoal, broken crocks and sand.

The pots employed should not be too large, yet *Alocasias* do not suffer crimping; they will not thrive if the roots are confined. Those which are not started may be potted, but water, if given at all, must be allowed sparingly, else the roots may decay before they get a start.

GLOXINIAS AND ACHIMENES, as stated at an earlier date, may now be started. Those which were prepared earlier are now making good headway. Heat and moisture are the prime factors for their welfare.

The Greenhouse.

New batches of forced plants must continue to be brought into the conservatory or greenhouse. *Spiraea prunifolia* is a splendid subject for forcing. It causes little or no trouble to grow a large batch in pots.

LIBONIAS, especially *L. floribunda*, of which cultural hints were fully given a week or two ago, are very valuable. They have been in bloom for weeks past and are still fresh. *Spiraea Van Houttei* is also a worthy subject and easily forced. *Erica mediterranea hybrida*, a bushy and very small growing pinky-flowered variety, comes in handy beside the *Primula floribunda* and the forced Lily of the Valley as an edging plant. *Boronia megastigma*, that old-fashioned inconspicuous bloomer, with the sweet scent is also in flower. The many forms of *Primulas* and *Cyclamen*, the *Duc Van Thol Tulips*, the *Hippeastrums* or *Amaryllis* and the bushy but tall-growing *Acacias* are all yielding their quota. *Eriostemon buxifolius* and others, together with the perpetual flowering *Chorizemas* are also to be seen in full beauty. The star *Cinerarias* are likewise beginning to throw up bloom and soon will be a picture of brightness.—*J. H. D.*

HARDY FRUIT GARDEN.

PRUNING PEACH TREES.

IN those gardens, more or less sheltered, and where wall Peach trees are not likely to be inflicted by frost injury, left in skilful hands the Peach trees may be pruned and nailed to the walls by the middle of this month, weather permitting. By deferring the operation till the buds are more prominent, we also stand a better chance of pruning only the useless matter out and of leaving good flower buds. This point should always be borne in mind, for anyone who has not had experience, or who is careless, may in a year or two ruin the formation of his trees through blunders in having pruned to flower buds instead of to wood buds. Rather would I leave the pruning until the buds had begun to swell than make any mistake in this business. The points of the leading shoots, and laterals, too, for that matter, should always have a good wood bud, this to be left for the elongation of the shoot and to aid in drawing up the sap. Sometimes it happens that in such sorts as *Royal George* and *Hale's Early*, the young shoots have bloom buds the whole length of the shoot, which terminates in a wood bud. In such cases the whole shoot must be left. To cut back a shoot of this sort is to spoil it. Wood buds, like the flowerless heads of *Lily of the Valley*, are long and tapering, the flower buds being round. It is safe enough to prune back to a triple bud which has at least one (the central) wood bud. Before full development takes place one of the flower buds should be rubbed out. In fact this is another point worthy of special mention, that when trees are too heavily laden with blossoms, these should be cleanly thinned out to 4 in. apart at the very least. When operating with the pruning knife, be careful not to injure the stems. Such injuries occasionally originate that troublesome complaint—canker. Thin liberally. If light, air, and the dew from above do not have full play upon the trees in all their parts, strong and well matured wood cannot be expected. Sunlight upon the fat, well-fed leaves and shoots is the precursor of luscious Peaches. Crowded wood means disorder, and a life of evergreen beauty, but devoid of crop! Six to eight inches apart is near enough to nail in bearing shoots to each other. Make the cuts clean and close in; leave no jagged ends. Cut from the under side where possible. Do not make long oblique cuts but short and sharp ones. Loosen the shoots and branches annually, or at least those pliable enough, and wash them with a mixture of soft soap, 4 ozs.,

one wineglassful of petroleum, with a gallon of hot water. Clay, sulphur, soot, and lime may be added. See that scales are unfixed before using this painting or wash.—*J. H. D.*

Kitchen Garden Calendar.

WITH such weather as we have been experiencing of late, there has been much difficulty in pushing forward outdoor operations, for in some places the ground is covered with snow to the depth of several inches, and is frozen so hard that it is useless to dig, sow, or plant. Gardeners, however, have always plenty of work on hand, so that there is no necessity to stand still, even in places where there is not much glass, as often at this time of the year hedges require clipping, and no better work could be found for the men at the present time than that of cutting these and making them tidy. How often, too, we see the box edgings alongside the kitchen garden paths got into that unsightly state as if no one owned them. Though it may be impossible to plant in such weather, if the soil is not frozen too hard, some of the box might be taken up in the middle of the day when the weather is warmer, when, if wheeled to a cold shed or other sheltered place, it could be pulled to pieces and got ready for planting as soon as the weather is favourable. Nothing adds more to the neatness of a well-kept kitchen garden than trim box edgings, but they are troublesome to keep tidy; and when allowed to grow out of bounds are a harbour for snails and other pests. Graveling, too, should receive attention where necessary.

Turning to work under cover, it has long been recognised that if Potato sets are started to grow evenly before being planted they come up more regularly than if allowed to lay in a heap and then put in indiscriminately. We have sometimes seen such blanks in the rows through want of forethought of this description that one is inclined to ask if the cultivators take any pains to ascertain whether the sets are blind or not at the time of planting. If those who have not hitherto paid any special attention to this will just give it a trial they will have no cause to regret doing so. It should be the aim of all gardeners to grow the best of everything, and as Potatoes are the chief winter vegetable extra care should be taken to have these as good as possible, and to do this a start must be made with preparing the sets. Choose those of even size, about two ounces in weight, and lay them singly in a cool place. Away from frost in this position they can remain till the first or second week in April.

THE MUSHROOM HOUSE will also require attention at the present time, for often this structure has to do duty for a whole host of purposes. It is frequently in here that *Seakale*, *Endive*, *Rhubarb*, *Chicory*, and other vegetables are brought forward, though it is far better if a separate structure can be provided for these as they somewhat interfere with the Mushrooms, for they take up much valuable space. Not only so, but during the time the door has to be opened for changing the material of the beds, these tender vegetables are apt to suffer. Material should be prepared for making new beds as others become exhausted so that there be no delay.

ROOT STORES should be looked over, and any roots that show signs of decay ought to be removed, as these would soon contaminate the rest. As a rule these have kept well this season, and are still in good condition.

SHALLOTS.—As soon as the weather is favourable, and the soil sufficiently dry to admit of getting on without it sticking to the boots these should be planted. It is far preferable to make holes just deep enough to cover the bulbs than to press them into the ground between the fingers and thumb, for when this latter mode is adopted on heavy land the soil beneath the bulbs is rendered so hard that instead of the roots penetrating it readily as they should do they lift the bulb up out of the soil; and should a sharp frost follow they thus become injured and seldom give satisfaction. In fact, they frequently wither off in the summer without any apparent cause. Avoid planting too deeply as this prevents the offsets swelling as they otherwise would if nearer the surface.

UNDERGROUND ONIONS.—Where there is a difficulty of growing good bulbs from seed sown in spring

these should be grown. It is astonishing the amount that may be produced from a small patch of ground under good cultivation and liberal treatment. They should be planted in the same manner as recommended for Shallots, but given a greater distance both between the plants and rows. If fair sized bulbs are planted, these ought to be allowed nine inches from set to set and the rows ought not to be closer together than fifteen inches.

GARLIC.—This too should now be planted before growth gets too forward. If the rows are put eighteen inches apart and the bulbs put nine inches from each other, this will allow ample room for them to grow freely.—*F. W. J.*

The Orchid Growers' Calendar.

THE WEATHER.—Hold on, says Jack Frost, with your pushfulness, and give the stoker a chance. Ah! that stoker chap, who thinks of him, up late at night, and again before daylight, battling, perhaps, with obsolete furnaces and bad fuel as well. At such times as these it gives one an opportunity to say a good word for that best of all fuel, anthracite coal. Given a quick draught, and it is as easy to stoke with as coke, and its heating power is double; you can bank up with it and feel comfortable about the temperature being right in the morning.

Its strength is so great that it is necessary to either draw the fires, should the days be bright; or steady it by throwing some ashes on the top. With the cool divisions it is best to draw the fires for a few hours if they are heated by a separate boiler, or if, which they sometimes are, connected with the warm houses, to turn the heat off.

SOPHRONITIS GRANDIFLORA.—I do not think there is any Orchid that pays better to grow than this brilliant little gem. Small imported plants, that were bought for eighteen pence or two shillings apiece, are now fetching five and ten shillings each, and for an extra fine variety, of course, more. The run on them is no doubt for hybridising purposes. The long lost *Laelia jongheana* and *Sophronitis* ought to produce a very pretty hybrid; we have no doubt but that this cross has already been affected.

I do not know another Orchid that takes up so little room as does the one under notice. It does finely in pans suspended close to the glass above the *Odontoglossums*. They should be elevated pretty well above the rim, so as to show off the flowers to better advantage. The compost used is similar to that recommended for *Odontoglossums*, namely, good peat, and live sphagnum moss in about equal parts. They require plenty of moisture when growing, and should not be allowed to shrivel unduly at any time.

IMPORTED ODONTOGLOSSUM CRISPUM.—I hope the readers of THE GARDENING WORLD bought some of those offered by Messrs. Protheroe and Morris, on Friday last, because they were the right sort. Assuming that they did so, a few hints as to their immediate requirements may be useful. Imported plants at this time of the year are "kittle cattle." You buy plants, and think by their appearance that there is no risk, but bless you, they have a knack of going off suddenly, so that it is just as well to be careful with them in the early stages. We buy large batches annually. Last season we bought over a thousand, so that I know what they want. Well, the first thing we do is to lay them out in sizes on the stages, then go over them, cutting away all rotten pseudo-bulbs and old spikes. Should the weather be bright, lay some sheets of paper over them, as after being boxed up for a long time they do not appreciate exposure all at once to light. No water is afforded them the first week or two direct; all the moisture they get is from the atmosphere of the house, which will be found to be quite enough whilst they are passing through the—shall I say?—distemper. As they begin to plump and to root, the forward ones may be potted up, and so on, until the whole batch is attended to.

CYMBIDIUM LOWIANUM, showing spikes in various stages, will be much benefited by applications of liquid manure. Weak guano water is good for them; but the best I think is that made by placing horse droppings into a bag, and putting the same in a tub. A bushel would be ample for your purpose. After a day or two it will be ready for use. A half pint of the liquid to a gallon of soft water will make a good stimulant. Always remember that it is better to give tonic in a weak state than to give it strong at wide intervals.—*S.C.*

HINTS FOR AMATEURS.

Phloxes.—Taking up another well-known and thoroughly popular class of hardy flowering border plants, and casting our survey over their forms and colours, the wondering question arises, "What ever would we do without Phloxes?" The tall growing perennial species, *P. paniculata*, *P. decussata*, *P. acuminata*, and their varieties which flower from the end of July till well into Autumn, are especially glorious. Glorious may seem a mighty expression of praise, but glorious in all the breadth of meaning which that word has, have they. The colours, well, there's no chance of exhausting their range, for among them we have snow white, and blue-purple; we have salmon-pink, carmine, lavender, pink, crimson, and every mixture of hue possible. One colour is wanting, and that is yellow.

There are four sections of Phloxes. The first we have just been noting. The second section is of a dwarf growing habit, and well typified in the plant so common in May and June in our rock gardens and flower beds, the little *Phlox subulata*. This grows in trailing, carpeting fashion, bearing bouquets of closely studded rosy-pink starry blossoms. As a rule, members of this dwarf section never go beyond 9 in. or 1 ft. in height.

P. subulata represents the specific form of the dwarf early flowering plants. *P. sufruticosa* yields us the type of early summer flowering Phloxes, while those species and varieties which bloom from the end of July onwards come under *P. paniculata*, *P. acuminata*, and *P. decussata*. As a fourth section we may include *Phlox Drummondii*, an annual species, originally brought from Texas in 1835. A pinch of seed sown in pans or shallow boxes and treated as I have lately been describing, will, providing the necessary steps and care be taken, supply lovely flower masses for the early autumn or end of summer.

The cultural demands of the Phloxes, like so many other of our hardy and most beautiful plants, are easy to meet. Certainly they like a deep rich soil, and indeed, must have this, if they have anything. To form a satisfactory collection, make a start by obtaining good plants now, or as early from this date as possible. The autumn flowering, or as I care to call them, the tall Phloxes, should be planted toward the back of borders, in beds or out in the open parts of the shrubbery. This latter arrangement of the Phloxes need not be contemplated until such time as a stock can be divided off from those bought in the first instance. Dig the soil as deeply as possible, enriching it liberally and then plant.

In the summer time, a mulch is of the greatest benefit, and next to it, constant surface hoeing. Water may at times be required, but it is well to avoid the practice if other means can be taken to tide through a trying time. Referring to the dwarf Phloxes, these are propagated chiefly by division, and from insertion of cuttings. The young plants may be divided in autumn, or cuttings then taken, and the pieces potted up in a sandy compost using small pots. By careful watching, after placing them in a cold frame and keeping it close for a time, they become rooted and ready for spring planting. As a rule it matters little in what position the Phloxes are, provided a fair share of sunlight on the one hand, and slight shade from severe sunshine on the other, can be obtained. To save them from the hustling of winds, choose a sheltered spot, when choice can be made.

Aquilegias.—The peculiarity of the shape in *Aquilegia* blooms, and their sprightly bearing, cause them to be held in universal regard. As hardy perennials, they are worthy of a place in any garden, and for the amateur who wishes flowers, pretty and plenty of them, let him raise a panful of *Aquilegias*. It is not needful here to do more than state that there are a good many species and distinct hybrids of the plant, varying in the colour of the flowers, but of these five may be specially noted. By and-by as we go on hybridising these may become more and more confused. At present, however, *A. chrysantha* is a species of a rich yellow tint; *A. caerulea* has blue and white flowers; *A. californica*, which possesses flowers with a shade of scarlet, is being much improved by selection; *A. glandulosa* has white and blue flowers, as in the Rocky Mountain Columbine, but in form they are rounder and broader. *A.*

Skinneri is a dwarf species, the dwarfest indeed, and has flowers of a red and green suffusion.

These can all be had true, and the hybrids from them can be obtained from seeds. As pot plants, brought on for early flowering, the Columbines are a very fine class of plants. It is worth while making a special *Aquilegia* bed, or specialising them somewhere in a sunny sheltered position of the garden. A well drained soil is a first requisite, and if it is porous and rich, so much the better. Sow seeds on the surface soil of shallow pans, watering with tepid water, and place glass over the rim. A warm greenhouse or pit answers till they have germinated. From thence, prick them into boxes, and when growth has again started remove them to a cooler house, finally planting them out in the open.

A Workman's Back Garden.—We chose a number of plants suitable for the walls of small backyard gardens of working men in last week's "Hints." Continuing, a selection will be made of annual plants and others which are perennial and herbaceous. Taking the latter first, the following is not a long list, but it has the merit of being on all points thoroughly good. Borders are more general than are beds in such gardens as here described, so that these only are kept in view in this instance. In planting, whatever is selected although there is always present the desire to have as great variety as possible, the rule should at the same time be to make good sized masses of the plants. For instance, with Phloxes or Michaelmas Daisies, we would never expect a unitary stem, or two or three to represent a plant. No, but a bush, 1 ft. through, and the larger the garden, the larger may the masses be, up to a certain limit. When they become too broad, divide the plants and replant one of the halves, giving away the other half unless you have a place for it. For the back parts of the border I would suggest *Chrysanthemums*, *Michaelmas Daisies*, *Paeonies*, *Aconitum autumnale*, *Phloxes*, *Gladioli*—to be planted in March each year—*Helianthus*, *Anemone japonica*, and *Harpalum rigidum*. Shrubby plants such as *Spiraeas* and the *Mezereon* may also find a place. More in the middle of the border the following dwarfier plants will be serviceable:—*Campanulas* of the taller sorts, *Lilium*, *Centranthus ruber*, *Doronicums*, *China Roses*, and *Iris*. In a third and still dwarfier zone, the plants after the style of *Geraniums*, dwarf *Antirrhinums*, *Daffodils*, *Pentstemons*, *Carnations*, *Wallflowers*, *Christmas Roses*, and *Begonias*, &c., will be in good keeping. Towards the front the following list of annuals may be sown in springtime, or raised under glass previously for planting out in May:—*Cornflowers*, *Calendula*, or *Cape Marigold*, *Calliopsis*, *Candytuft*, *Clarkia elegans*, *Eschscholtzia californica*, *Gaillardias*, *Gypsophila elegans*, *Honesty*, *Linum grandiflorum*, *Mignonette*, *Nemophila insignis*, *Nemesias*, and *Sweet Peas* for the wallside and hedges. Plants which are dwarf, but not treated as annuals, are *Primulas*, *Polyanthus*, *Violets*, *Auriculas*, *Lily-of-the-Valley* (for a bed along the north wall), numerous *Saxifragas*, *Cerastium tomentosum*, *Gentiana acaulis*, *Snowdrops*, *Crocuses*, *Squills*, and *Winter Aconites*.

For a rockwork, select dwarf shrubs such as golden-leaved *Privet*, *Yuccas*, *Buxus*, dwarf-growing *Conifers* as *Retinospora obtusa nana*, *R. filifera*, *Picea excelsa pygmaea*, dwarf *Hollies*, *Yews*, *Gaultherias*, *Viburnum plicatum*, *Veronicas*, besides *Arundinaria Fortunei*, and *Bambusas* when kept cut back. Then the *Aubretias*, *Alysum saxatile*, *Ericas*, *Ferns*, *Magasea crassifolia*, and many other things may be chosen.

The cultural hints for most of the subjects here-with named have often been treated of under "Hints," and are likely to receive justice in the future. Make use of the correspondence column when in doubt. And now about the price of all this. Well, plants, seeds, and so on, run off with a lot of money. At the same time it is money well spent. I have treated merely on the ornamental side of the question. At another time we may consider how to, and what to grow for the dinner table, and for the family consumption. A greater interest in the cultivating of flowers in the back gardens attached to our suburban and rural villas and workmen's cottages, would in most ways be profitable, and healthful to the land. But more need not be reasoned upon or pleaded for now. The commercial value (nurserymen's prices) of the climbing plants mentioned last week, may be set down at an average

of one shilling to one and sixpence each. Ten shillings may be set aside for seven or eight subjects for the walls. Five or six shillings will go a good way to cover the list of annuals required for a small garden, provided the buyer studies the offers of the seedsmen. Cheapness is not always best, however. Then the purchase of perennial plants such as I have mentioned—*Iris*s, *Christmas Roses*, *Michaelmas Daisies*, *Paeonies*, &c.—means another goodly sum. They could all be raised from seeds or other means, but we are presuming an empty garden and limited skill. Therefore, we must say from fifteen to twenty-five shillings will be required. In judicious hands the total sum spent (less than £2) is amply sufficient to stock, with very suitable plants, a back garden of from 40 ft. to 60 ft. long, and 12 ft. to 15 ft. broad. No one who has any love for gardens and plants will think this too much, especially when we know that some men, or some class of men, pay guineas for a dog for mere ornament.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Various Questions.—*Robert Johnstone, Dumbarton:* *Begonias* and *Gloxinias* should both be looked over, repotted in a light rich compost, and afterwards watered. Place the *Gloxinias* on a well lighted shelf in a fernery or plant stove. The *Begonias*, after being potted, and if not wanted for an early period, should have an intermediate temperature to start with, after which they may be taken to a cool house of 50° minimum. All your dried off *Fuchsias* and *Pteris Ferns*, should certainly be started now. Sow the *Antirrhinum* seeds, as likewise the *Pentstemons*, in pans of light, firmly pressed soil, and on the surface. Water through a fine rose can, placing the pans in a case or pit with a temperature of 60°. Afterwards prick into other boxes, and in April plant out into the borders. *Dahlia* tubers may be placed in a warm vinery for the supply of cuttings.

Planting Border Carnations.—*J. Errol:* Delay the planting till the middle of March; your Lothian district is too cold for any gain to accrue from early planting. Meanwhile collect and incorporate rotten dung, wood ashes, and ground charcoal.

Petunias and Roses.—*J. Errol:* Sow the *Petunias* very carefully, as per hints to *Robert Johnstone*. Greater care is demanded in raising *Petunias* because of their liability to damp off in a moist warm air, and of becoming soft, drawn and useless from detention in heat when in the seedling stage. Prick off into thumbs, and keep them moderately cool and dry. *H. P. Roses* from borders can be planted till the middle of next month (March); afterwards secure pot-grown subjects. Mulch them during summer to preserve the moisture.

Sprouted Bulbs for Planting.—*J. Gemmell:* The sprouting of bulbs under such adverse and unnatural circumstances as they are known to do is very puzzling, yet absorbingly interesting. During all the favourable weather of summer, with warmth and moisture in the ground, there they lie a paradox upon the other parts of Nature's vegetation. Then up they come, and forth they sprout amid the coldness of a snow-dressed border, or the dryness of a bulb merchant's storeroom. These are our thoughts, so we are at one with you. To the other phase of your query we say most decidedly buy up and plant such bulbs as are not too far sprouted. The majority of bulb dealers have still a stock, and prices now are considerably reduced on such bulbs. Plant deeply in borders and woods, grass, &c., for naturalising.

Paraffin Stove Smelling.—*J. Williams, Middlesex:* Your greenhouse is certainly a tiny one, yet the occupants we presume are none the less valuable to you. Paraffin fumes and a heated air are certainly detrimental to the growth of the plants. What we advise is to make a neat little pit outside the wall of your house for your stove, and have it nicely covered over. Another foot or two feet of piping would be required, but the bad smell and probable evil would be banished.

Lygodium japonicum would suit *W. Tait's* purpose. This is a very pretty climbing Fern which revels in the slightly heated house. Plant it in a narrow border or in boxes or pots suitable to the size of the plants, placing the movables on the stage by a wall or pillar. Tie the shoots to a support as they grow, but be mindful of moisture in the air and at the root.

Varieties of Roses for Standards.—*W. Long*: The following are all suitable:—General Appert, Violet Bouyer, Mrs. John Laing, Dr. Andry, Paul Neyron (very strong), Marshal P. Wilder, La France, Duke of Connaught, Baroness Rothschild, Maréchal Vaillant, Antoine Mouton, Merville de Lyon, Prince Camille de Rohan and Duke of Edinburgh. Treated well, in an open position and good soil, these have succeeded.

the right is an Ivy-mantled ruin with a small and distant view of the castle behind.

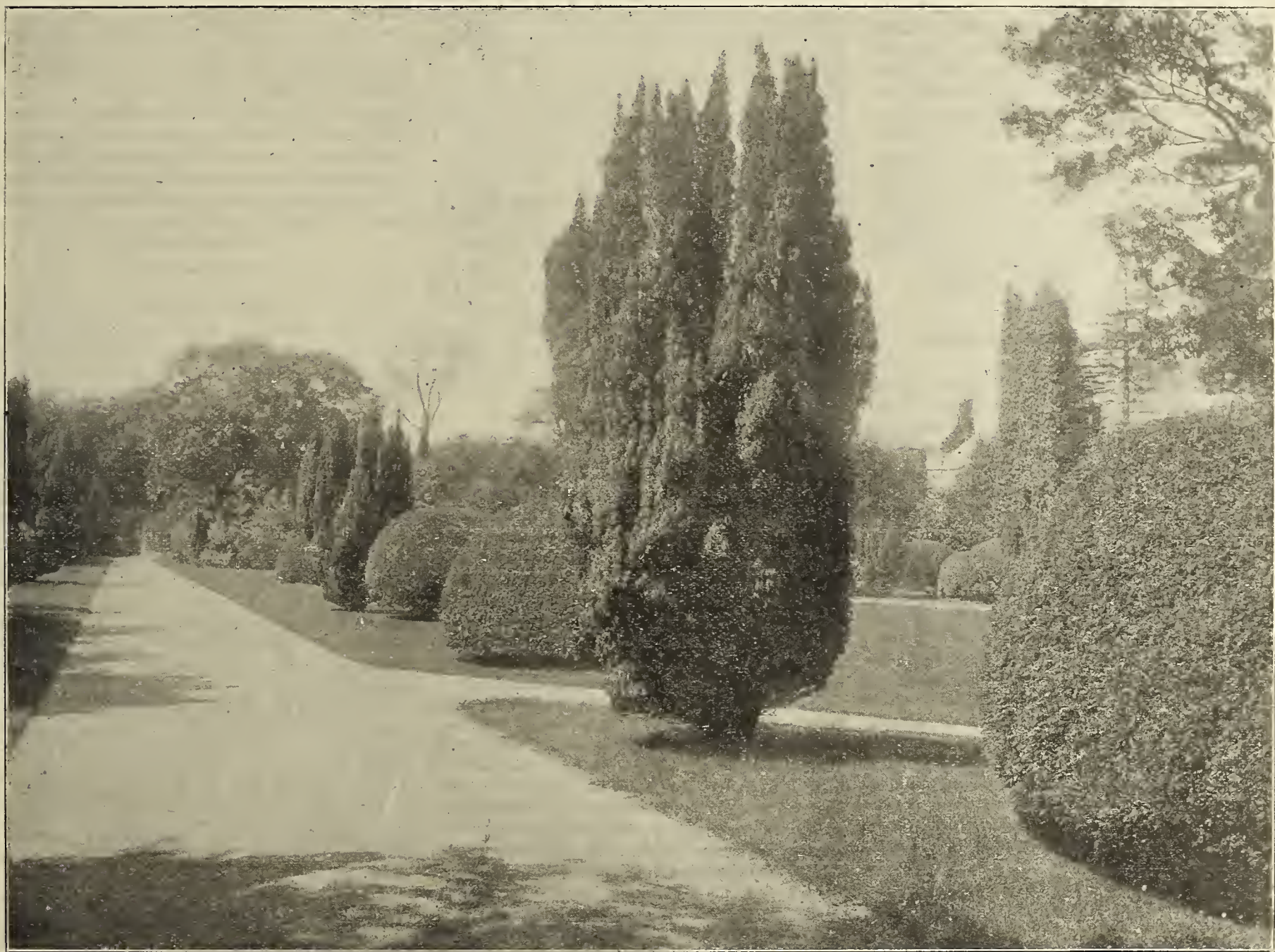
SAXIFRAGA OPPOSITIFOLIA.

LIKE the Snowdrop, the purple-flowered and opposite-leaved Saxifrage delights in the cool weather of early spring, which on the mountain tops may mean from the middle to the end of May, though the blooms may last till June in the cooler positions, but little exposed to sunshine. Those who take delight in building rockeries, and planting them with Alpine flowers, might well take a lesson out of Nature's book. I have seen it planted in pans and kept in frames, and also planted on rockeries in low-land gardens and towns, where it often appears only moderately happy. The fact is, when planted in sunny and dry positions, only a bare existence is

Where the ground was bare, it was oozy, slimy, slippery, and most uncomfortably wet everywhere; and walking was difficult, even where the slope of the mountain appeared moderate. At 3,000 ft. elevation, *Saxifraga oppositifolia* was plentiful on banks, edges of the rills, rocks, and grassy sods. Here and there were tufts or sods of the Saxifrage, purple with blooms as large as those often dubbed *S.o. major*, and which would have delighted the heart of the most aimless and indifferent cultivator.—*J. Mac I.*

VICTORIA REGIA.

THIS noble aquatic plant, with its enormous floating leaves, inhabits the equatorial regions of South America. Although perennial in its native habitat, it is treated as an annual under cultivation, and raised annually from seed. The leaves naturally



THE LAWN, HOWTH CASTLE, HOWTH, CO. DUBLIN.

THE LAWN AT HOWTH CASTLE.

THERE are many beautiful and interesting scenes in the grounds of the Earl of Howth, Howth Castle, Howth, Co. Dublin, the shrubs and trees being a special feature. The mild and humid climate of Ireland is well suited to this kind of vegetation. Evergreens are plentiful, but deciduous subjects are by no means neglected. Very striking and peculiar is an old Beech hedge, of great height, shutting in a pathway as with two long and high walls. These hedges are well kept and trim, otherwise they would soon obstruct the pathway. The accompanying illustration shows a view of the lawn.

The Irish Yews are allowed to assume their characteristic form, and two fine specimens are seen bordering the long walk. The English or common Yew is trimmed into semi-globular form. Towards the outskirts of the lawn a wealth of other Conifers and deciduous trees and shrubs may be seen. On

possible, because, in summer, the moisture is so scanty that the roots get dried up and the leafy trailing stems baked with the sunshine. Sun, wind, rain, frost, and snow, it stands with impunity, but a cool atmosphere and plenty of moisture are necessary to make it happy. One beautiful morning on a 21st of May, I set myself the task of climbing Ben Lawers, the mild weather and the difficulty of the ascent making me perspire. By the time I had reached an altitude of 2,000 ft. it was bitterly cold, and the wind now blowing with the force of a gale made climbing doubly or trebly difficult. The hoary head of the old Ben was enshrouded in clouds, and by the time I reached the mountain tarn, Lochan a' Chait (Loch of the wild cat), the clouds descended to meet me, and snow fell heavily till I descended to the valley of Loch Tay. The winter's snow, like crystallised sugar, still lay heavily in sheltered positions, especially in Choire an Lochan a' Chait.

turn up all-round their margins to the extent of 2 in. or 3 in., and when fully developed, from 6 ft. to 8 ft. in diameter. Their beautiful, fragrant flowers are produced thirty to fifty on a plant in one season. The flowers resemble to some extent, only much larger than, our common Water Lily (*Nymphaea alba*), the petals exhibiting that gradual transition in form to that of stamens. The fruit when ripe is a prickly, globular berry; the outer portions decay, and allow the seeds to escape. The seeds should not be allowed to remain out of water for any length of time, or they will lose their vitality. They are sown about the middle of February, planting each in a separate pot of loam (60-sized pot), and then immersed in a tank of water. The seeds require a temperature of 80° to 90° to germinate, and this is maintained by passing hot water pipes through the bottom of the tank. This is easily regulated by means of a screw valve outside the tank. The young

plants are repotted before May, an operation which requires great care; and when established in their permanent quarters they increase in size very rapidly.—C. P. Cretchley, *The Honeys, Twyford, Berks.*

LACHENALIAS.

THE varieties of *Lachenalia* are not so widely distributed as they deserve to be. The best known of them, however, is *Lachenalia tricolor*, and the easiest of cultivation. They were introduced in the early part of the eighteenth century from the Cape, whence so many beautiful plants come, and which furnish our greenhouses with beautiful flowers. The pendulous flowers are borne on stout stems, thickly set with beautiful tubular-shaped blossoms, and from 8 in. to 12 in. high. The leaves are lanceolate, and from 1½ in. to 2½ in. broad. Many have purple-brown spots, and hang gracefully over the pots or baskets, thereby adding considerably to the grace and elegance of the flowers. They may be grown successfully by the amateur in a small greenhouse, if the necessary preparations are taken as to soil, which should consist of two parts loam, two parts leaf mould, and one part of coarse sand, and well decayed cow manure well mixed. The greater success is from bulbs planted in 5 in. pots with well placed potsherds to afford quick drainage, and a little rough loam placed on this. Plant from four to six bulbs, and just cover the same. Do not water until growth appears, unless very dry; then more freely as leaves develop. Keep as near the glass as possible, without being injured by frosts, so as to ensure a stout and sturdy growth. If for forcing, give a temperature not exceeding 55° to 65°. When spikes appear, add weak manurial waterings.

PUBLIC PARKS AND GARDENS.

(Continued from p. 379)

THE Commons and large open spaces should be utilised more for games. This would give better facilities for gardening in the parks, of a few of which we will take a bird's-eye view.

We will begin with Hyde Park. The most pleasing part of this park is a small space known as The Dell. The overflow of water from The Serpentine, instead of running straight into a sewer, as is done in many cases, has here been formed into a small stream, the sides of which have been planted with moisture-loving plants such as Rushes, Iris, *Bambusas*, &c. The banks have been planted with shrubs. Amongst these, during the summer months, are plunged large *Dracaenas*, *Musas*, *Seafortthias*, &c., the whole forming a pleasing natural picture of quite an oriental appearance. This small space probably gives more real pleasure to the general public than all the masses of flower beds which are concentrated close to the boundary fence of Park Lane. A very large quantity of bedding plants is used there each season, which is grown in the frame ground of Kensington Palace. The supply for various other places is also grown there, as Kensington Gardens, Hyde Park, St. James' Park and the Green Park, are all under one superintendent, "Mr. Browne." Some idea of the amount of work he has in connection with his charge may be gathered from the fact that he has over fifty miles of roads and paths to keep in order.

Kensington Gardens are practically part of Hyde Park, as the two are only divided by a road. There are some fine old trees and bits of natural scenery in Kensington Gardens. There is usually something interesting to be found in what is termed the flower walk, where there are clumps of herbaceous and other flowering plants. Now that Kensington Palace has been thrown open to the public it will become more popular, being the birth-place of our gracious Queen.

St. James' Park, from an artistic point of view, is almost perfect. If one stands on the bridge which spans the ornamental water and looks towards the Foreign Office, the view is one of the prettiest in London. It is even attractive in the winter season to see the hundreds of sea gulls, which are so tame that they come right on to the bridge amongst the crowd who go there to feed them. There are some good trees and charming bits of scenery in this park. The flower beds are few in number but well placed, and not crowded together. The margins of the lake have been well planted with *Polygonum*, *Cornus*,

Salix, &c., which take off the hard cement outline, which in many cases has such a formal appearance. There is one very unattractive part in St. James' Park, where the loafers and scum of society lie about on the grass from morning till night. Surely the bye-laws are strong enough to deal with this nuisance, without interfering with the liberty of the citizens. It is a disgrace to our parks that these loafers should be allowed to abuse public places as they do.

Adjoining St. James' is the Green Park which is now nothing but grass and trees, and, therefore, does not call for comment.

Regent's Park forms one continuous open space in one direction with Primrose Hill. It is far the largest of the inner London parks, its area exceeding that of Hyde Park by 112 acres. On its south, east and west sides, this space has a wilderness of houses, with their smoke; but on the north it reaches a district where gardens abound with trees, giving it quite a country aspect right away to Hampstead Heath. There is a large piece of ornamental water. In addition to this the Regent's Canal runs through about a mile, the sloping banks of which are clothed on one side with trees in a natural way, which gives it the appearance of a river in the country. The bedding in Regent's Park is always good, the combination of colours and bold masses of *Hollyhocks* and various things being very effective. *Celosias* are extensively used; the sheltered position evidently suits them well. The Zoological and Botanic Gardens are both within Regent's Park. Flower gardening is well done at the Zoo. Mr. Young also uses *Celosias*, and many other tender things, which require shelter and warmth when planted outside.

The Botanic Gardens laid out by Marnock are well planted with a variety of trees; but owing to various causes these gardens have deteriorated. Instead of botany we have had fêtes where flowers have been abused by tying them on to cart wheels, and such like absurdities; therefore it is not surprising that the Royal Botanic Society has lost favour in public estimation.

Waterlow Park was presented by and named after Sir Sidney Waterlow about nine years ago. It is very pleasantly situated on the top of Highgate Hill, which is on a level with the cross of St. Paul's Cathedral. At such a high altitude it escapes the worst of the impure London air. Waterlow Park, although small, is very interesting, and contains some well grown timber. The old house, Lauderdale, was once the residence of the notorious Nell Gwynne, but is now converted into refreshment rooms. The park has a nice, undulating appearance; but why this feature should be altered to make tennis courts is a problem difficult to solve.

Finsbury Park was laid out by the Metropolitan Board of Works; but why it was named Finsbury, which is several miles away, is a puzzle. Like Waterlow Park this enjoys a high altitude, but very little shelter as there are very few large trees; but a long avenue of Black Poplars was certainly not the right thing to plant. The highest point in the park seems a strange place to select for a lake. There was certainly not much landscape about that. Close to this lake is the flower garden, the beds of which are aptly described by Mr. Robinson, who compares them to so many tarts on a tray. The shape or want of shape in some of these beds would puzzle Mr. Robinson's confectioner.

Some of the shrubberies in this park got ragged, so a lot of the old useless shrubs have been taken out, and specimens opened up, by turfing under them; therefore, they now show to much better advantage, and the formal outline of the shrubs is broken up by these recesses. To those who may have old shrubberies to renovate this way of dealing with them is worth considering. The new house built some time ago as a show house for *Chrysanthemums* is unsuitable for the purpose, there not being sufficient ventilation, so the old house has still to be used for these exhibitions which are certainly very good.

Clissold Park is situated about a mile from Finsbury Park. From a gardening point of view Clissold is not much, but there are some fine old trees. The canal belonging to the New River Waterworks Company runs through this park. In addition to this there is a lake, so Clissold is well off for water; and if this advantage were made use of, the park could be much improved.

Golder's Hill, a lovely spot, has only recently been

acquired for public use, as an adjunct to Hampstead Heath, a road only dividing the two. If the natural surroundings of Golder's Hill are treated properly, this could be made a very pretty place; but it would be a piece of vandalism to cut it up in a formal way. Flower beds would be superfluous here; but groups of hardy and semi-hardy plants would find a natural home as it is well sheltered.

We will now visit Victoria Park, which has rather a depressing appearance, as vegetation does not seem happy there. This is easily accounted for by the forests of chimneys which stretch away for miles round. But situated as Victoria Park is amongst the masses in the east end it must be a great boon to them, who would otherwise seldom see a bit of nature. Therefore, in the eyes of the east enders, Victoria Park must seem like a paradise with its wide green spaces, its groves and shrubberies, lakes and woodland islands. There is a very large bathing lake which, of a summer's evening, is filled to its utmost capacity. The park is practically in three sections, roadways having been cut through for the convenience of the masses. Therefore, the park appears much smaller than it really is. Owing to the atmospheric conditions surrounding this place, it is surprising to find gardening carried out so well. Some of the beds are arranged in groups, which are relieved by *Palms*, *Dracaenas*, *Yuccas*, *Agaves*, *Musas*, &c., large beds of *Erythrina crista-galli*, being very effective. Nearly a quarter of a million of bedding plants are grown here each season. In the shrubberies are some good specimen *Hollies*. This proves that these shrubs are well suited for planting in towns where the air is impure.

(To be continued.)

SAP FLOW.

Is it quite correct to say, as is said at page 332, that the hard heart wood of tree stems is devoid of sap, and is absolutely dry? If that be so how is it that when certain trees are felled, as they sometimes are out of season, that the wood they give long after felling is termed sappy and shows evidence of its condition by discolouration, softness, and early decay. That is a fact which seems to be quite out of harmony with the suggestion that hard wood is absolutely sapless. In relation to the most interesting subject of sap flow there is yet apparently not only much ignorance, but also much difference of opinion. Probably few plant physiologists care to be too assured in relation to the matter, yet there can be no doubt but that the term sap flow, which comes freely enough from many pens and tongues, is one which conveys many diverse ideas, and many very crude ones.

The paragraph alluded to states that such sap current as there is flows in the external or newest wood near the bark. Does this mean the cellular tissue of really hard wood, or the soft cambium layer, which lies between the hard wood and the bark? How soon after formation into a woody layer does the cambium become sapless? How long does it continue to be capable of permitting sap flow?

Is it not generally admitted, as well as undoubted theory, that sap descent, that is, aerated or oxygenised sap, such as has been through the leaves, descends in the cambium layer and thus builds up wood in that descent? Certainly we know that there is such descent as we have but to cut a ring of bark down to the hard wood out from a branch to find that downward sap cannot get beyond the line of severance. Yet, somehow, the branch above does not die, and that leads to the inference that there must be upward sap flow in the hard wood, or death would soon ensue. When limbs are cut from trees whilst in full leaf how often do we not see sap exuding apparently from all the woody tissue of the stem severed. We know in the case of Vines, although with these the wood does not attain that exceeding hardness that is found in ordinary trees, that from every portion that is severed, if done in the spring, saps flows away like water.

But know what we may, still we seem unable to fully comprehend what sap flow really is, and how the liquid or life blood of trees passes through the cells of which soft or hard, woody, or vegetable matter is composed. We have not yet been able to lay bare the wood of a tree and watch sap flow as has been done with blood flow in animals. We have not, so far as I am aware, even brought into use

the Röntgen rays for the purpose of determining the matter, assuming that these rays could penetrate into living vegetable tissue and display Nature's secrets to us absolutely. I do not think in all gardening there is a more interesting subject for description or for elucidation than is this of sap flow. It is to be feared that very much of what has been written about it is much the product of theory, or of assumption. We especially want to know what becomes of sap in the winter. Does it, under the influence of cold, solidify and remain practically inactive, then expanding and liquefying in the spring? or is it constantly active during what is called the season of rest?—A. D.

CHEMISTRY FOR THE GARDEN.

IV.—AMMONIA.

(Continued from p. 378).

AMMONIA.—This fertiliser is so important, as most people are aware, in conveying the necessary supply of nitrogen to plants that both gardener and farmer can ill afford to lose any opportunities which come in their way to do their best in collecting it wherever it is likely to be obtained. There can be no doubt but in the past much has been left undone in this respect that demanded our serious attention, and, of course, all to our loss. The means whereby we are enabled to increase our stock of ammonia are, if not legion, resourceful enough to at least supply us with a quantity that would greatly reduce our annual expenditure on artificial stuffs, which are perhaps after all not nearly so worthy of our patronage as the supply Nature places at our disposal. Almost everything organic, under favourable circumstances, produces ammonia. The atmosphere contains ammonia, and, moreover, the proper preparation of a soil tends to absorb this constant supply from the air. Charcoal, humus, &c., are capital absorbents of the atmospheric ammonia, and, as has been pointed out already, these mediums in a soil cannot be too highly recommended as ammonia collectors.

Soils of almost any consistency whatever tend to absorb ammonia, but, of course, the less sandy material in its bulk the greater the absorptive power. A case in point, demonstrative of this peculiar power of soils, is the practice so common among farmers of spreading their manure over their fields and allowing it to remain in that condition for days and weeks exposed to a scorching sun or a series of heavy rains, as the fates may destine. Here one unacquainted with the earth power to absorb ammonia would condemn the practice as one egregiously fatal to the ammonia the manure should contain. Though theoretical men have condemned the practice more than once, men of great experience have proved this mode of supplying the land with manure the better of the two; that is, immediate ploughing down, and the leaving it exposed for a time.

In farmyard manure, for instance, there are doubtless some qualities which it can well spare their disposal, and which could not in any way diminish its value of the fertilising powers. The sulphuretted hydrogen, the odour of which is always in evidence in farmyard manure, is got rid of by the plan above referred to, so commonly adopted by farmers. The result is that the manure, after the exposure, is very much sweeter by the searching action of the oxygen of the atmosphere than if it had been turned over immediately, fresh from the dung heap, by the plough.

It is pretty generally known that the best form in which ammonia ought to be applied to the soil is in that of the sulphate. It will be obvious that this is due mainly to the great tendency of other forms to decompose, and to be lost altogether in some soils not adapted for the reception of the volatile substance. The sulphuric acid of the sulphate has also some value as a fertiliser. Ammonia, even in the strong grasp of sulphuric acid, is at once separated from each other in the sulphate form, if a little moistened hot lime is brought in contact. The change which takes place is this:—The sulphuric acid of the ammonia expels, as it were, the carbon dioxide of the carbonate of lime, and unites with it to form sulphate of lime, while the forsaken ammonia unites in a half-hearted way with carbon dioxide, resulting in carbonate of ammonia. This is exactly how sulphate of ammonia behaves when applied to a soil suitable for its conversion into nitric acid. Soils such as light, sandy kinds, with little humus, can retain little or no ammonia. If such a soil contained

much natural lime such a circumstance would make the chances of its retention much less, for then the carbonate of ammonia being volatile would have every liberty to escape. On the other hand, in a rich, humic or clay soil the carbonate formed from the sulphate is in turn in the presence of organic acid and lime converted into nitric acid and nitrates. These acids are themselves formed by the continual oxidation of organic material in the soil.

The dark liquid so often seen oozing from dung heaps greatly consists of these acids, and hold in their grip, when the dung heap has been well attended in the process of fermentation, much ammonia in a form similar to a sulphate.—Oxygen.

(To be continued.)

STOKING.

THIS may seem a dry subject, and, indeed, it usually turns out to be so for the one so employed; and the following remarks are addressed to the probationers, otherwise aspirants for the post of head gardeners in a few years to come. Thinking stoking one of the most unpleasant duties they have to perform, a few words, providing such can alleviate the task, will, I hope, be accepted by them in the same spirit it is written.

In the first place before clinking a fire see that the damper is well pulled out so that the obnoxious fumes of sulphur (especially if coke is the fuel used) may ascend the chimney instead of coming out in your face when at work, which proves so injurious to one's lungs. Regulate the damper after the fuel has been put on. Another failing I have often found with young men is to get them to keep the ash pan clear. How can they expect a fire to go well with ashes close up to the fire bars? These should be cleaned out daily if only for tidiness; but it serves more than this, it saves the fuel bill, as with a quick draught the desired heat is much sooner raised, while entailing less labour to the stoker. Another item to bear in mind is that when saddle boilers, 6 ft. or so in length, are in use, see that the fuel is not thrown too far back.—J. Mayne, Bicton.

STATICE PROFUSA.

THOUGH the Statice is a very old greenhouse inhabitant it is seldom one comes across it, and still more seldom to find plants of it in a healthy, flourishing condition. As regards my first remark—seldom seen—probably this is due to present day gardeners not considering it sufficiently useful to grow, the plant not being very suitable for the decoration of a dwelling house, neither of much value for cut flower purposes. Touching my second remark—the rarity of healthy plants—I believe the principal causes are, first, the plants are kept in too close and great a temperature, and secondly, through water being indiscreetly given. Established plants of the Statice will take plenty of water during their growing and flowering season, but it should never be given until the plant is in need of it. Anyone not having grown or looked after this plant would hardly credit how very easily it is overdone with water. The most suitable position for it is a light place in an ordinary greenhouse, where it can be shaded from the sun, and plenty of air given through the warm months of the year. When Statice profusa is well grown it makes a grand specimen plant for show. The colours of its flowers—blue and white—being rather rare, borne on good long stalks, is thrown well above its foliage, thus giving it somewhat of a striking and pleasing appearance.—C. Turner.

TIMELY HINTS.

PROPAGATE stove plants. Pot up rooted cuttings of all sorts. Divide *Scirpus cernuus* (*Isolepis gracilis*), and pot up very firmly. *Carex brunnea* and *C. b. variegata* may also be potted. Orchids, such as *Odontoglossums*, may be top-dressed or potted. Bedding *Pelargoniums* may continue to furnish work in potting, boxing, &c. Pot off batches of *Tomatos*, *Melons*, &c. Sow *Petunias* and *Centaurea candidissima*. Pot up *Amaryllis* bulbs. Pot *Carnations*. Prune Pear and Apple trees; top-dress the roots with soot, lime, wood ashes, and rotted manure. Fumigate peacheries. Water Fig houses. Pinch and regulate Vine shoots. Sow French Beans. Prune in and regulate all climbing plants in the temperate houses. Houses planted out with plants of merely decorative value should have an overhauling

at this time. It is well to top-dress indoor rockeries now. During the hard frost the outdoor men may be employed cleaning the lawn mowers, making labels, brushes, &c.—Recorder.

NOTES FROM MODDER RIVER.

ONE of our late readers now at the Modder River on active service, in a letter to us gives the following particulars which we publish as being of interest to others of our supporters. He writes:—"I do not care much for the country. The weather is unsettled. One day we have it as hot as need be, with not a breath of wind, next day one can hardly see where to go for sand. We have it in our tea, our dinner, and in our eyes. Next day it may be raining, and to be out in the rain here means to get wet through, as the khaki clothing does not keep the rain out. One good thing is that we get dry as quickly as we get wet." . . . "I have not yet seen any grass in the country, nor a drop of clear water. All the rivers are like the Tweed in flood. Fruits seem to do pretty well here, as Figs, Peaches, &c., which are most plentiful. Melons and Tomatos grow side by side with Onions and Potatos. The fields and gardens are divided into small squares, having irrigation ditches which run both longitudinally and transversely in and about them. By their means the gardens are flooded, the water coming from wells near the gardens. Potatos are generally planted along the ridges which form the squares. The only game to be seen is a hare or two." Our correspondent dilates upon the "shaking-up" they are going (?) to give the Boers at a near date. Let it be so, lads!

STOVE FLOWERING PLANTS.

(Continued from p. 363.)

BEGONIA GLOIRE DE SCEAUX.—This is a most serviceable plant for the warm house during winter and early spring, if only on account of its silvery dark foliage. The flesh-coloured flowers, though, add immensely to its brightness when in full beauty, making a good decorative subject. I have had plants in the mansion for quite ten days without showing the least signs of distress. The plant reaches from 2 ft. to 3 ft. high, and keeps growing and flowering for several months, thriving well where a temperature of 55° to 60° can be maintained and little or no overhead syringing carried on. Like Gloire de Lorraine it is impatient of too much water at the root. In fact, it certainly is more troublesome with me than that variety, and I have lost two or three this season by the stem turning quite black, when it soon droops its head.

After it has done flowering, propagation can begin by taking off the point; then cut up the entire stem as though preparing Vine eyes for starting, reserving a leaf with each eye, if possible, and merely covering the base with cocoanut fibre. If side shoots are preferred, these will soon push out when once the leading shoot has been taken off. I have always found they emit roots more readily by just sticking in the ends in fibre in a close case, than by placing them in pots of soil and sand in the usual way. They can also be increased by the water method as your correspondent, Mr. Mayne, pointed out in your issue of the 20th ult.

When potting them up, use 2½ in. or 3 in. pots, using a light, sandy soil, and returning them to a warm house, where they can be syringed twice a day. Keep them near the glass, shading for a few hours daily, if necessary, from April onwards. The point of the shoot must be taken out as soon as established, and again when two leaves have been made, potting on when necessary, using loam leaf soil with a little peat added, not omitting river or coarse, silver sand.

Good plants can be had in 6 in. pots, which make a grand show towards the end of December. Cuttings can be put in up to July, but at this date no pinching should be adopted. These late-struck plants come in very useful for front row work or as table plants. This batch should be kept in a heated house or pit, while the earlier rooted ones can safely be put out in cold frames under similar treatment as that recorded for *Plumbagos*, *Eranthemums*, &c. Mealy bug are fond of getting on this Begonia, as well as scale. Careful sponging with soapy water is the surest remedy.—Grower.

(To be continued.)

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Sobralia xantholeuca.—In this species we have one of the finest Sobralias, the flowers being as large as those of the better known *S. macrantha*, while the habit is in every way similar. The sepals and petals are lemon-yellow, and the rounded lamina of the lip is more or less wavy on the margins, on the whole more or less crumpled, like the most of the Sobralias, and of a more lively yellow than the rest of the flower. The throat is intensified to deep yellow, while there is a white blotch in front of the disc, and the margins of the anterior lobe are of the same hue. The *Lindenia*, Pl. 678, gives a full page coloured illustration of it. The species was first described or recorded in M. Verschaffelt's nursery, in 1880. It was discovered by M. H. Von Turkheim, at Alta Paz, Province of San Cristobal, Guatemala, at an elevation of 1,350 metres above sea level. The specimens gathered at that time were offered by Captain J. Donnel Smith, of Baltimore, to the Royal Gardens, Kew. More recently a fine variety has turned up in the collection of Sir Frederick Wigan, Bart., Clare Lawn, East Sheen. This was named *S. x. wiganiana*, and is notable for its creamy-white sepals and petals, lightly shaded in places with rose. The creamy-white lip is chrome-yellow in the throat, the whole being mixed with pale rosy-lilac.

Odontoglossum retusum.—Amid the larger flowered *Odontoglossums* the above stands out with conspicuousness and effect at this dull time. The plant is dwarf and neat, throwing out when well flowered a profusion of long, arching racemes, closely studded with deep orange-coloured flowers. The colour alone is sufficient recommendation, even if its flowering qualities were weaker. The sepals and petals are lanceolate acute, the lip oblong retuse, the effect of the folding or thickening at the mouth being a peculiarity of *O. retusum*. The species belongs to Ecuador, South America, and is not at all common. It is flowering at Kew.

Cynorchis Lowii.—This slender little Orchid is also gracing the cool houses at Kew just now. It is exceedingly pretty. The lip of the rosy-mauve flowers appears subject to slight modifications in number of the incisions. The apical lobe is neatly and slightly notched, the two side lobes being entire. In the *Cynorchis* the lip almost is the sole attractive portion, sepals and petals being too minute, these being also greenish-white.

Aerides vandarum.—Fortunate are those who possess a good specimen of this beautiful pure white cool house species. It has frequently been described, and nothing more popularly than by comparing the habit of the leaves and stem growth, to that of a miniature *Vanda teres*. The flowers are intricately twisted in their parts, pure white, borne in pairs, and in some respects resemble those of *Odontoglossum crispum*.

EARLY FLOWERING SHRUBS.

THE WITCH HAZEL, *Hamamelis arborea*.—This Japanese shrub (the Cape and Japan furnish us with many of our pretty shrubs) is of moderately tall growth compared with other Hazels, and a capital plant for effect at the present time. In sheltered corners, masses or groups of the *H. arborea* are throwing forth a yellow gleam, or cloud, for the colour is too Primrose-like to create a blaze. The flowers are curious. The lemon-primrose petals are about one inch long and nicely twisted, the centre of the flower being a bright reddish-brown, while the calyx is claret coloured. They are borne in clusters of three or less, all along the length of the younger shoots. The habit of the shrub is somewhat lax, and while the flowers are open the brown branches and twigs are bare. All the same, this is a very fine winter-blooming shrub.

Garrya elliptica.—In quiet corners, such as are to be found in out-of-the-way north or west walls, and on the lawns, this robust shrub is now in flower. The leaves and habit of the plant may be likened either to an *Elaeagnus pungens*, an Evergreen Oak, or a Sweet Bay, all of whose leaves the *Garrya* resembles. They are beautifully dark green, leathery and cleanly cut. The flowers are borne on drooping catkins, and are yellowish-green. They make the shrub interesting. It is deciduous, the

male plant throwing the best and longest catkins. *G. elliptica* is much thought of and fairly well known. The above may bring it to the mind of those to whom it has once been known; to others not knowing it, it is to be recommended. In deep, well-drained soil, it succeeds as a shrubbery or wall subject.

DAPHNE MEZEREUM.—This indigenous plant, the Mezereon, is worthy of a reference, even though we meet with it in gardens day and daily. In no place is it incongruous, be it the big or little rock garden, or in beds toward the edge of lawns, in backyard gardens, in workmen's front "plots," anywhere, the sweet-scented, brave little shrub succeeds. Then the fruits when they swell up are also very attractive. Last year, we had the Mezereon in flower before New Year's Day. It lasts in a showy state for months. March is the month during which it is at its best. The foliage breaks out when the flowers depart. A deep, very porous, rich soil and an open position suits it well.

CHIMONANTHUS FRAGRANS.—It is a long time ago since the above was first introduced to our islands. It also is Japanese, and commonly called the Winter Flower. The blossoms are somewhat bell-shaped and pale yellow. They are borne singly on short stalks toward the points of the previous year's shoots. The older branches are grey and the bark not at all rough. Many seem to have the shrub in their gardens yet are unacquainted with its name. As with the other shrubs above noted, the blossoms are borne on leafless stems, blooming as it does during winter. *C. f. grandiflora* has larger flowers than the other type. A west or south-west wall should be spared for it.—H. D.

VEGETABLES.

At the Chiswick Gardeners' Mutual Improvement Society, on February 8th, Mr. J. McLeod, of Dover House Gardens, Roehampton, delivered "Hints on Vegetables" in a short and practical paper. In his prefatory remarks Mr. McLeod assigned himself as a votary for thoroughly substantial culture, but culture without any of its excesses. Medium-sized vegetables he preferred; coarse and very large ones he, as a rule, renounced. Leeks in paper collars and other pet practices of eager exhibitors were not recommended for everyday culture.

PEAS.—These Mr. McLeod used to sow in November, but owing to his unsuitable soil he has found more gain from sowings made in 6 in. pots later on. From seven to nine seeds are placed in a pot, and after germination the plants are grown on steadily till the middle of March, when they are planted out into prepared trenches. While here they are protected in their earlier stage by the use of Spruce branches. Peas so treated come in for use fourteen days earlier than others sown in the open. The variety for this early sowing is Veitch's Extra Early. Veitch's Exonian and Veitch's Earliest Marrow Pea were others which received praise. The trenches are properly prepared, being 9 in. to 10 in. broad and 4 in. deep. Between the drills 4 ft. is allowed for the earliest sowings, with an extra 2 ft. for the later crops. Should the weather be very dry at the time of midseason sowings, both the Peas and the ground where they are sown should be soaked. Such treatment causes one week in earlier results from the sowing. Another good hint was to sow in quantity those varieties which were proved most suitable to the district. Mulchings to the roots of the Peas and waterings with both liquid manure and clear water were strongly recommended.

FRENCH BEANS.—The first sowing of these for outside should be made in April, six seeds being placed in a 6 in. pot. Thin the plants out to three, and remove the seedlings from the warm pit to a cooler house. Later on, place the pots in cold frames and gradually harden off till the sashes can be left off so late as 10 o'clock at night. Then plant out in prepared lines, taking great care to protect them nightly till they become established. Two rows of Beans are put into trenches 4 in. broad.

BEET.—Make the first sowing in April and thin out the seedlings to 9 in. apart. Pragnell's Crimson, Veitch's Selected Crimson and Improved Black, with Sutton's Globe were the varieties enumerated in this selection. Care in lifting and storing of the roots was emphasised.

CAULIFLOWERS.—Mr. McLeod's soil being too light for the production of satisfactory heads, he proceeded to make a suitable brake by deep work-

ing, and by the liberal addition of materials which effected a mechanical change. For an early supply sow in the autumn and plant in March. The seedlings in the one case and the young plants in the other should both be well protected. Veitch's Extra Early Forcing is relied upon, the plants being now (February) in the seed-leaf stage.

BROCCOLI are planted by the aid of a crowbar on hard ground.

CARROTS had to have a special bed made for them as for other crops. From his thorough preparation of the ground, and from the care taken in the after-growth, few or no pests ever trouble his crops. A general survey of the kitchen garden crops was made, the audience testifying its appreciation at the conclusion.

HARDY SHRUBS FOR INDOOR BLOOMING.

THE lovers of hardy flowering plants, says Joseph Meehan, in *The American Florist*, finds himself at times in need of their blooms at a season much earlier than the outdoor weather conditions allow of their development. Thus it behoves him to force them in a warmed conservatory. Some of the following may be taken as suitable for the purpose;—Japanese Maples, flowering Almond, *Magnolia stellata*, *Chimonanthus fragrans*, *Daphne Mezereum*, *Deutzia gracilis*, *Forsythia viridissima*, *Lonicera fragrantissima*, *Spiraea Van Houttei*, *S. Thunbergii*, *Viburnum plicatum*, *V. Opulus*, dwarf Lilies, *Weigela*, Briers, Jasmynes, and very many similar shrubby plants which will arise in this connection may be used. Almost all early spring-flowering plants or shrubs are available for winter blooming, but those named above are admirably adapted. Nice-sized pots or boxes must be looked out, and at the same time, suitable plants of a fresh, stout appearance. Pot them firmly and place them in a cool shed or house. The date of their introduction to heat all depends. *Jasminum nudiflorum*, *Daphne Mezereum*, *Chimonanthus fragrans*, and *Lonicera fragrantissima*, flower almost as soon as they are brought into heat. If there are two or three plants each of these they can be brought on successively till spring.

GARDENING MISCELLANY.

IRIS PSEUD-ACORUS.

It is well-known that in the large tribe of Irises, especially members of the beardless section, many species have special needs, singular likings, &c. Our common Water Flag or Yellow Iris is peculiarly an aquatic species, as may be observed by the roots of lake margins which it covers in some parts of this country. On the west coast of Scotland away behind the shelter of surrounding hills, this yellow Iris spreads in a great broad margin, with out-jutting columns and sheets throughout and around the muddy edges of a quiet and imprisoned body of water. Another instance of a different type is recalled. Contrary to being sheltered, or at least only protected by sparse woodland belts and undulating environs, this Iris was almost in as great luxuriance as in the west coast station. It is thus proved to be perfectly hardy, and also that a muddy bed with a covering of water or without water, but with plenty of under moisture, are conditions in which it can be grown well. It grows from 2 ft. to 3 ft. high, flowering during early summer and onwards. Plantings might well be made at a few points of suitable land, and the spread of the plant may be left to itself. *I. laevigata* ought also to be put out in a subaquatic position.—D.

THE OLDEST TREE IN THE WORLD.

THE oldest tree in the world is reported to be an Oak, on the Island of Cos, in Asia Minor, which, according to a painstaking investigator, has attained the very respectable age of 2,900 years. The authority has arrived at his conclusion from a careful examination of the ground. Tradition has it that the philosopher Hippocrates, who was born on the island, often assembled his pupils under the welcome shade of the branches of this very tree. Now, Hippocrates lived five centuries before the Christian era, and if this is the same old tree, it has indeed a fine record

for longevity. The trunk of this ancient Oak has a diameter of over 27 ft.—*American Gardening*.

ROSE NOTES.

Roses which are being brought on under glass, should now require feeding. Give weak doses and let it be chilled. Be very careful not to let the beds or the pots become soaked, especially as the days are yet dull. Look to those in the cutting stage, see that fungus does not attack them.—*R.*

CRIMSON RAMBLER ROSE, FOR EASTER.

PLANTS of the above, which had been grown last summer in pots, are suitable subjects to force for Easter flowering, April 15th. Place them in gentle heat to start with, and whenever the foliage has somewhat expanded, a higher rate of temperature, more sunlight, water and feeding should be given to them. For a high and wide, indoor, temperate corridor, no plant is finer than the Crimson Rambler Rose. Plants lifted from the open require very cautious treatment.

BEGONIA SILVER BRONZE.

In a late issue of the *American Florist* a very faithful portrait of the above appears, together with the following description:—"This plant of neat habit is a cross between *B. decora* and *B. Silver Grey*, with beautiful undulated foliage, the colour being a most charming combination of minute specks of strawberry-red, pea-green, and silver-rose so minutely scattered as to give the appearance from a distance of one colour. Short scarlet hairs further ornament the leaves. The under surfaces of the leaves and petioles are a rich terra cotta red. Introduced by Sander."

IRIS UNGUICULARIS.

THIS dwarf-growing Iris is in bloom, and may be expected to remain so for some weeks to come. Flowering as it does in the sheltered hut open borders, and being a beautiful Iris too, of all flowers, it ought to be planted on as liberal a scale as circumstances allow. It grows no more than a foot high, the foliage being more slender, yet very much like those of English Irises. The flowers are, in a manner, hidden by the upright foliage, yet the bright violet-blue, or the pure white of *I. u. alba* makes a pretty and conspicuous show. They form long enough stalks to be serviceable in the cut state, being, in this respect, superior to the dwarf *I. persica*, or *I. reticulata*, which are so often grown in pots for later flowering. It is well to avoid the name of *I. stylosa*, for this is given on standard authority as merely a synonym of *I. unguicularis*. A well sheltered garden with a south, or south-western aspect, and a well drained and properly prepared border, must needs be accorded to this pretty, early flowering plant. It would be an interesting experiment, and certainly a worthy precedent, for growers in favoured parts of the country to try the naturalising of this Iris in well-drained, sheltered woodlands.—*D.*

PHORMIUM TENAX VARIEGATUM FROM SEED.

VARIEGATED plants are usually propagated by layers, cuttings, division and grafting; but there are several things that may be raised from seed with greater or less certainty of success. In other words a good percentage of them come true to the general character of the parent. For instance, *Aucuba japonica* can be raised in hundreds with the variegation quite equal to and sometimes better than the parent. The same may be said of *Acer Pseudo-Platanus*, *Barbarea vulgaris* variegata, and others. A plant of *Phormium tenax* variegatum produced seed in the Botanic Gardens, Glasgow, and Mr. Dewar, sowing the seeds, raised between 300 and 400 seedlings. In this instance the seedlings were more decidedly variegated than the parent, in fact they were white, being entirely devoid of chlorophyll or leaf green. They lived so long as they were sustained by the nutriment stored up in the seeds, but after that they all died one after the other. The entire lack of chlorophyll made their continued existence impossible.

HYDRANGEAS.

As these break into growth they should be constantly syringed. Green flies and red spider, &c., are thus kept off. The large flowered *H. paniculata* should be grown on till Easter, April 15th.

SOCIETIES.

ROYAL HORTICULTURAL.—Feb. 13th.

CHINESE Primulas, Cyclamens, Clematis indivisa and two or more large collections of Apples were the principal features of the meeting on Tuesday last. There was considerable surprise that so many flowers were brought out considering the bitterly cold nature of the weather.

Captain Holford (gardener, Mr. Chapman), Weston Birt, Tetbury, Gloucester, exhibited *Cattleya Trianaei* Weston Birt var. and *Cypripedium Calypso* Oakwood var. C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham, staged the strangely peculiar *Dendrobium macrophyllum* Richardii and *Cypripedium lathamianum* superhum. R. Brooman-White, Esq., Arddarroch, Gaerlochhead, staged some fine panicles of *Odontoglossum andersonianum*. Norman C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oakwood, Wylam-on-Tyne, exhibited a vase of cut flowers, consisting chiefly of varieties of *Odontoglossum crispum*. A splendid variety was *O. c. mundyanum* to which a First-class Certificate was awarded. He also had flowers of *Phaius grandifolius*, *P. sanderianus* and *P. sanderianus* × *Calanthe* Wm. Murray.

M. Ch. Maron, Brunoy, France, had a splendid bigeneric hybrid named *Laeliocattleya Bertha* Fournier var. *splendida*, which received a First-class Certificate; also *Lc. Ernesti pallida*. Messrs. Heath & Son, Cheltenham, staged *Cypripedium lathamianum* giganteum and *Dendrobium barbatulum*. *Cypripedium Savagei* (Charlesworthli × *concinnum*) was shown by Frank A. Rehder, Esq. (gardener, Mr. Harris), The Avenue, Gipsy Hill, S.E.

Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells, staged *Cypripedium Bassano* (insigne × *Chantini*) and two fine trusses of *Laelia anceps* Stella.

L'Horticole Coloniale, Brussels, exhibited *Odontoglossum crispum* Goliath, *O. Ruckeri* rubiginosum and *Cypripedium schusterianum*, a hybrid. From the Royal Botanic Gardens, Glasnevin, F. W. Moore, Esq., sent up two racemes of *Zygopetalum murryanum*. J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), South Woodford, Essex, exhibited cut flowers of *Laeliocattleya Miranda*, *Cattleya Trianaei* Glebelands var., *Cypripedium woodfordiense* and *C. chamberlainianum*.

Messrs. H. Cannell & Sons, Swanley, Kent, staged a highly creditable display of *Primula sinensis*, the varieties shown including all of the new style being developed by their energetic firm—the pyramidalis type. *Queen of Roses*, a pinky-lavender variety; *Princess Eva*, pure white; *Miss Irene*, Pink Lady, and others supply a pretty selection. The merits of this pyramidalis type of *Primula* lies in the fact that the flower stems rise tall and clear above the foliage, the blooms themselves being numerous and beautifully smooth, lacking the compactness which stiffens the effect of the original *P. sinensis*. (Silver Flora Medal)

Mr. John May, Gordon Nursery, St. Margaret's, Twickenham, set up a long table of very strongly-flowered *Cyclamen persicum*. The vigour and large size of the blooms plus the strength of the foliage, betokened a good strain and careful culture. (Silver Flora Medal)

Messrs. Wm. Paul & Son, Waltham Cross, Herts., exhibited *Clematis* of the indivisa type in large selection. The show proved in a capital way the best manner in which to effectively grow and flower these pretty early-flowering climbers in the young stage. The plants were trained to neat stakes, 2½ ft. high, all being well-flowered in 4½ in. pots. (Silver Flora Medal)

Messrs. John Laing & Sons, Forest Hill, S.E., brought together a collection of stove and greenhouse flowering and foliage plants all of superior quality. The *Ericas* and Indian *Azaleas*, the *Cocos*, *Dracaenas*, *Begonias*, and *Ferns* being suitably arranged together.

Mr. John Watkins, Fruit Grower, Wlthington, Hereford, staged 100 dishes of Apples, a happy sight at this season of fogs. The bright colours of the fruits were richer than anything, flower or plant, in the hall. Good samples, both in respect of size, form, and general quality, were seen in *Annie Elizabeth*, *Blue Pearmain*, *Cobham*, *Cox's Orange Pippin*, *Cathlin Pippin*, *Teigende Reinette*, *Emperor*

Napoleon, *Nelson's Codlin*, *Golden Nohle*, *Dumlow's Seedling*, *Striped Beefing*, &c., &c. The Apples were divided into 50 dishes of late cooking and 50 of late dessert Apples. (Silver Gilt Knightian Medal)

Messrs. Barr & Sons, Covent Garden, W.C., had a neat little group of hardy flowering and greenhouse plants in pots. *Lachenalia Garnet*, with tall spikes, the common *Snowdrop*, and the variety *robustus*, *Narcissus minimus*, hardy *Cyclamen*, *Primulas*, and the fragrant *Honeysuckle*.

Messrs. J. Veitch & Sons, Ltd., Chelsea, showed trusses of their perpetual flowering *Javanico-jasminiflora* *Rhododendrons*. These are always much praised, and deservedly so. *Multicolor Neptune*, a bright crimson-orange, *Rose Perfection*, and *Cloth of Gold* are three of the very finest.

Messrs. Sander & Co., St. Albans, showed blooms of new varieties of *Camellia* of great strength, size, beauty, and good colour.

Mr. Wm. Bull, 536, King's Road, Chelsea, showed a large number of the individual blooms of his strain of *Primula sinensis*. Some of these, particularly *Duke of York*, a rich crimson, were very nice.

Messrs. Van Waveren & Kruyff staged *Astilbes* in flower.

Mr. W. Poupart, Marsh Farm, Twickenham, exhibited an assortment of *Ruharbs*, firm, well-coloured, and nice length and thickness for forced samples. *Linnaeus*, *Victoria*, *Daw's Champion*, from *Victoria* × *Champagne*, being as early as *Champagne*, but much finer, and the old *Champagne* itself were all to be seen. Forced *Asparagus* and *Seakale* were also shown. (Silver Knightian Medal)

Messrs. Geo. Bunyard & Co., The Royal Nurseries, Maidstone, exhibited 100 splendid dishes of late keeping Apples. Mr. Bunyard is well known for these late exhibits of fruit, and anyone who has seen his earlier exhibitions, may form their opinion of the high quality of the present show. *Golden Nohle*, *Peasgood's Nonsuch*, *Beauty of Kent*, *Wealthy*, *Striped Beefing*, *Annie Elizabeth*, *Swedish Reinette*, *Bow Hill Pippin*, *Mother*, *Tyler's Kernel*, and many others were simply perfection. (Silver-gilt Knightian Medal)

ANNUAL GENERAL MEETING.

The annual general meeting of the Royal Horticultural Society was held in the society's offices, 117, Victoria Street, Westminster, at 3 p.m., on Tuesday last, the chair being taken by the President, Sir Trevor Lawrence, Bart.

The past year has been one of continued prosperity: A new privilege held out to Fellows is in the provision which the council have made for sending out a fully qualified "inspector" to advise upon the gardens or alterations, &c., in them, belonging to Fellows. A sum of £2 2s. is charged per day, or £3 3s. for two days, when such inspector is called for. £1,810 have been spent in the ordinary work and maintenance of the society's garden at Chiswick. The receipts by sale of surplus produce amount to £330, making the net ordinary cost of the gardens £1,480. Good work is reported by the council, as being done by Mr. Wright, the superintendent of the Chiswick garden. The students there are rendering a capital account of themselves, and are receiving numerous and valuable calls to appointment. The supply, indeed, is not sufficient to meet the demand. But those who go there *must all be workers*. The meetings and lectures at the Drill Hall, Westminster, have been productive of much good and in all respects satisfactory.

The grand total of the awards made during the year at the various meetings, on the recommendation of the committees, amount in all to 931. This includes gold medals, memorial medals, cups, silver-gilt, bronze, hanksian and other medals and Awards of Merit, &c. The good work of the scientific committee is referred to, with the hint that more extended use might be made of the scientific committee's services. The international conference on hybridisation held in July was considered an unqualified success, as likewise were the shows held at the Inner Temple, and at the Crystal Palace, the latter the fruit show.

Very special stress is placed upon the necessity for Fellows and others interested in this autumn show of British grown fruits, to subscribe toward the necessary funds yearly asked for. At least £100 have annually to be collected extraneously, the R.H.S. and the Crystal Palace Company being other parties in providing money. The latter body, how-

ever, have notified that their contribution of £100 shall henceforth be reduced by half. The prize lists and the regulations and classes are very representative, just and substantial, so that the least that growers can do, is to come forward with exhibits and pecuniary aid. Subscriptions may be sent at once to the secretary, 117, Victoria Street, Westminster, and if a list prove satisfactory, the schedule will be issued in April.

Candidates wishing to "sit" at the society's examination on April 25th, should make application to the secretary during February. The society has during the year renewed its charter. It is proposed to issue an appeal to all Fellows of the society to raise a fund for the purchase of a more suitable site for a garden in memory of the first hundred years of the society's existence (the century occurs in 1904).

Confining attention for a moment to the state of the treasury we learn that there is a net increase of income amounting to £748 2s. 6d., and after deducting 115 members from the list, we yet find an increase of 580, which is good. One hundred and twenty-five local societies are now affiliated, twenty-one having joined during the year. Establishment expenses are £2,096 8s. 2d.; Lindley Library, £131 5s. 9d.; expenses of new charter, £122 0s. 6d. Then for shows and meetings we have £1,435 5s. 2d.; prizes and medals, £473 17s. 6d.; Chiswick Gardens, £1,810 10s.; making a grand total of £6,069 7s. 1d. on the debit side. The receipts run as follows:—Annual subscriptions, £4,846 6s. 6d.; shows and meetings, £1,843 11s. 2d.; advertisements, sale of journals and miscellaneous receipts, £395 14s. 9d.; dividends, £230 4s. 8d.; interest on deposit, £19 10s. 4d.; prizes and medals, £66 5s.; Chiswick Gardens, £419 3s. 5d.; total, £7,820 15s. 10d.; leaving a balance to the general revenue account of £1,751 8s. 9d.

In moving the adoption of the above report the chairman made special mention of a few of the outstanding features. The thanks of the society was accorded to the retiring members of the council. There had been twenty-five more awards this year than that of the year preceding, and all the larger shows had proved successful. He hoped that the £100 needed toward the prize fund of the Crystal Palace Fruit Show would as usual be subscribed. Other matters touched on were the Chiswick Gardens, with complimentary reference to Mr. Wright and his work there. The council proposed to celebrate the centenary of the society (1904) by acquiring a new experimental garden. Sir Trevor hoped a horticultural college would also be added to the new garden. The securing of the new charter was satisfactorily reviewed. Passing note was also made upon the number of deaths which had denuded the ranks of the society, taking off some of our most prominent members during the year. And, in conclusion, Sir Trevor pointed with pride to the fact of £1,751 being their balance of accounts for the year. Rev. George Henslow seconded the motion. The officers named in the report were duly elected. Following this a member threw out the hint that the total membership of the society should be printed, and that for facility all the paragraphs dealing with different items of the report should be numbered. Mr. Joseph Cheal was a little surprised to note that £43 had been spent exclusively on Orchid paintings. He hoped the new by-laws, when drawn up, would be thoroughly practical. Mr. R. Dean spoke in favour of the Floral Committees having luncheon provided for them after their work on the occasion of the Temple Show. After the business had been concluded, Mr. Geo. Bunyard rose and proposed that the society congratulate Sir Michael Foster on his successful contest for the parliamentary seat of London University. Mr. Geo. Paul seconded, and the meeting unanimously agreed.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address

of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. W. Waite, Southfields, for his article on *Acalypha Sanderlii*.

The competition is creating a considerable amount of interest, especially amongst young gardeners, and will no doubt be productive of much good. Apart from the chance of winning prizes, the competition induces them not only to read, but to make themselves thoroughly acquainted with the subject before them; and, what is of more importance, to take full advantage of the many splendid opportunities of acquiring a knowledge of the profession, by exercising their powers of observation in the gardens where they are, for the time being, serving.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Carpet Bedding Design.—*Beginner*: Supposing the whole of the square yard were set out with plants at 3 in. apart each way, you would require 144 plants. The question, however, cannot be decided in this way, because in raising any part of the surface the area to be planted would be increased. Furthermore, some plants might be very small, such as seedlings, while others raised from cuttings or offsets might be much larger. To show off the anchor you mention it ought to be above the ground level, that is, the soil should be mounded up in the form of an anchor, with 6 in. of margin round the top and bottom, so that the anchor would lie clear in the middle of the design. Then plant a row of *Echeveria secunda glauca* all round the sloping sides of the anchor, and another row along the top. At 3 in. apart you would require 40 to 50 rather small plants of the *Echeveria* to do it neatly. Full-sized plants would be too large to make a trim design in so small a space. About 44 seedlings of Golden Feather would plant a line all round the outer margin of the design. These you could raise by sowing them in a warm greenhouse about the middle of March. Now, all you want is a green carpet of some plants to fill in all the space between the edging and the anchor. The number required would all depend upon the size of the plants you get from the nursery. This green carpet might consist of *Sedum lydium* or *Herniaria glabra*, both of which are hardy. *Mentha Pulegium gihaltarica* makes a fine green, and can be kept in a cold frame. If the tufts are of good size they might be broken up, or the *Herniaria* pegged down, so that after some growth the whole of the bed will be covered. Messrs. H. Cannell & Sons, Swanley, Kent, might be able to supply the plants.

Planting a Bed of *Erica carnea*.—*A. M.*: This could be done about the middle of next month if the weather is mild and open; if not the planting can be deferred till later. In the meantime it would be well to prepare a bed, as soon as the soil is workable, by taking out the natural material to the depth of 18 in., and filling in with a compost, half of which is peat and the rest friable loam. It will then have time to settle a bit before planting.

Shrubs with Coloured Foliage.—*E. Hendry*: There is now a considerable number of these at command, and deciduous subjects suitable for your purpose should include *Cornus sibirica* *Spathii* (creamy-yellow variegation), *Ligustrum ovalifolium aureum* (yellow), *Berberis vulgaris* *foliis purpureis* (purple foliage), *Cornus mas elegantissima* (yellow and often red margins), *Sambucus nigra aurea* (the golden Elder), *Catalpa bignonioides aurea* (yellow), *Prunus pissardi*, Purple Peach, and Purple Hazel, all having purple foliage.

Panelled Border.—*Beginner*: So narrow a border as you mention would not require a great deal of filling, though a great amount of ingenuity might be displayed in having a different design each year, and filling in the various pannels with neatness and taste. If you use a number of hardy plants you could maintain and increase a stock of anything you fancied in a reserve piece of ground. A good plan would be to inspect the carpet bedding in public parks and gardens during the season, and ask for the names of those things you fancy. This year you could lay out a series of small circles along the centre, and raise them above the general level. They might be conical mounds or flat on the top, planting a *Dracaena* or some similarly graceful plant in the centre or top of each. Around these (if the tops are flat) you might plant *Alternanthera magnifica* (red, yellow, and green) or *A. versicolor* (purple and red). Very few plants would be necessary, but they would be bright. If the mounds are conical they might be

covered with *Antennaria tomentosa*, a hardy, gray-foliaged subject. In the latter case a line of Golden Feather might surround the base of the mound. If you plant *Alternantheras* on flat tops, then the sloping sides might be covered with *Echeveria secunda glauca*, and with an outer edge of the same. This plant could be kept in a cold frame all winter, if kept dry. The ground-work could be filled in with any of the green foliaged subjects mentioned in your other question. Instead of the circles you could make a line of diamond-shaped pannels, using the same plants.

Pathways Always Soft and Wet.—*Annoyed*: Evidently the first thing you ought to do is to make a drain about 2½ ft. deep along the centre. You could put in a line of drain tiles, or make a box drain of stones or bricks on the firm bottom. Stones or brick bats might then be laid over the drain, and about 1 ft. of stone rubble or brick bats, or chalk if you can get it laid over all to the width of the path. Some rough gravel could then be laid over this and then 3 in. or 4 in. of fine gravel to form the pathway, which should be slightly higher in the centre than at the sides, the actual difference in level being dependent upon the width of the walk. It should not be made so high in the middle as to make walking uncomfortable. The eye could determine when it is just sufficiently high to make the water run to the sides after rain.

Names of Plants.—*W. F.*: 1, *Begonia incarnata atropurpurea*; 2, *Eupatorium riparium*; 4, *Nepeta Glechoma variegata*.—*D. G.*: 1, *Abutilon megapotamicum variegatum*; 2, *Abutilon Thompsoni*; 3, *Sempervivum Haworthii*; 4, *Eurybla argyrophylla*; 5, *Polystichum vestitum*; 6, *Erica hyemalis*.—*P. J.*: 1, *Salvia rutilans*; 2, *Pelargonium denticulatum*; 3, *Boronia megastigma*; 3, *Choisya ternata*; 5, *Myrtus communis*; 6, *Berberis Aquifolium*; 7, *Viburnum Tinus*.—*D. T.*: 1, *Garya elliptica*; 2, *Griselinia littoralis*.—*W. A. M.*: 1, *Dendrobium wardianum*; 2, *Maxillaria tenuifolia*; 3, *Cypripedium callosum*.—*Enquirer*: 1, *Retinospora plumosa aurea*; 2, *Retinospora squarrosa*.

Communications Received.—*M. Temple*.—*W. M. Webb*.—*Alex. Wright*.—*R. G.*—*H. W.*—*A. R. B.*—*D. W.*—*H. J. W.*—*W. N.*—*S. A. R.*—*Vanda*.—*A. C.*

TRADE CATALOGUES RECEIVED.

HARLAN P. KELSEY, Tremont Building, Boston, Mass., U.S.A.—Kelsey's Hardy American Plants, and Carolina Mountain Flowers (Wholesale).

W. ATLEE BURPEE & Co., Philadelphia, Pa., U.S.A.—Wholesale Catalogue for Seedsmen and Dealers only, who buy to sell again. "Red List."

HERD BROS., 147, King Street, Penrith.—Agricultural Seeds.

SUTTON & SONS, Reading, England.—Sutton's Farmers' Year Book.

NATHAN SMITH & SON, Adrian, Michigan, U.S.A.,—Trade List of the Latest Novelties and best Standard Varieties of Chrysanthemums, Carnations, Cannas, &c.

WEBB & SONS, Wordsley, Stourbridge.—Webb & Sons' Annual Catalogue of Farm Seeds, Manures, &c.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, FEBRUARY 24th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, February 27th.—R.H.S. Meeting in Drill Hall, Westminster.

ROYAL GARDENERS' ORPHAN FUND.—Those who are interested in this charity throughout the country will be pleased to learn of its continued success; for notwithstanding the fact that money for charitable purposes is being diverted from the channels into which it ordinarily flows to meet a national emergency, the Royal Gardeners' Orphan Fund, with some degree of satisfaction and thankfulness, announces an increase, from all resources of a little over £75, as compared with previous years. The local secretaries have not been so successful as formerly, but that may be due to causes affecting most other charities at the present time. From various sources we hear it declared that gardeners themselves do not subscribe as they ought, nor to such an extent as they are believed to be capable.

While that may be so, it is also a well established fact that gardeners, as a class, are poorly paid by comparison with mechanics, for instance, or even with ordinary labourers. The capabilities required of head gardeners at the present day are out of all proportion to their emoluments. The pleasantness of the occupation is often brought forward as a receipt against the lack of remuneration in kind, but that is very much like a return in honour for services rendered, and goes but a poor way towards paying the inevitable expenses.

Most gardeners get into situations as head gardener at an advanced stage of life; and the prospects of journeymen are seldom sufficient to induce them to undertake matrimonial responsibilities. Under such circumstances the fear of leaving orphans does not trouble them till later on, when the parents of increasing families, they have no surplus to devote to charity. The uncertainty of retaining positions as head gardeners, and the difficulty of securing fresh appointments weigh more heavily upon the mind of the average gardener, than the possibility of any future need for charitable support. We recommend gardeners' however, in the heyday of prosperity to use every exertion in promoting the welfare of such a useful charity as the Royal Gardeners' Orphan Fund. We consider also that it would give gardeners greater encouragement to subscribe, if they had definite assurance that whatever they might hand over to the fund would be credited to their families in the event of their having the misfortune to be left as orphans. This might be rendered in the form of votes at the annual election, as in the case of the Gardeners' Royal Benevolent Institution.

The prosperity of the Fund during the past year, combined with the generosity of the executive committee, has rendered any such scheme as the above quite unnecessary; but the committee and those who take an active part in the proceedings at the annual general election are resolved to act cautiously, so that it may not be possible in future years to be so generous as to place the whole of the candidates on the resources of the Fund. This must depend upon the number of orphans requiring assistance for any one year, and the provision the Fund has at disposal for such wholesale relief. Eleven candidates were placed upon the voting paper, and of this number the committee had resolved to elect nine. This was duly done, but finding themselves able to support all of the candidates they suggested as much, and the subscribers endorsed the idea. Since the voting paper was published, however, three more very urgent cases were brought to the notice of the charity, and they also were placed upon the Fund by the same generous resolution, thus making a grand total of fourteen, the largest number in any one year that has ever been placed upon this gardening charity. This fact, in itself, should convince gardeners throughout the country that the Fund to its utmost extent is to be devoted to the sole purpose for which it was created. The charity has enjoyed considerable and wide reputation almost from its commencement, and the latest achievement should insure for all time the support it amply deserves. On this occasion there were five fresh applications, besides the three subsequently made. Two had applied a second time; and four for the third time, having thus waited one and two years respectively for the much needed relief. Many adverse things might have happened in that time.

There is one very comforting reflection in respect to the responsibilities attaching to the support of orphans, and that is the cost of maintaining any given child can be

calculated with almost mathematical precision. With the money in hand a certain number could be granted relief till they reach the age of fourteen, after which the Fund is no longer responsible for further payments on their behalf, though the charity can even go further and assist the orphan in making a start in life so as to become self dependent in the ordinary course of nature. A reserve fund is, however, a great safeguard against an occurrence of a succession of bad financial years, whereby the Fund might be brought into low water, or even a minus quantity. Such a misfortune would have a damping effect even upon the exertions of the most zealous committee. That is ample reason, therefore, for maintaining a good reserve, even in years of great prosperity.

It would no doubt be difficult to ascertain the exact number of gardeners' children who become orphans each year, or even the average number. Probably there are many families who have not yet heard of the Gardeners' Orphan Fund; and possibly there are parents far too modest to put in their claims. Nevertheless, the numbers that year after year come forward to beg for help amply demonstrate the actual need there is for some such institution as the Royal Gardeners' Orphan Fund. The many can always help the few without themselves feeling the self-imposed task burdensome.

"With the World as a Market, competition is keen, and only the best fruits, in the best condition, will pay."

R.H.S. Exam. in Horticulture, April 25th, 1900.—Intending candidates may obtain all particulars from the Secretary, R.H.S., 117, Victoria Street, Westminster.

Weather in London.—On the whole the weather during the past week has been mild. Rain has fallen in considerable amount, and pedestrianism has been uncomfortable. Wednesday, February 21st, was clear and frosty.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, February 27th, in the Drill Hall, James Street, Westminster, 1–4 p.m. A lecture on "Some of the Plants Exhibited" will be given at 3 o'clock, by the Rev. Prof. G. Henslow, M.A., V.M.H.

Shirley Gardeners' Mutual Improvement Association.—The monthly meeting of the above society was held at the Parish Room, Shirley, Southampton, Mr. B. Ladhams, F.R.H.S., presiding, but the weather unfortunately limited the attendance. Mr. E. T. Mellor, B.Sc., London Lecturer in Biology in the Harley College, Southampton, gave an illustrated lecture on "The Composition of Chemical Manures and their Application to Various Soils." By the aid of a series of chemical exhibitions Mr. Mellor made a phosphate from a small portion of phosphorus, because he desired his audience to know exactly what a "phosphate" was. Then he went on to tell them there were many kinds of phosphates, more or less soluble; the part that phosphates took in building up the vegetable world; and lastly, he dwelt on their economical uses, showing by another series of chemical exhibitions that some were insoluble in water, some only partially, and yet others very soluble, in one case a drop or two of acid added making it soluble in a few moments. Mr. Mellor said that it was necessary to know the chemical nature of the soil before adding manures, and he stated that some of our colonial government departments made an analysis of all soils sent them, thus enabling a grower to use the manures which best suited his soil and the needs of the plant to be grown. A very hearty vote of thanks was accorded the lecturer at the close of his address. There was a numerous exhibit of chemical manures from the works of Messrs. Spooner & Bailey, Totton, Southampton.

Wall Nails, heated red-hot and dropped into linseed oil are said not to rust.

Storms in the South of Scotland.—A correspondent beneath the Tweed writes:—"What miserable weather we are having now. We have just got over one storm which was a terrible one; and now it looks as if we were to be in for another, as it is snowing heavily; but as it is very wet we hope it will not lie long."

Christmas Rose.—There is a pretty legend that this handsomely flowered plant with dark green foliage and pure white blossoms, first bloomed in Eden. It was the one plant allowed to blossom beyond the garden whose gate was barred by the Angel with the flaming sword. Being the token of Divine forbearance, it was named the "Rose of Love."—*The Lady*.

Woolton Gardeners' Improvement Society.—In reference to the notes in your issue of February 10th, under the above heading, *re* a paper which I read in Woolton on the 1st inst., on "Reminiscences of my travels collecting Orchids in South America," I wish to state that what you say is not correct. I did not describe Bogota as the home of *Cattleya gigas*, nor did I state that white *Sobralias* were found there. I would also point out to you that Port of Spain is the chief town in Trinidad, and that Bogota is the capital of the Republic of Colombia.—*D. A. Cowan*.

Edinburgh Botanical Garden.—For some years these gardens have been undergoing a thorough overhauling. This means advancement and betterance, we are pleased to say, and also this, that any interested visitor of half a dozen years ago returning now would hardly know the transformed garden. Giant trees have been shifted long distances, great breadths of the undulating grounds have been gone over and have been made more even. New plantations and collections have been arranged, and also many paths cut, to open up the features of the places. The glass department has likewise received an equal share of attention. At the present time we learn that the fine new *Nepenthes* and *Bromeliad* houses, erected between the Palm house and the front range, are on the point of completion. In a few weeks these and two propagating pits will be ready to be filled with soil and planted. The first named house is to have Pitcher Plants suspended from the roof, while on the sides of the middle path Aroids will be planted in a border.

Death of a well-known Scottish Gardener.—Mr. Peter Walker Fairgreive died at Dunkeld, Perthshire, on Thursday, the 15th inst. The deceased had been gardener to the late Dowager Duchess of Athol, and for some years to the present Duke, for nearly a quarter of a century, and the intelligence of his death will be received with deep regret by a wide circle of friends. Mr. Fairgreive has long been favourably known as a keen promoter of all that is associated with the advancement of horticulture, more especially in the culture of hardy fruits. By exhibiting, lecturing and writing, Mr. Fairgreive exemplified how much he had the matter at heart, and his services as a lecturer on this very important subject was widely sought. The fine gardens at Dunkeld gave great facilities for proving what fruits were adapted for the northern climate. Sheltered from north and east with good soil, Mr. Fairgreive tested many fruits which were not supposed to succeed in the district, but were found to be valuable under his skilful management. The great gathering of horticulturists some years ago—invited by Mr. Fairgreive at the beautiful gardens of Dunkeld—raised a keen interest in the culture of hardy fruits. Discussion in the gardens on the fruits, which were in evidence so strongly, was continued for some hours, and much instruction accrued from what was seen and heard. The whole party was entertained at a banquet in the town of Dunkeld, where discussion again was taken up on the culture of hardy fruits. Varied were the opinions adduced, but all agreed that the visit to that beautiful place was most profitable and pleasurable. Mr. Fairgreive, I understand, was a Galloway man. He had a good early training as an apprentice gardener—and journeyman—was foreman at Weymss Castle in Fifeshire, went from thence to Dunkeld in the same capacity, from there to Duncrub, near Perth, and afterwards became head gardener at Dunkeld.—*M. Temple, Carron, N.B.*

We learn that 315,000 rooted cuttings of the famous 30,000 dollar Carnation, Mrs. Thomas W. Lawson, have been ordered by growers in America.

A fine old avenue threatened.—A high handed business was that of the Countess of Dundonald, whereby she gave the command to fell an avenue of beautiful old Sycamore trees bordering a long narrow road between Pensarn and Abergele in North Wales. In places there are dangerous corners, and the Urban Council of Abergele obtained the consent of the Local Government Board to borrow money to carry out alterations. The Countess owns some of the property. She is reported to have offered land for the widening of the corners if the council would undertake not to proceed with the widening of the road. This the council declined to accept. The Local Government Board has fixed a date for inquiry as to the provisional order. Unless the council withdraws their parliamentary order to acquire her land compulsorily, she threatens to cut down completely the famous avenue.

Reading Gardeners' Mutual.—Notwithstanding the inclement weather a large attendance of members was present at the fortnightly meeting on Monday evening, the 12th inst., to hear Mr. T. Neve, of Sindlesham House Gardens, give a paper on "The Renovation of Fruit Trees, especially Apples." The lecturer dealt with his subject in an exhaustive manner, his remarks on pruning, manuring, watering, &c., being of a very practical character. These were made more interesting by a series of photographs of old fruit trees, which had been renovated, in full bearing. An interesting and at times animated discussion followed, in which Messrs. Chamberlain, Powell, Fry, Purkis, Parsons, Blake, Cretchley, Bryant and Turner took part. A splendid collection of Apples was staged by Mr. R. Chamberlain, the well-known fruit exhibitor, of The Gardens, Cressingham. Although rather late in the season the fruit was in splendid condition, the exhibit including Golden Noble, Lane's Prince Albert, Wellington, Rosemary Russett, Royal Russett, Cox's Orange, Rymer, Gascoyne's Scarlet, the Melon, &c. On the proposition of the chairman (Mr. Fry) a hearty vote of thanks was tendered to Mr. Neve for his excellent paper and to Mr. Chamberlain for his exhibit. Four new members were elected.

Elephants at large at the Crystal Palace.—Last Sunday afternoon two elephants belonging to Sanger's Menagerie at the Palace were having their usual Sunday wash, which, Boer like, they resented and made a dash for liberty, the larger one, named Charlie (nearly 4 tons in weight), knocking down and trampling to death one of the keepers. The smaller elephant, Archie, dashed into the concert room, while a concert was in progress, cutting his way through the chairs by smashing them, and then into a refreshment room where the tables were overturned like ninepins. Both made a dash for the country. Charlie was finally secured at Penge, chained to another elephant, named Mary, and brought back to his stable. A gunmaker and his son were brought from London with elephant guns, with which the larger elephant was shot by pouring two volleys into him. Archie, the smaller pachyderm, left his traces in going through the Palace grounds, by the trees and fences that were torn down in his pathway. He was chased along High Street, Sydenham, to New Beckenham Station. While smashing a fence at a house, the dog came out barking, and was seized by Archie and killed. Archie, to the dismay of the owners, dashed through several back gardens, crashing through fences, walls, greenhouses and other obstacles in his way. Then he rushed through a front gate dispersing policemen and villagers. Archie making his way towards Bromley, gates and gate-posts disappeared like those of Gaza when Sampson broke loose. Next morning he was found in an outhouse in Bromley Road, and on being disturbed dashed off towards Hayes Common, where he was found fast asleep in a sand-pit, later in the day. This elephant is of the Royal Burmese breed, about 100 years old, and 3½ tons in weight. Four elephants, including Mary, were fetched from the Crystal Palace, and their counsel induced Archie to surrender. The prisoner was chained to Mary and taken back to the Palace where he quietened down and seemed ashamed of himself.

Forestry.—Among those recently elected members of the Royal Scottish Arboricultural Society are Mr. R. Stewart, Baronscourt, Mr. D. Crombie, Powerscourt, and Mr. John Robson, Baronscourt.

Sweet Pea Bicentenary Celebration.—As we go to Press, a committee meeting is announced to be held on Friday, the 23rd inst., at 5 p.m., by kind permission, at the Horticultural Club, Hotel Windsor, Victoria Street, London, S.W., to consider matters of importance.

Rhyme and Roses.—From a spirited and witty conversationalist we received the following rhyme. It was begun in a manner as though to tell us something interesting about Archbishop Tait, of Canterbury, and his pet Roses, but ends suddenly—and here the joke comes in with a pretty piece of alliteration:—

"There was an Archbishop named Tait,
Who dined with a friend at 8 8;
But I am sorry to state
I cannot relate
What Tait's tête-a-tête ate at 8.8!"

Scottish Horticultural Association.—We have before us the twenty-third annual report upon the work and transactions of the well known Horticultural Association, commonly termed "The Scottish," a title suitable, because brief, and familiarly understood. The meetings continue to be held at 5, Saint Andrew Square, and each month the interest in the papers read, and in the plants, &c. exhibited, steadily grows. The syllabus for the present year almost entirely confines itself to the outdoor section of gardening, and possibly the culture of hardy plants, and notes of reference upon them are more applicable to the land which proves so befitting for them. The membership continues to increase, five life members and 237 ordinary members having been added to the roll during the year. It is with touching reference that the report bears upon the loss sustained in the deaths of Mr. M. Dunn, and Mr. W. M. Welsh, men whose places in office it will be difficult to so satisfactorily fill. The strawberry conference, and Rose Show, held in midsummer, were once more an unqualified success. Were the seasons more to be trusted, we should certainly expect to see a big public summer show. Even while we all regret to know that the Chrysanthemum Show was somewhat behind in amount of receipts compared with many previous years, it, yet, is very satisfactory to say that fifty guineas were handed over to the Lord Provost's War Fund. With regard to the Chrysanthemum Show, it appears to us a laudable step the association has taken in giving a census of the varieties shown. The regard for Chrysanthemums is even fresher in the north than in the south. The balance to the credit of the association amounts to over £777.

Utility Poultry Club, Laying Competition.—The laying competition of the Utility Poultry Club ended on February 13th, after a duration of sixteen weeks, and the result of the laying as sent by Mr. Jas. Robinson, of Clitheroe, Lancashire, is given below. A full report will be published later, the preparation of the statistics and data which it will contain has taken too long for its inclusion now:—

Pen.	Breed.	1st Month. Eggs. Points.	2nd Month. Eggs. Points.	3rd Month. Eggs. Points.	4th Month. Eggs. Points.	Total. Eggs. Points.	Order.
I.	Bl. Orpingtons	29 38	21 42	26 52	42 84	118 236	7th
II.	Bf. Leghorns	1 2	16 32	25 50	19 38*	61 122	16th
III.	Bf. Orpingtons	63 126	52 104	16 32	20 40	151 293	3rd
IV.	Minorcas	15 30	7 14	35 70	37 74	94 188	11th
V.	Langshans	16 29	38 76	26 52	52 104	132 261	4th
VI.	Wh. Leghorns	19 37	10 20	3 6	38 76	70 139	14th
VII.	Ba. Ply. Rocks	9 18	19 38	13 26	23 46	64 128	15th
VIII.	Wh. Leghorns	24 48	0 0	27 54	50 100	101 202	9th
IX.	Faverolles	9 16	34 68	31 60	50 100	124 244	5th
X.	Bf. Leghorns	13 26	18 36	26 52	39 78	96 192	10th
XI.	S. Wyandottes	55 110	60 120	49 98	59 118	223 446	1st
XII.	Bl. Leghorns	16 32	27 54	44 88	32 64	119 238	6th
XIII.	G. Wyandottes	21 41	12 24	21 42	26 52	80 159	13th
XIV.	Br. Leghorns	9 18	41 82	50 100	61 122	161 322	2nd
XV.	G. Wyandottes	0 0	0 0	37 74	66 132	103 206	8th
XVI.	Anconas	0 0	2 4	28 56	50 100	80 160	12th

* One Pullet died at the beginning of the month.

N.B. In scoring 2 points are given for every egg weighing over 1½ oz.

PRIZES.—1st, Mr. C. Bird, Eaton Bray Lodge, Dunstable, Silver Medal, £3, Mr. S. Hunter's £1; Mr. G. A. Palmer's value 10s. for best pen of Wyandottes, 2nd Class Certificate of the club. 2nd, Mr. Wm. Wilson, Scar Head, Torver Coniston, R.S.O., £3, Miss Wilson-Wilson's value 15s., Mr. H. B. Beeney's value 15s. (for best non-sitting hen). 3rd, Mr. Wm. Richardson, Staplefield, Crawley, Sussex, £2, Mr. J. Dunn's value £1. 4th, Mr. T. Garnett, Radecliff, Clitheroe, £1, Mr. Jas. Robinson's value £1. 5th, Mrs. Austin, Allscott, Wellington, Salop, Mr. Meech's value 15s. 6th, Mr. G. Peirson, Kirkby Thore, Penrith, Mr. R. Heaton's value 15s. Mr. J. Atherton, Stone House Farm, Burnley (Pen IV.) is awarded Mr. G. Pierson's value 10s. for best pen judged from show standard.—B. W. Horne, hon. sec., 49, Gloucester Gardens, London, W., 17th February, 1900.

Carnation Ethel Crocker is now "running" the greatly vaunted pink variety, Mrs. Thomas W. Lawson, for popular favour.

Gardeners' Charity Guild.—It is with much pleasure that we record the fact that His Grace the Duke of Fife, K.G., has consented to head the list of patrons of the forthcoming concert in aid of the Gardeners' Royal Benevolent Institution, March 14th.

Flower Shows.—As at this time of the year secretaries and committees usually prepare the schedules for the summer shows, it may perhaps be a suitable opportunity to offer a few suggestions to the promoters and managers of amateurs' exhibitions. It is a common experience amongst secretaries, that it is no easy matter to introduce novelties of sufficient attractiveness to interest visitors to the shows, consistently at the same time with the main object—the encouragement of horticulture. The following suggestions may have been already adopted by some societies, but there are many shows held in various parts of the country where the ideas are not in vogue. In plant and cut flower classes the rule is to offer prizes for foliage, flowers or a combination of both, which is pleasing only to the eye. Some flowers and plants, however, have an additional characteristic, appealing to the sense of smell. In many well known instances, both beautiful and insignificant flowers combine a delightful perfume, while the greatest possible variety is found in the quality of that perfume, and in the flowers. A flower with a sweet perfume, adds much to its own attractiveness. To make this note of practical use, I would suggest that classes, grouping such plants and flowers, should be opened as for (1) collections of plants bearing sweet-scented flowers; (2) collections of plants with perfumed foliage; (3) collections of sweet-scented garden flowers (cut); (4) collections of sweet-scented wild flowers (cut). Such an arrangement of classes might induce hybridisers to pay more attention to the development of perfume-yielding plants. There is another section which although it is attractive enough, is but seldom seen at the shows. I refer to the "Everlastings." A class for a limited number of varieties would encourage the cultivation of these useful flowers. The Clematis is now one of the gayest of flowering plants, and a class for a group of several varieties in pots would form an easily cultivated and an attractive exhibit. Many flower shows could be made in certain classes to assume a more pleasing appearance. It is distressing to a show visitor who has a special liking for a particular flower, to see it staged in a plain square box. Some of the choicest and most useful flowers in the garden are often so exhibited. Another serious drawback to this method of staging, is that no clue is obtainable of the habit of the plant. Especially is this disadvantage felt with new varieties. No cut flowers should be shown without accompanying foliage of some sort.—W. H. Wharton.

Watch and Spray is an Americanism for orchardists.

Duke of Cambridge's Fence at Kingston.—On Wednesday, the 14th of February, the Surrey County Council were able to report a successful issue to their action against the Duke of Cambridge in respect of an alleged encroachment at Kingston Hill. The Duke has compromised, and, in addition to putting back a fence across the land enclosed, he has dedicated to the public use a strip of land 30 ft. long, at present forming a portion of the frontage of adjoining premises. He also agreed to pay £40 towards the costs the Council had incurred in the action.

Experiments in Manuring.—One way and another there is a fair amount of "Snapshot" writing on the subject of how to manure, and what to use when manuring. Perhaps it is from the disjointedness of these persistent jottings that so little practical result seems to accrue. Yet now and again we do find the essence of much labour and thorough experiment crystallised down to a pretty little paragraph. The very full experiments undertaken by Mr. F. W. E. Shrivell, supervised by Dr. B. Dyer down at Thompson's farm, near Tonbridge, in Kent, have been neatly tabulated, and are very clear to follow. The experiments bear more directly upon the manuring of true market gardeners' crops, so that their sphere is probably distinct from the Rothamsted trials of Messrs. Gilbert & Lawes. Mr. Shrivell's experiments really have been to find out in a thorough manner whether it is cheaper to grow market produce with heavy dressings of dung, as has been done hitherto, or light dressings. In the event of the crops requiring heavy dressings of dung, whether it would be more economical to replace part of those dressings with nitrate of soda, phosphates, and potash. Then again, it was an important matter to know whether dung could be dispensed with altogether, and simply the chemicals enumerated used. The results have been already given prominence to, and any one desirous of obtaining fuller information need only apply to Mr. Shrivell. Experimenting with fruits, potash was used on Strawberries, but with calamitous results. The best method is to use dung and small quantities of chemicals. Per acre of Strawberries the following proportions have been named:—Dung, 25 loads, 2 cwt. of nitrate of soda, and a small dressing of phosphate. On chemicals alone the Cabbage tribe are found to succeed much the best. All the experiments go to show that a less quantity of dung might always be used, and small quantities of chemical manures made to do duty. Brussels Sprouts, after a trial of five years, have produced much better crops from the special use of chemical manures alone. Good dung, of course, is looked on as the sheet anchor of the whole work, but it, in conjunction with chemical manures, produces the finest results. Chemical manures in quantity sufficient for an allotment plot of 100 square yards are given as superphosphate of lime or basic slag, 14 lbs.; kainit and nitrate of soda, 10 lbs. each. The superphosphate and kainit should be applied and dug in during autumn, and the nitrate given to the crops as they advance in growth. The ground upon which the experiments are worked is remarkably poor, it having been specially chosen to be so. Each crop is weighed, and careful records are kept, so that the work done is valuable now, and is becoming more and more so.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Vanda amesiana.—This very pretty Indian species, with its delightful fragrance, its substantial white flowers, with their pink hued lip, is among the flowering Orchids of the moment at Kew. On the whole, this Vanda commends itself to lovers of Orchids, perhaps more so than the somewhat fastidious *Phalaenopsis amabilis*, and others of this genus. The above-named subject is flowering side by side with the *Phalaenopsis*, suspended in a basket, and is somewhat out of season. Usually May and June finds *V. amesiana* in greatest profusion.

Platyclinis glumacea.—There is nothing remarkable about this well-known Orchid with the pale, tea-coloured, tail-like, drooping racemes, to call for special note, further than to point out that

its season of flowering is also entirely controlled by the rôle of culture. It can be flowered now, as it is doing, or, in a cooler house than that of the Cattleyas, it may be held back till April. Seen at its best, it may be regarded as a very pretty and conspicuous epiphytal Orchid.

Dendrobium barbatulum.—This is by no means a common Dendrohe, but a well flowered specimen turned up at the Drill Hall on the 13th inst., from Messrs. Heath & Son, of Cheltenham. The pseudobulbs are delicate, and less than fifteen inches high. On this occasion the plants were grown in pots. The leaves are only seen on the young shoots, and are lanceolate acuminate in form. The racemes of white, closely-set flowers spring laterally, and have drooping peduncles. In general appearance, the raceme reminds one of a short spray of Bride's Wreath (*Francoa racemosa*), each flower being, of course, considerably larger. The plant is frequently confounded with *D. fytchianum*, but differs in having less orbicular petals, and the throat bearded with yellow, instead of rosy, hairs. The plant is a very handsome bloomer.

Vanda caerulea—In *Gardening* (American), of February 1st, appears a splendid illustration of a capital specimen of this fine Orchid, carrying 335 flowers. The plant, even at that, had been divided and repotted this season, so that it has done wonderfully well. It was grown in an East India house with plenty of moisture and ample drainage. Sphagnum is almost entirely used in the potting.

BEDDING PELARGONIUMS.

ASSUMING these are in store pots or boxes, the time has arrived when they must be taken in hand to get nice stocky plants by the middle of May. First give them a thorough soaking to moisten the soil throughout, because the young plants, as they are shaken out, retain their roots much better than when the soil is hard and dry. Usually these are potted up singly in 60's, or two or three in a larger pot. Instead of this, get small pieces of turf $3\frac{1}{2}$ in. square, $\frac{3}{4}$ in. thick, slightly scooped out in centre, placing young plant in turf, adding a little fine sandy soil, squeezing all together. Then, with a fine strand of raffia, tie securely, and plant out in cold pit that has six inches of light soil, placing them four inches asunder, keeping close for ten days, when air must be given. Later on remove light daily, as with pot plants. I admit this plan takes longer than potting them; but on wet days or hard frosty weather the outside men are given this work, so we do not feel the pinch, and it lessens the pot account, no mean item when several thousand have to be done. Besides, they do not require quarter the amount of water as if in pots, nor the labour in moving from house to house, etc. I claim nothing new about this, as it has been carried out here for a number of years, giving every satisfaction.—*J. Mayne, Bickton.*

SELF-SOWN WALLFLOWER.

I QUITE agree with the statement on p. 356 that a Wallflower artificially planted "retains the planted-out look to the end of its days." This is more particularly the case when the blossom is as described by Thomson—"The yellow Wallflower, stained with iron brown." Even when it grows in the vicinity of gardens, from which it has recently escaped, and mounted the walls, perhaps, the hand of the cultivator is still evident in the mahogany hue of the flowers. I have seen it on old castle walls, however, and on low-browed beetling crags, where it may have existed for centuries, and reverted to the original or savage state, for the flowers were yellow. Under such circumstances the Wallflower rises immensely in the estimation of one who is capable of distinguishing between the wild and the domesticated herb. Nature sows broadcast and informally; whereas man sows in lines, beds, or borders, that bear the evidence of design on their faces. The pleasure of gathering beautiful flowers, which one has neither sown, planted nor tended, is tenfold greater than when they can be culled in unlimited quantity from the carefully prepared and tended garden border; but alas! for the thought it can seldom be gratified in the case of Wallflowers. As I stood under the grey, old, stony walls of Stirling Castle, in the dawn of a late spring morning, amidst a steady and heavy down-pour of rain, my

curiosity was greatly aroused by the presence of densely flowered, stocky bushes of something bearing golden blossoms. Though far beyond my reach, yet not beyond my ken, it took some steady and prolonged gazing and some cogitation before I could satisfy myself as to the identity of the wilding. The rich yellow hue of the flowers, and their distance from the eye deceived me as to their affinity for a time, and certainly lent "enchantment to the view;" but their handsome appearance, and truly untended freedom, not to say wildness, more than repaid the discomfort of being abroad so early on a dripping, cold morning.—*J. Mac I.*

PRUNUS SINENSIS FLORE PLENO.

FOR greenhouse decoration the above named plant is one of our best for the spring months. *Prunus sinensis* fl. pl., a variety of wild Plum, is very well adapted for pot culture, shoots of last year's growth, 18 in. long, being laden with double, snow-white flowers. It requires the same treatment as the *Deutzia* throughout the most of the year. After flowering prune it hard back, leaving eight or ten young shoots, which will be next year's flowering shoots. Plunge the plants outside in the month of June. Keep them well watered till the end of September, when you can remove them to a cold frame. They can be kept in the frame till the first month of the year. Shift them to the greenhouse as required after that time. If plunged in bottom heat the buds will break away more rapidly. Young shoots will strike freely under a bell-glass. There are many other species of wild Plum, but not so suitable as the one mentioned for the greenhouse.—*Adam V. Main, Arthurlee Gardens, Barrhead.*

A MEALY BUG-INFESTED VINERY AND ITS SUCCESSFUL TREATMENT.

MY experience in above may be useful to some of your readers. First I will describe the state the Vines were in on coming here as gardener two years last summer. Nearly every bunch and every leaf was smothered with the pest. There was scarcely a bunch fit for the table. I suggested clearing out and planting young Vines. My employer not sanctioning this, all I had to depend upon was winter dressing, which was done in the following manner:—

The rods were taken down and all loose bark removed; the spurs scraped with a blunt knife; a box of Gishurst's Compound was dissolved in a bucket of hot water; into another bucket of water I put about a quart of the solution; and with a good scrubbing brush gave them a thorough soaking, using the end of the brush. When all were washed I painted with a mixture of 1 lb. each of lime and soot mixed with the strong Gishurst's solution, and made the required thickness with clay. I next washed all paint and glass, using Gishurst's in water, carefully removing every bit of old string used in tying, as inside the knots is a favourite hiding place for a nest of eggs. I lime-washed all walls, mixing $\frac{1}{2}$ lb. of flour of sulphur in each bucket of lime. Last season I had an increase of seventy bunches of clean Grapes.—*G. B., Mona Cottage, Holbeach.*

ORCHIDS IN FERNERIES.

FERNERIES are often more suitable for some Orchids than are many an orthodox Orchid house, as the shade and moisture needful for Ferns are most beneficial to Orchids. In many ferneries there is a peat-covered wall planted with Ferns, &c. On such a wall the Orchid roots have a larger area to ramble over, and are less exposed to injury. In planting, any sour peat or soil should be taken out and the plants firmly fixed by the aid of crocks, bits of Tree Fern stems, &c. In many cases it will be found necessary to tie in the roots and often the upper parts with fine brass wire, so as to give the plants perfect stability. Careful selection of Orchids is essential, as *Dendrobiums*, *Cattleyas*, *Laelias*, and others require more sun and light than an ordinary fernery gives, in order that their pseudo-bulbs may ripen and flower satisfactorily. The Orchids most suitable for the above are established plants of *Brassavola*, a free-flowering genus with whitish, long-lasting flowers. *B. grandiflora* is the best, but *B. cordata*, *B. nodosa*, *B. Perrinii*, &c., are equally useful. *Epidendrums* of the reed-like section, such as *E. radicans* and *E.*

obrienanum, are quick growing, and produce their scarlet flowers in all seasons. The foregoing require a warm house, and plants of *Rex Begonias*, *Panicum*, *Tradescantias*, &c., may be added to give variety. In a cool house *Aerides vandarum* may be grown in a similar manner.—*David S. Fish.*

THUNIA MARSHALLIANA.

THIS species of Orchid is not nearly so popular as it deserves to be, considering it is fairly easy to cultivate. It is also a very handsome Orchid, in fact far more so than several other genera of the *Orchidaceae* family. Many gardeners who fail to grow some of the more widely-known Orchids satisfactorily might take this one in hand with a greater prospect of success. It is a native of the East Indies, and is usually grown in what is termed the "East Indian" house. Gardeners not possessing such a structure in their range of glasshouses may cultivate it in an ordinary plant stove, providing it is given a little shade from the sun. Any time from now—as fresh growth is observed—the *Thunia* may be repotted. A suitable compost is some fibrous loam, a little peat, some broken cow manure, a sprinkling of sand, and a few finely broken crocks or pieces of charcoal to keep the whole porous and sweet. Until the new growths have made a little headway in the fresh compost it will be as well not to place the plants in the temperature already advised, but in a slightly cooler one, so that growth will not be too rapidly excited. This *Thunia* generally blooms about June or July, bearing beautiful trusses of white and yellow flowers, which proceed from the apex of the newly-made pseudobulbs, which are clothed with elegant green foliage. *C. Turner.*

CHRYSANTHEMUMS.

CHRYSANTHEMUM culture is in England brought to a high degree of perfection, and no Englishman need go out of his country to learn how to grow these beautiful plants, but in Bavaria the only use which is made of them is to decorate the cemeteries at All Saints' Day. Small flowered and single varieties are grown for this purpose in 5 in. or 6 in. pots. The plants are obtained in the following manner, and, when fully grown are only 1 ft. high:—About the end of July cuttings are made from the plants of the previous year, which have been planted out in spring. Strong hard cuttings are selected and planted, three or four in one pot. The pots are placed in frames and shaded till rooted, after which the plants are hardened off, affording water, and giving them more room when required. When the cold weather comes they are again sheltered, and remain so till they flower. The small plants look really very pretty, and could be used for room decoration, in many places where the larger plants are unsuitable. One hundred plants cost from 20/- to 30/-. The perennial Asters are treated in the same way, but here the cuttings are made towards the end of June, and the pots only 3 in. or 4 in. in diameter. I was really astonished when I first saw the small plants quite blue with flowers. *Stevia lindleyana* and *Solidagos* (Golden Rod) I have seen treated in the same way.—*G. Van Overberghe, Pilgersheimerstrasse 30/01, Munchen, Giesing.*

THE MARKET GARDENER AS AN EXAMPLE.

To those with unlimited space at their disposal, who can for comparison's sake plant varieties indiscriminately, this does not appeal. But to the villa gardener and others similarly situated the market gardener's choice in varieties may be safely relied upon. He it is who caters for the, by no means a conservative, public's tastes and fancies, unlike his more favoured brother (?), the private gardener, who has only to satisfy the desires of two or three individuals, however capricious.

As to his views on suitable varieties of Strawberries, I will only allude to those entertained by growers in Midlothian. Keen's Seedling, the favourite of days gone by, has, in his opinion, deteriorated to such an extent that it is scarcely worthy of consideration. To illustrate this fact it is only necessary to mention that less than twenty years ago in the market the variety ruled supreme; whilst at the present day twelve pint measures

would easily contain all of this variety which enters the Waverley Market during the season.

Sir J. Paxton, although grown in small quantities, is considered of little value, being only second-rate in flavour and of a weak constitution. To Garibaldi, syn. Vicomtesse Hericart de Thury, must be attributed all the necessary qualifications for a first-class market Strawberry. It is of medium size, well coloured, prolific and hardy, with a first-class flavour, and, by no means its least virtue, it is a good traveller. During the early part of the season it can be seen in the market every morning by the hundred-weight, overshadowing all other varieties to such an extent that they are scarcely noticeable. But what of Royal Sovereign, the favourite of the thousand? Strange to say, this universal favourite has been proved inadequate to their requirements. Year after year acres of it have been planted, resulting only in demonstrating its unfitness. It is now dismissed, with the epithet "that it is too tender for this locality." That the soil is too heavy or devoid of some mineral base has more to do with its failure, than its tender constitution, is a hypothesis I venture for the following reasons:—That as a forcing subject, as well as in outside culture, it has proved a failure in this locality; whilst within a radius of thirty miles, on a light sandy soil with a south-western exposure, it has given every satisfaction. That sterilisation of the soil, by reason of promiscuous successional planting, is not the direct cause has been proved, since the soil used for potting was obtained from a meadow, which had never previously been cropped with Strawberries. Treated as an annual it has given more satisfaction, but annual planting does not pay the market grower.

Regarding late varieties little can be said as few are grown, the reason for this being that during the period when they come into use the market is glutted with French Greengages; and a capricious public, eager for a change, throw aside the glaring fruits of the Strawberry for the—although less attractive in colour—sweet Greengage. Those growers who still adhere to their culture give the preference to Elton Pine.—D. MacGregor, Palace Gardens, Dalkeith, Feb. 17, 1900.

THE FURZE DEBATE.

I FELT wae for "Geordie Tam" and his surrondin's but houp he wull be able to keep on the upper side o' the snaw, an' that he wull keep siccar until the snaw gauns awa'; itherwise the circumstances might be lamentable; but there is no tellin' what he might find underneath.

Here, however, we are not placed in such adverse circumstances. We had an average fall of 9½ in. of snow, with the thermometer registering from 18° to 23° of frost. Well, this "Collieshangie" about the Furze set me out on Bucklebury Common to see how it was behaving under such critical criticism, but there it was, evidently not the least put about. With a keen north wind blowing, and the bushes half hid in the snow, here and there were to be met bushes with plenty of flowers on them—not withered blooms, but fresh and in full flower. In one instance I saw one bush that may be described as covered with flower, and I could not help thinking what a capital "bessom" it would have made for "Geordie Tam" to "gaug curlin' wi'."

From the correspondence that has taken place on this most interesting subject, it is, I think, evident that the position and climate has much to do with the question "When does the Furze bloom." In making further enquires when it did bloom, I was much struck with hearing the same saying as Mr. Mayne quotes about kissing, and they seemed to think it would be a most dreadful thing if it was to happen. I have now kept the Furze under notice since the third week in November until the present time. I will still keep a watch on it, and should I find a break in the flowering period I will advise "Sigma" of it.

In case there should any doubt arise in the mind of any of his readers as to the fact of the Furze being in flower under the circumstances I have described, I enclose you a small piece so that you may have no doubt on the subject.—Alex. Wright.

[The twigs duly arrived, and seemed prepared to keep up a succession of bloom for a long time.—ED.]

Your esteemed correspondent, J. Mayne, did not give quite the best version of the old country ditty

respecting the blooming of this, one of our most beautiful native shrubs, which Linnaeus admired so much, and lamented that he could not flower it satisfactorily under glass in his native Lapland. The adage is as follows:

When Furze is out of bloom
Kissing's out of tune.

The meaning is, I suppose, that it is very rarely out of bloom. The contrary can be truthfully said of either. Furze bloom may be most difficult to find just now. Quite recently in going over a common, where it is very plentiful, I began to think that at last I had found an exception which would prove the rule; but a few splashes of gold beneath the sombre green of some large bushes gave me a welcome disappointment. I have often noticed a great variety among the Furze on some commons, and think if these variations were followed up something very distinct would ultimately result.—W.B.G.

THE FLOWER GARDEN.

THE HARDY HERBACEOUS BORDERS.—It is, perhaps, unfortunate for us that we cannot re-model the hardy plant borders until rather an advanced and busy period of spring. But wait we must unless, of course, bulbous plants are absent from them. Where these *do* form part of the stock the work certainly has to lie undone till they show their positions by sprouting. It is a fact that many herbaceous plant borders are allowed to get into medley conditions. The back gets broken down; large plants and creeping plants become confused in masses, even reaching out of the borders altogether, to the destruction of the Boxwood edging. I am not an advocate for hard and fast planting according to heights. Certainly we must keep tall growing Delphiniums, Chrysanthemum uliginosum, Rudbeckias, and such like definitely at the back, and bushy, outward spreading Paeonies, and some of the showier Geraniums, which attain two feet in height, in a middle position, yet, with other plants, such as Aquilegias and Campanulas, of the *C. turbinata* types, no hesitation should be felt in placing them within one foot from the pathway.

Such a mode of planting requires a goodly amount of judgment, and he who can portray a preconception of the border as a whole is the most likely to develop a handsome and naturally arranged border. A thorough acquaintance with the plants employed is absolutely necessary. A garden can very well be laid according to written plan, but the work is laborious. Where borders have become uneven, hollow here and high there, the best plan is to lift all the larger plants, place them on the alley at the back, and trench the ground. While doing so the exact breadth can be given, and, after trimming the plants, they can be once again re-arranged. A good manuring will not come amiss during the trenching operations. Planting should be delayed if possible for a week after trenching, or, if planted immediately, the border should be trodden and the ground made firm around the plants. A different system of arrangement, such as massing the plants, both tall and dwarf, in clumps, or the introduction of a greater number of deciduous flowering shrubs, might very well be attempted.

ANTHERICUMS.—In the borders of the present time these pretty white flowered liliaceous plants, with deep green grassy foliage, are not sufficiently numerous. This much can be said about them, that they have a superior bearing, and an elegance not to be found in many other hardy border perennials. A deep, rich, sandy soil is to their liking.

ASTERS.—The many species and varieties of perennial late flowering Asters are receiving due recognition from the pens of those who appreciate hardy flowering plants. It is to be hoped that before making up the borders for the season, an assortment of these will be planted.

CAMPANULAS.—There are so many kinds of Campanulas, and all are pretty, that to make a wide selection entails a considerable amount of space. Still, they should not be denied this, few sections of plants being more useful or brighter during the busy and musical days of summer.

DORONICUMS.—All of a yellow colour, and each of them easy to cultivate, the Doronicums should be widely planted. For wild gardening or naturalising by the sides of streams the "yellow soldiers," as they

are called, adapt themselves almost easier than anything else I know of. In sandy borders they suffer.

HARDY ERICAS.—Where these succeed, and most porous soils suit them, the hardy Ericas certainly should find a place. Their proper habitation is, of course, in suitably chosen beds or on rockwork and banks, yet in sunny borders I can recall some very successful and pretty masses. In clumps about 1 ft. back from the edge is the place for them.

HARPALEUM RIGIDUM is a tall growing yellow Sunflower plant of graceful growth, erect and sturdy habit, flowering at the end of July and very vigorous in any kind of soil. It is useful for supplying abundance of fine blooms for vases.

PYRETHRUMS.—Where the soil is sandy or drains off the moisture too freely, it will be necessary to incorporate a liberal supply of humus or moisture-holding material. These very showy summer flowering plants suffer terribly during a drought, so that every care should be taken to avoid unnecessary exhaustion. Where they are grown in beds by themselves, the whole root surface can be mulched in times of need.—J. H. D.

THE FERNERY.

POLYPODIUM PHYMATODES.—In the great order Filices, the genus Polypody occupies a conspicuous and large section. It is, indeed, the largest genus of the order, Nicholson statistifying 450 species. But leaving alone the botanical points of the subject for consideration of *P. Phymatodes*, what is there special about it? Well, as Ferns go, there is little. It is a very useful Fern. The fronds, thick and rough in their beauty, varying in the shades of green and the glossiness of the close-growing pinnae, appeal to the lover of sturdy handsomeness more than to him or her who appreciates the more refined elegance. As a merely decorative warm house plant, in basket or on raft, it furnishes a pleasant subject, while for use in the composition of wreaths, and the heavier floral garlands or exhibits, the strong, stout fronds are perfectly adapted. Indeed, this Fern ought far more to be cultivated solely for this purpose by those who provide the supply of material for decorators, or by those who have floral arrangements to provide for their own employers. As a basket Fern I hold this Polypodium as having few or no compeers after its own special pattern.

The rhizomes or creeping stems are strong, and covered with hairyramenta. The leaves or fronds vary from 6 in. to 9 in. or 12 in. in length, and are more or less erect, being cut down to the rachis or central axis, the lobes being lanceolate-oblong. It is a tropical Fern, though an intermediate temperature will suit it. A peat and turfy loam compost answers its wants in the way of a roothold. In temperature, that best suited to it should run at from 65° minimum to 75° with sun heat. Bottom moisture and overhead syringing are welcomed by all vigorous growing specimens.

POLYPODIUM RIGIDULUM.—To give a popular description to this fine basket Fern is very trying. Grown either as a basket subject or suspended backwards to the end side of a span roofed tropical house it provides a desirable species. Room for its fronds, which get to 3 ft. and 4 ft. long, it *must* have. The fronds are pinnae almost to the rachis or central rib, each pinna being narrow and slightly crimped. The fronds shower outwards from all sides, drooping toward the apex. Their base is sheathed with short, upward, and close growing, bright chestnut scale growth, a point which adds greater interest to an already beautiful and useful Fern. The fronds are quite suitable for many purposes of decoration. The culture of the species is not in the least fickle, indeed the same cultural conditions as for *P. Phymatodes*, excepting the persistent overhead syringing, may be adopted successfully with this neighbour.

ADIANTUM TENERUM FARLEYENSE.—Ferns, as a rule, are among the easiest subjects in the vegetable world to cultivate. Exceptions always occur, however, in everything. This is a case in point. The above suffers in most gardens, and gradually damps and dies off. What I have proved and always seen, of value is to grow them in a confined case by themselves, the case placed in the coolest corner on the stage of a warm fernery or stove. The special conditions of still, warm and moist air can then be afforded.—F. L.

HINTS FOR AMATEURS.

Chrysanthemums.—Those that have been potted are making slow but steady progress. The damp weather is all against the amateur. Still, by very careful watering, stout growing plants, free from any dread of their damping off, can be raised. Keep them rather on the dry side so long as dull cold weather continues. A position as heretofore stated, *i.e.*, on a well-lighted shelf in a cool house, will answer for them until a further period. Cuttings now in the boxes must regularly be looked over. Any plants found to be damping off (the work of a fungus allied to the fungus causing Potato disease), should be removed, and the mould as carefully as possible cleaned off. Stir up the surface very lightly. Do not wait until all are rooted before potting up those which may be advanced in this respect. Lift when ready. Keep the glass which is over the tops of the boxes regularly turned, wiping each surface when doing so.

Cinerarias—Cinerarias of many kinds are in bloom now, or will soon be brilliant.

In writing the preceding sentence, it occurred to me that "many kinds" was indefinite, and perhaps not just. Of Cinerarias, we have many kinds (species) which are very unlike, and among those flowering now, on the whole there is a considerable diversity of strains. The types found in the greenhouse have been developed by the old florists from *C. cruenta*, a species brought 123 years ago from the climatically favoured Canary Islands. Recently the very dwarfest forms, dumpy little things, were more vaunted as serviceable greenhouse decorative plants than the looser growing taller kinds. For the amateur with small space, when grown hard and confined to small pots, say 5-in., they have much merit. Otherwise, for bold show and massy effect, the taller growing strains, whose loose habit has been repaired, are quite recommendable. Going a step further we have Sutton's *Cineraria stellata*, now becoming known as the Star Cinerarias, which are perfect embodiments of aesthetic exaction. The plants grow 2 ft. or more in height, branching out into a great umbrella of starry blossoms in many colours. Then from the Royal Gardens, Kew, we bear of quite a distinct so-called Cineraria, named *C. kilimandscharica*—a jaw breaking name! Seeds of it were sent to Kew by a late Kewite from Mount Kilimanjaro, British Central Africa. The flowers are small, starry, bright yellow (now for crosses with the multi-coloured *C. cruenta* progeny!) and the foliage is kidney-shaped, smooth, dentate round the margin, of no great size (about 1½ in. either way), irregularly borne from twisting stems, which point to the plant as being naturally of scandent propensities. But all this I have been tempted to say, and did not mean to. As we have found out so much, let me in a sentence conclude with a notice of other Cinerarias. We have *C. maritima*, the comparatively well-known gray-leaved edging plant of our summer gardens. (The name Cineraria is derived from the Latin *cinerea*, meaning ash-coloured, suggested by the gray-down upon the foliage, which is so strikingly seen in *C. maritima*.) The double Cinerarias are not so common, neither should they be. They result also from *C. cruenta*. One other species at least, is a greenhouse evergreen shrub; and hardy herbaceous, perennial Cinerarias could also be named. The greenhouse Cinerarias about to flower, if in small pots, should certainly have artificial manure feedings, such as Canary Guano.

Cyclamens.—Few remarks need be made about the young batches of these. The warnings repeatedly given to be critical in waterings must again be presented. Dip the plants in a solution of tobacco on the appearance of green flies, black flies, or thrips. So far these should not be showing. A light position upon a shelf in a warm greenhouse is the place for them.

Petunias may be sown at this time. They will come in for conservatory decoration in summer. For bedding purposes a later sowing will be in good time. Young Petunias grown from cuttings taken last month need the ordinary attention of all soft-wooded plants at this time. Plants in an advanced stage, from cuttings put in during last autumn, must not be left unsupported. Thin out flowerless or weakly stems, and stake each of the remaining shoots.

Tuberous Rooted Begonias.—Plants for an early display, say the middle and end of May, should now be growing apace, and demanding copious supplies of water. Newly potted plants must, of course, be more cautiously dealt with. Seeds should be sown now to provide young summer flowering plants.

Dahlias.—These very popular plants may readily be raised from seeds, but where old roots remain and an increased number of plants are wished for, the stock can be propagated from cuttings. Place the tubers in shallow boxes, covering them over with leaf mould, the boxes and contents then being placed in a vinery at work. Sufficient moisture to keep the leaf mould always damp must be given. The cuttings should be taken off when they are a few inches long, with a heel, inserting them singly into thumb pots filled with sandy soil. Water them well and plunge the little pots in a case having a brisk bottom heat. Whenever they are slightly rooted lift them on to the stage.

Cockscombs.—Not everyone succeeds with these. Unless the growth develops evenly there is a great chance of this becoming monstrosities instead of symmetrical and beautifully curved combs. With this warning the amateur who has not proper convenience—not much is demanded—or time to attend to his plants might well leave alone the *Celosia cristata*. The pyramidal *Celosias* are even more lovely, though, of course, so different in habit that it becomes ludicrous almost to compare the two. Obtain in the first instance good seeds from a reputed firm. Sow the seeds thinly on the surface of a well prepared, sweet, friable loam compost, and place the pans in a brisk heat. So soon as the seedlings develop their small cotyledons transfer them to very small pots. From thence onward it but remains to very carefully shift the plants to larger pots. Do not overdo this business. It requires some experience to thoroughly judge the proper time to shift, how large the shift should be, and when to stop giving shifts. A 5 in. or 6 in. pot is generally large enough. Well grown plants should have foliage completely to the bottom of the axis, and by small shifts, and feeding when the comb is developing, the leaves may be retained. In summer time a heated frame, or at least heated to start with, should be given the young plants. Shade from bright sunshine, and ventilate the frame when a temperature of over 70° is attained. The plants like a steamy, warm atmosphere, and a half shaded condition of light.

Celosia pyramidalis may be treated much in the same way as its sister plant, in the earlier stages. From about May, however, the plants should be gradually inured to colder conditions until by the middle of June they may be planted out of doors. A very rich and deep soil produces capital plants.

Yallota purpurea—Look over the stock of these and pot up any whose roots already crowd their present pots. A rather solid but well-drained compost is what good bulbs enjoy. Give them water in abundance when established.

The fruit houses—Amateur gardeners do not as a rule trouble to force Vines, Peaches, or Figs. Still, where fruit may be made a special hobby, its forcing may well be attempted. In starting a house, be patient. Do not close up the house and immediately rush on heat. Merely shut the house. In about ten days, raise the temperature from 5° to 10°. In another ten days, or possibly a fortnight, again raise the temperature, all the while using the syringe and tepid water to moisten the trees. An ultimate temperature of 50° at night, up to 70° or more, with sun heat during the day, should be maintained. It is most important to let the temperature well down for the night growth. The young stems and leaves are busy all day long in elaborating starch and other carbohydrates, and more complex compounds, which, during the dark hours of night, are proved to be deposited for the increased development of the existing structures. So that if we wish stout and fruitful wood we must adapt the conditions for that end. All the paths, the borders, and below the hot water pipes especially, water must be constantly dewed. The evaporating troughs require to be kept full, the presence of liquid manure being a benefit in so far that the ammonia which escapes therefrom, if it does not aid the foliage, at least in a measure it prevents the swarming of red spider. The shoots must be thinned out, pinched, and tied down slightly. Water the borders frequently. Late houses may now be started.

Miscellaneous work.—Sow seeds of Show and Alpine Auriculas in shallow pans, placing these in a warm pit. So soon as they germinate, remove the pans to a cooler house. The seeds do not all germinate together, so that undue haste or impatience must not be shown. Fuschias now in growth must be attended to. Old plants which are yielding cuttings at the present time may be potted soon, and grown on for a while in a warm vinery. *Pbox Drummondii* may be sown. Outdoor operations for the present are checked.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Drought-resisting Shrubs, &c.—*J. M.*: If only two or three names of really suitable plants for planting under trees are wanted, we give St. John's Wort (*Hypericum calycinum*), Butcher's Broom (*Ruscus aculeatus*), planted close; the Gorse (*Ulex europaea*), *Euonymus radicans variegatus*, and the common Ivy, *Hedera Helix*.

Tea Roses for Indoors.—*Rosarian*: *Souvenir d'un Ami*, a fine pink; *Marie Van Houtte*, rosy-yellow; *Maman Cochet*, carmine; *Mdme. Falcot*, yellow; *Mdme. Bravy*, white; and *Mdme. Cusin*, violet-rose. We do not think Austrian Copper would be suitable for a tall trellis. As an unsupported, free-growing bush in a sheltered dell it is most pleasing.

Carnations for Borders.—*Grower*: The prices vary considerably. You can get good plants at 4d. each, this including carriage if ordered from a distance.

Sowing Annuals.—*M. Shaw*: You will be in good time next month. Hints on the sowing of annuals will duly appear.

Pentstemons.—*J. Biddulph*: Do not for yet a while cut down the dead shoots, they protect the young basal suckers. Fern fronds, we may add, need not be cleared off yet. You may, by being careful, divide the old Pentstemon plants, but seeds or cuttings, would be simple and certain to yield a stock in ample time for planting out.

Handsome Ferns for Supplying Fronds.—*J. V. Kennilworth*: *Adiantum cuneatum*, universally known; *A. Veitchii*, stout and dark green; *A. formosum*, long fronds, quite distinct from the commonly regarded Maidenbairns; *A. Bausei*, *A. Williamsii*, *A. tenerum* and *A. trapeziforme*, for heavier decorations. Then we have Polypodiums such as *P. attenuatum*, *P. aureum* and *P. macrurum*, the latter throwing out long leaf blades which are variously twisted but entire. *Davallia solida* and some of its varieties, together with *Davallia hirta cristata*, *Acrostichum sandens* and *Nephrolepis davalloides cristata*, further enlarge the selection. These are all for a warm stove. *Pteris tremula*, *P. serrulata* and *Gleichenia longissima* may be added from the cool house.

Garden Edgings.—*R. F., Donnybrook*: Stone, brick or tile edges are preferable for a kitchen garden. Set a line along the edge and take out a "straight-backed" trench. Lay in the tiles and stones (which should be long and narrow) a few inches deep and make the sides firm. Box-edging, that is, Box plants or Buxus, form a very pretty edging to the more ornamental parts of the garden. Still, it is expensive to buy, costing about 1s. a yard, and has a nasty habit of dying out, leaving blanks. A poor soil is more to its advantage than a rich one. Grass edgings are suitable for matching the opposite side of a walk or drive bounded by lawns. The blue-flowered Periwinkle (*Vinca minor*) and *Euonymus radicans variegatus* on dry soils are capitally adapted.

Pruning Clematis montana.—*W. Tully, Hants.*: As this pretty and hardy climber does not bloom till early summer and throws out more or less from the young wood and current shoots, you would do well to prune back now, the weather being mild. This and other Clematises break freely from the bare shoots.

Clipping Ivy.—*Jas. Reid*: It may look neater to see Ivy on pillars and walls shorn close at this time, but that is its only preferable point. Ivy should be pruned or shorn just before the young growth of spring shoots forth. Hedges need not be pruned till after growth has finished in the autumn.

Crocuses, &c., too thick.—*J. F.*: To aid the roots spread a mulch of thoroughly well rotted manure over the horder; the young stems will soon force through it. Defer the lifting of the bulbs till after they have died down in June. You may then lift and dry them, replanting at a distance of 3 in. or 4 in. apart.

Iris germanica.—*J. F.*: To get rid of the weed (which we take to be *Epilobium parviflorum*) it will be necessary to entirely lift the rhizomes. Shake away the soil from the fleshy roots, and clear out every scrap of every foreign matter. Trench and manure the ground, and replant the Iris. Such operations may and ought to have the effect of destroying any lurking seeds or roots of the annoying weed.

Renewing a Path.—*Thos. Wilson, Bristol*: The simplest way for you to proceed is to take out a trench right across the path to the depth you wish to repair. A breadth of one yard will suffice. Throw the excavated soil and stones to one side; sift this debris, returning the hard material (the roughest at the bottom), and cart away the soft part, the soil, &c. Additional dressings can be made to the surface, the whole path when finished being thoroughly well rolled.

Tree Carnations.—*J. Mann*: Tree Carnations do not at any time make very stout shoots. If they are very soft then you may have given them an unduly warm temperature, and too much water when you shifted them into their flowering pots. They should be kept as cool as possible, and dry instead of wet at the root. Stir the surface soil, and by using neat stakes support the stoutest of the shoots, cutting out all useless spray. Do not feed the plants, and water less frequently.

Tomatos in Frames.—*Wm. Errol*: Unless you have a warm house in which to raise the young plants until they have grown 1 ft. or 2 ft. high, we advise you to leave the sowing till the middle of March. A frame will suit splendidly for Tomato growing during summer. Place branches on the soil to train the plants over the top of them.

PEAR BEURRE CLAIRGEAU.

This cannot be said to be a highly flavoured kind. Notwithstanding this defect, it has many points to commend it to cultivators. Few kinds can excel this from an ornamental point of view. This is seen most strangely when looking over autumn fruit shows. During the past autumn this was strongly shown as I looked at some fine fruits at the Drill Hall, London.

In the garden here everyone asks what it is, and this the more so when seen with a large crop on a bush tree, as shown by the accompanying photograph. This was taken on the 28th September, 1888, in our garden. The tree was 8 ft. x 6 ft., and was carrying at that time just over 150 fruits, six years from the time of planting, when it cost 2s. 6d.

These fruits would have sold at 9d. per dozen when ready for use. This shows it to be a paying industry. For placing on the dinner table, for shooting parties, for ornament, this kind is generally admired. Some may say they prefer kinds more highly flavoured; true, but these cannot compare often with this for ornamenting large tables. Should it not be wanted for eating, it is excellent for cooking, if used just before it softens. In this way it is most useful, as most cooks like large stewing Pears. Another recommendation to it is that the tree is an upright and close grower, and may be grown at the corner of walks. It also makes a fine cordon tree.—*J. C., F., Chard.*

Ripe Grapes left hanging upon the Vines till March and April are estimated to waste about 25 per cent. of their weight.

TRAINING OF YOUNG GARDENERS, &c.

I FEAR that we are not keeping up-to-date in the tuition of our young men in gardening, which is adduced by reason of the scarcity of journeymen gardeners in Scotland. Tangible proof of this is given by nurserymen and others who have to use vain efforts to supply applicants who are in want of assistants in gardens.

At Martinmas there seems to be men enough, and to spare. One has not to wait long after this term when useful hands are found with difficulty. At one time young gardeners considered that to leave their business as gardeners they were retrogressing in their action; but opinions in this respect have changed mightily since the early gardening days of the writer. There is so much inducement in public works and industries of every description for young men to change their employment that gardening is

The training of young lads in Scotland is not on the same lines as generally practised in England. The apprentice system in the north, carried out as it should be, is preferable to the methods in the south. But nowadays it is seldom that the tuition of the youths has primary consideration when apprentices are employed—and they are difficult to find now, except in rural districts where labour is scarce and wages are small. It is true that the reduction of labour power, so general in gardens, has necessitated the adoption of rough and ready employment for young gardeners. The apprentice system of employing youths for three or four years, then passing them off as "journeymen," while they have learned little more than drudgery, is fraught with injustice to the young employees, as well as to those who engage them. Nurserymen are sometimes in straits as to procedure in such cases. While they are anxious to



BUSH TREE OF PEAR BEURRE CLAIRGEAU.

forsaken for higher wages, even with the accompaniment of extra labour of less refinement in its character.

In the majority of cases which have come under our notice we think that the old love is still preferable. According to arguments which we have read in provincial papers as to the reward of renegades (from the oldest profession on earth) those who have defended life in gardens, and the prospects of the great bulk of well trained, persevering young gardeners, have the best side of these arguments.

While endorsing these views we do not adduce that well deserving, educated young gardeners are in every way remunerated, and otherwise treated as they deserve. Hence the reasons for their abdication from the very interesting employment unmistakably found in gardening,

assist the young aspirant, they are also equally anxious to do justice to those who apply to them for men to do garden work.

In England, generally, lads are drafted from those who are (much more numerous in the south than in the north) looking out for the best employment they can find. They are often employed in pleasure grounds or other departments, with little change of work, and very little is taught them beyond what their fellow workers can assist them in. Very often youths go under glass, and experience beyond the work there is very limited. Very thoughtful youths may learn much from what they see and practice in the glass department, and often become experts among plants and fruits, while their knowledge of other gardening matters is *nil*.

It must be a difficult matter for gardeners trained

thus to be able to direct men in after years if they have the supervision of them. We hold that when a youth is under training as "apprentice" or "improver" he should have tuition in every kind of work which is manipulated in the garden. Certainly the proper use of tools, planting, sowing, watering and so on. Free training and pruning should be taught (the former seems to have departed from gardens) and the reason why in everything. Under glass one may put a plant on crutches, make a model Camellia, Azalea, or any other plant, and yet be totally unfit to be trusted with the work in the stoke-hole, watering, airing, and choice of soils suitable for the wants of plants. The first of these is very important and many fail to be masters of such work; watering is not learned in one season. Each plant (according to its species) requires knowledge as to its requirements of moisture and cannot be treated in haphazard fashion. The watering of a Heath or hard-wooded plant growing in peat, requires watering on very different lines to that of a Balsam, Fuchsia, or such like plants; and those potbound or well rooted in any form must be treated differently to those in which the roots have not permeated the soil to any extent. How much mischief one sometimes sees by deluging the roots of large, newly-potted plants with water, rendering the soil unhealthy before the roots enter it. We have seen putrid and offensive manure water applied to plants in pots when there were few roots in the soil to consume nourishment.

Much information youths may receive on these points from gardening papers and books. Proprietors, generally, at the head gardeners suggestion, are ready to supply the young employees in their gardens with the means of improving their minds. This is what it should be. If not considered a privilege by proprietors, such reading material as catered for all conditions of gardeners (in THE GARDENING WORLD) is easily procured. There is often, by writers, so much of the details of work left out of their articles that youths should have submitted to them, which would render tuition simple and come-at-able.

We have always found that work which required neatness, cleanliness and order should be made specialities in gardens; and if young beginners do not attend strictly to orders they should be compelled to do their work over again. Such training will not depart readily from them. They will become of much greater value as workmen, giving good returns for the pains taken to impart knowledge. It was our intention to go into some details of work to meet the intelligence of young beginners, such as Grape thinning (we often have had youths from school who have been trained to the work of Grape thinning at their first start in the garden, and in a short time out-distanced their older compeers), tree training, plant staking, potting, &c., but must reserve this for another paper.—*M. Temple, Carron, N.B.*

THORN HEDGES.

It is rarely that we have the pleasure of seeing well kept, properly trained Thorn hedges in Britain. In Germany, according to a well read and skilful gardener from that country, the case is different. His method of treatment was given to me, and for those who may care to adopt the same pains in training hedges in our Isles, I give his explanations.

Rooted plants two or three years old are employed for planting. The ground along the intended line for the hedge is worked to a depth of 2½ ft., being well enriched. A trench is then taken out and the plants carefully laid in at only a few inches apart. They are made very firm and the surface soil is left rough, not smooth. A season's growth is allowed them. After the first summer they are cut straight across almost level with the soil. A heavy mulch is then given. Perhaps half a dozen shoots will grow up. These are selected and thinned to a couple per plant. They run obliquely, each one parallel to that from the neighbouring plant. The right-hand shoots are trained toward the right, the left go out obliquely from their own side. Thus, the finished appearance after the pruning and training (for they are rigorously kept at parallels right and left) is exactly like what a cross-sparred wooden fence is—a series of stems crossing each other diagonally with diamond-shaped spaces between, but close together. The desired height is then taken, and 3 ft. or 2½ ft. is generally the altitude fixed on, at which a dead level top

is secured. The points of the branches are then fastened at the parts at which they cross each other.

Here, then, the foundation of an Impenetrable Thorn hedge is laid. The common White Thorn (*Crataegus Oxyacantha*) must alone be used. Annual breadth and height is gained but slowly, for the year's growth is kept closely cut in. Even very old hedges are little more than 8 in. or 9 in. in diameter at the base, and taper upward almost to a point. Both the sides and the top are as level and as straight as a well-built brick wall. Not even a cat could get through the bottom of the hedge so close is it. It is also strong enough to resist a deal of violence. It should have been stated that after the training of the thinned-out shoots, a wire line is run along on either side of the young hedge being fastened here and there for its support. My informant was surprised when I remarked that we, in this land, could not generally afford to train our hedges so elaborately. "It costs but little," he said; but the German labour is somewhat cheaper than in England.—*A. Scot.*

SAP FLOW.

It is a fact that we have much to learn before a definite and reasonable exposition on the flow of sap in trees is formulated. The sciences of hydrostatics and pneumatics as bearing on botany would seem to need the attention of another Pascal or Galileo. The questions raised by "A. D." in reference to a curt paragraph on p. 382 are well worth consideration. He has, of course, for the deadlier effect of his own propositions, attenuated the statements embodied in the paragraph, which refers to sap flow in timber trees. In doing so he has made the task a more responsible one to explain away. The reference to the duramen or heart wood being hard and dry, was purely relative. Compared with the sappy region, the zone in and about the bark, certainly the heartwood is hard and dry. Were it true that heart wood contained an appreciable amount of sap, then should we remark considerable shrinkage when trees were felled and "winnowed." Neither would the fibres be so densely knit, so utterly solid, with a sap-containing heart wood. True it is, the wood is not destitute of moisture, neither are they shavings in a carpenter's shop. And along the medullary rays it is granted that moisture in minute percentage is found. In dicotyledonous trees such as the Plane, Elm, Lime, and Chesnut, up to twenty years of age, there is in all probability a service of sap rising in the medullary rays, from their junction with the cambium, inwards almost to the core. We have not so far successfully employed "x-rays" in penetrating tree anatomy, and as their power does not penetrate bones, it is not likely they will illuminate solid wood.

The only explanation to meet "A. D.'s" question as to why "certain" trees long after felling are found to be sappy and discoloured is this. The centre of trees primarily consists of loose tissue pith. For a period this is permanent in its character, and acts as a sap and air conductor. By and bye wood and bast bundles originate; they increase, they ultimately form a complete circle, growing continually to form wood, centremost, and expansive tissue outermost. By receiving more and yet more tissue-building matter, the innermost region—the wood—becomes hardened to the consistency we ultimately find it. Yet the central cord, once the pith, is not so extremely woven and consolidated as the wood, which started to knit outside the pith strand. Thus it happens that in such trees as Willows, some of which grow rapidly, and whose body structure is larger, moisture from without becomes absorbed more rapidly, of course, by the susceptible region, primarily the pith. And just as one tiny trickle of water has caused breaches in the Dykes of Holland, so in like manner an action of decay may set in among matured tissue such as compose solid wood, from the fact of their having absorbed moisture. This would be possible; cause and effect here are logical, yet in the duramen of the living tree the action of osmosis or sap flow has been long stopped on account of the solidity and density of the wood, and the deposit and waste material in the cell walls.

Then upon the point asking where the sap flow really is, the answer comes up the sapwood (alburnum) and down the inner phloem or bast. Note that the cambium layer lies between the alburnum (inner

side) and the bast (outer side), and consists of meristem, or active growing cells constantly dividing to add thickness to the wood, and in like manner pushing outwards on the outside next the bast, so as to supply the needs of an ever expanding circumference.

From the fact of the cambium being active it also participates in the regulating of the currents, its principal office being to employ the descending, elaborated sap—a comptroller of supplies. It is through the younger region of wood (the rings most recently deposited) that the sap ascends. In descending the building matter (to refrain from scientific parlance) is drafted to those tissues and localities mostly demanding it. Thus it comes that owing to the regular increase of outward growing tissues, those being left behind are in need of strengthening. Close, woody tissue is developed, and wiry, spiral vessels in most cases are prominent; and so by constant and increasing pressure and other relative changes, what was a year or two ago the sap conducting alburnum, has developed to strong and ever firming wood.

It is repeated that in the utterly woody condition no sap flow (as the term is understood) is found. The cambium never becomes sapless, while in four to six years the "wood" may lose its conducting function. Upon this hypothesis one may very truly see sap oozing from spring-pruned branches. The writer has seen long icicles hanging pendant from such limbs, the result of sap freezing as it exuded out and trickled down.

The concluding question put by "A. D." is one which I certainly can only reply to in conjecture. One thing is obvious, currents or motions during winter must be incomparably slow. The fluids very probably do solidify to an extent during severe frost. Protected in most cases by bark impenetrable to wet or wind, the inner fluids would suffer no loss or change from many weeks and months of almost absolute inaction. From more congenial external conditions in spring, and also from an inherent power generated from long custom, motions and expansions occur with the rise of temperature.—*H.*

THE HORTICULTURAL CLUB.

THE 25th Anniversary Dinner of this successful institution was held at the Hotel Windsor, Victoria Street, Westminster, on Tuesday, 13th inst. About forty sat down under the genial chairmanship of Sir John T. D. Llewellyn, Bart., M.P., president, and did justice to the good catering.

The toast list was short, and the speeches were crisp and terse.

Mr. George Paul, in proposing, and Mr. Alfred Pearson, in responding to the "R.H.S.," spoke in terms of great commendation of that society, and referred to details of the new scheme for acquiring a freehold garden, and starting a School of Horticulture.

"The Horticultural Press" was in the able hands of Messrs. George Monro and George Gordon.

"Prosperity to the club" elicited a most appropriate speech from the chairman, followed by a pathetic scene, when the aged and revered hon. secretary, the Rev. H. H. D'Omhain, had to be assisted to rise for the reply.

Mr. Charles Pearson was well selected to propose "The Visitors," and Mr. Morgan Veitch ably responded on behalf of the ladies and gentlemen.

The president's thoughtfulness was well exhibited when he proposed an extra toast to Mr. George Bunyard, who had so considerably taken upon himself the various duties connected with the management of the dinner, thereby relieving the hon. secretary of all trouble in the matter. Mr. Bunyard suitably replied, referring in most affectionate terms to Mr. D'Omhain, and the great interest he had for a quarter of a century taken in the club.

The last toast of the evening was by Mr. James H. Veitch to "The Chairman," called on at almost a minute's notice. Mr. Veitch performed his duty in a manner which brought forth encomiums from his hearers. Sir John Llewellyn's reply was simple and good. He made special mention of a grand stand of Rhododendrons which had been placed in front of him at dinner, and cordially complimented and thanked the Messrs. Veitch for so good a display of their favourite flower, so thoughtfully and beautifully arranged.

The evening was further enlivened with some musical items given by the Misses Turner, Miss Norah Pearson and her friend, Mr. Morgan Veitch, Mr. Albert Snow, and Mr. Harry Turner, whilst Mr. Charles T. Druery, V.M.H., was well received for two comic recitations.

DECIDUOUS CALANTHES.

THESE, having been treated properly since flowering, that is, placed in a light position free from drip, in a warm house, will soon need attention in the way of repotting.

The bulbs are in fit condition for potting when the young growths are an inch or so long, and pushing roots strongly. At this stage they are very likely to be attacked by cockroaches where these pests are troublesome, and should be watched accordingly. Where space is a consideration, the bulbs may be shaken out after flowering, the roots slightly shortened and laid in boxes on sphagnum moss until the time arrives for repotting.

In some places *Calanthes* of the *vestita* section are one of the easiest subjects to cultivate; while in others the best of attention is needed to keep them free from spot.

Occasionally one finds them revelling in overhead spraying, whilst, with another grower, the least wetting of the foliage soon causes spot. Each one must find out for himself what treatment suits his plants, and, speaking broadly, I think Orchid growing in general is a subject one has to learn over again in each place in which one may be placed.

Certain it is, however, that nothing is much more beautiful or useful in mid-winter than well grown spikes of *C. Veitchii*. Of this there are two forms, one with long "wasp-waisted" bulbs, and a long, loose spike with brightly coloured flowers; the other, with shorter bulbs and less pronounced "waist," and a shorter, denser spike, with flowers of a lighter shade.

The potting material should consist of good fibrous loam, from which the finer particles have been removed, mixed with a good proportion of dried cow manure, first rubbing it through an half-inch sieve; and clean leaf-soil or chopped sphagnum, adding sufficient finely broken crocks to keep the whole open. If scale has infested the plants, the bulbs should be cleaned previous to potting.

Where it is wished to increase the stock (not of scale!) the old bulbs may be laid aside to break, and potted up later on. They will produce full-sized bulbs in two or three years. Some growers pot each bulb separately, but the best effect is obtained, beside economising space, by potting the bulbs of such strong growers as *C. Veitchii*, *C. Regnierii*, *C. bella*, six or eight together in deep pans, or three or four together in 32 size pots. The latter plan is the best for the weaker growing *vestita* varieties.

In potting, the young growths must be turned outward, and the soil pressed sufficiently firm to hold the bulbs erect. Very large bulbs may need a small stake.

Great care must be taken with watering for some weeks after potting, an occasional moistening of the surface being sufficient until it is seen that the roots are getting well hold of the compost.

A night temperature of 65° to 70° suits them best at starting, with plenty of atmospheric moisture. Yellow thrips have a liking for the young growths, and must be kept down with periodical fumigation of XL All, or tobacco juice may be dropped in the growths with a camel-hair brush, taking care to blow it out again.

As growth advances more water will be needed until, by the time the bulbs begin to form, it is almost impossible to over-water them. Sheep manure water is of great assistance to them at this stage, and may be given two or three times a week.

Shading must be used in bright weather during the hot months of the growing season, but at the same time no more than is sufficient to keep the foliage from scorching. *Calanthes*, of the deciduous section, will stand a great deal of sunshine after the house is closed with the atmosphere at saturation point.

Like most East Indian Orchids they are very susceptible to chills from cold draughts, and direct air should be avoided at all times. As soon as the foliage begins to show signs of maturing, water

should be gradually withheld until, by the time the last few flowers of the spike are opening, the soil should be kept perfectly dry. If the atmosphere, too, is kept somewhat dry, the flowers will last much longer.

Much has been done in the way of hybridising among these lovely Orchids by both amateur and professional hybridists. Besides those species and hybrids enumerated, there are many more; and of the newer ones *C. Bryan* and *C. Wm. Murray* are well worth growing—*Practical*.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 13th inst.

Orchid Committee.

ODONTOGLOSSUM CRISPUM MUNDYANUM.—The ovate sepals of this grand variety are shaded with rose on a white ground, and furnished with several large and bold brownish-purple blotches. The broad, triangular, and imbricate petals are similarly coloured. The lip is richly ornamented with large lobed blotches in front of and around the crest. (First-class Certificate) Norman C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oakwood, Wylam-on-Tyne.

LAELIOCATTELEYA BERTHA FOURNIER SPLENDIDA.—The sepals and long elliptic petals of this bigeneric hybrid are of a rich, dark rose. The lip is of an intense crimson all over the base of the lamina, the colour extending over the side lobes; but the apex of the lamina shades off to purple simply. The throat and interior of the tube are crimson, finely lined with gold. This was, indeed, the boldest and most showy of the new hybrid Orchids shown on this occasion. (First class Certificate.) M. Ch. Maron, Brunoy, France.

DENDROBIUM MACROPHYLLUM RICHARDII.—The most striking feature of *D. macrophyllum* is the dense, moss-like covering of short and coarse hairs or bristles on the back of the sepals and on the flower stalks. The variety under notice has yellow sepals, spotted on the back. The petals are of a much deeper yellow, and spotted with violet on the back. The three-lobed lip is greenish, lined with violet, and the apex is spotted with violet. (Botanical Certificate.) C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham.

ZYGOPETALUM MURRAYANUM.—The sepals and petals of this curious little species are green. The lip and crest are white with a few purple lines in front of the crest. The flowers are fragrant.

Fruit and Vegetable Committee.

RHUBARB DAW'S CHAMPION.—This is the progeny of a cross between the varieties *Victoria* and *Champagne*. It is as early as *Champagne*, but much finer. The stalks are 20 in. to 24 in. long, by 1½ in. to 1½ in. wide. Forced specimens are of a dark and beautiful red, fading to rose at the apex. The stalks are intermediate in size between the two parents. (Award of Merit.) Mr. W. Poupart, Marsh Farm, Twickenham.

CHEMISTRY FOR THE GARDEN.

V.—AMMONIA.

(Continued from p. 395).

WE saw that the organic acids formed in dung-heaps by the action of slow combustion fix much of the ammonia at the time generated by the same process. An interesting experiment shows this can be made by any gardener who is anxious to prove the fact. A heap of rubbish (vegetable refuse) is made with a layer of caustic lime here and there. This is then watered liberally with the dark liquid which oozes from the dung-heaps, and the whole heap occasionally turned to help decay by the action of the oxygen of the air having free access throughout the mass. In process of time, part of this decomposed earthy heap can be taken and washed in hot water, which is afterwards either decanted or filtered according to the quality of purity the results are aimed at. This water is then evaporated, and the residue will be the clear crystals of saltpetre or nitrate of potash. Thus the humates, ulmates, &c., of ammonia have been converted into nitrate of potash, an essential plant food, and, moreover, the plants' natural food. A similar process is continually taking place in the soil, and when any salt of ammonia is added to a soil

having body enough to retain it the same conversion takes place. The action of the lime evidently has much to do in accomplishing this desirable change.

Plants seem to take up nitrate of potash in great quantities without suffering decomposition in their structure. Many gardeners will have often observed how *Gloxinia* leaves, if fed liberally during their season of growth, when withered and dry sputter sparks of nitre when burned. Several other plants grossly grown show the same material to be in their constitution. Some kinds of pipe tobacco, most smokers will be aware, have also a good deal of this salt in the leaves. We have also been informed by a *Chrysanthemum* grower of note, and who had been in the habit of feeding heavily with sulphate of ammonia, that a fine salt had often shown itself on the petals of the blooms. Our friend maintained it was the sulphate, but, of course, it was nitrate of potash. This caused great devastation among his show flowers. They decayed away by damp, prematurely, into a peculiar soapy state. The parts only on which the excrescence appeared behaved in this way.

In rich, argillaceous soils there is yet another agent or a set of agents which are of great value and importance in the preparation and storage of plant food; these are the double silicates, and we only intend to speak of them here in relation to their seemingly great affinity for ammonia. These double silicates, though of undoubted value, appear to be enveloped, as yet, in a good deal of mystery, especially with regard to the inceptive stage of their formation. They consist of silicic acid, alumina, and one of the following alkalies, viz., soda, lime, potash, and ammonia. The silicic acid and alumina, that is silicate of alumina, may be considered as inseparable, and by some means or other (some say by the agency of lime) this silicate takes soda, for instance, into company, and becomes a double silicate. If lime is presented to this new silicate the soda is turned out, and so on in the order above noted, ammonia taking the highest in the quartette. The ammonia evidently remains safely locked up in this company till such time as the soil conditions will admit of its being oxidised into nitric acid and nitrates similarly as any salt of ammonia when directly applied. In recent years bacteria are said to act an important part in this preparation of plant food. We, however, always considered bacteria an effect rather than a cause of certain chemical actions on organic matter. The very essence of the existence of the bacteria implies, if anything at all, that instead of being plant food producers they would appear to devour much of that food for their own sustenance. A few years ago we heard a lecturer give strict injunctions to his class with regard to adding hot or hydrate of lime to the land. Gardeners and farmers were called upon to exercise great judgment and caution when doing so, he said, in case that the economical little workers, viz., bacteria, would be annihilated! He advocated the application of lime in the form of carbonate, that is, old plaster or wall lime. Yet there is a strong presumption in favour of hot or caustic lime having to act a very necessary part in the process of the formation of nitric acid and nitrates in general. The salts of ammonia are occasionally very disappointing in their results. Not infrequently the sulphate of soda or potash give equally good results as the sulphate of ammonia. In such cases the soil is evidently not in a fit state to retain the ammonia, or it has not the power to convert it into plant food.—*Oxygen*.

(To be continued.)

PUBLIC PARKS AND GARDENS.

(Concluded from p. 394)

SOUTHWARK PARK.—The position of this place is worse than *Victoria Park*, as it is like a pretty child with a very dirty face. Even the grass has a sooty appearance; but under these depressing circumstances some things do fairly well. The *Chrysanthemums* here are grown much better than one would expect to find. The small lake has some nice little bits of scenery round it; but here, as in *Victoria* and *Kennington Park*, appearances have been sacrificed for the conveniences of the masses, as public roads have been cut through all three of these parks, a sacrifice which might have been prevented.

BATTERSEA PARK.—The chief feature of this park is the twenty acres which have been set aside as a sub-tropical garden. Undoubtedly this is one of the

most popular resorts in London for those interested in horticulture. This style of gardening was tried as an experiment in the cultivation of fine foliage plants, which had previously been thought too delicate for anything but a greenhouse; but for nearly a third of a century it has been the means of demonstrating that there are many plants and shrubs which can successfully adorn an open air garden during summer and autumn months. In the sub-tropical garden there is generally some good carpet bedding. A large quantity of the usual bedding plants is grown and used here each season. The propagating has recently become difficult owing to the water supply getting impregnated with salt, which must be brought up the river by the tides. The supply of water is pumped up from the Thames. There are some interesting bits of scenery in Battersea Park. The rockwork is all artificial, being made on the spot. The old style of ribbon borders is still carried out in the bedding arrangements.

KENNINGTON PARK is a surprise when first seen, as it actually has larger and better grown shrubberies than several of the big parks. The shrubberies extend well all around the park and have a fine appearance on account of the abundance of Holly. The bedding plants used in Kennington Park are grown and supplied from Battersea Park. This cannot be satisfactory. With the exception of small parks and gardens, I think that each place should grow its own plants.

GREENWICH PARK has a large amount of old timber, but many of the trees present a very stunted appearance owing to their having been lopped so indiscriminately, old and young, decayed and sound, Spanish Chestnut, Oak, Beech, Elm, and Horse Chestnut, every one lopped at the same height from the ground, so that in all England there is not such a melancholy lot of trees as those in Greenwich Park. What should we say of the head physician of an hospital who ordered that all the patients should be subjected to the same treatment?

DULWICH PARK is laid out more as a garden than a park. There are not many trees, as a few years ago the ground which is now the park was pasture land belonging to Dulwich College, the trustees of which gave it for public use. In laying out this park much more money was spent than is usually the case, but why hundreds of tons of brick hurrs were used for the rockeries instead of stone is beyond comprehension, as there is no moisture whatever for the plants on dry hurrs, whereas the stones retain it. A good collection of rock plants like that at Dulwich Park should have been properly treated, as those plants are the speciality of the park. The formal line round the margin of the lake could be much improved by a few aquatic plants so as to break up the formality of it.

BROCKWELL PARK.—A mile west of Dulwich Park is Brockwell, which was formerly the residence of Judge Blackburn, from whose trustees it was bought for public use. The mansion is now used as a refreshment room. The park is on a very open beautiful green hill, from which there are extensive and some charming views. The Elm trees scattered all about the park are large and well grown. On one part of the ground is a walled-in, delightful old garden, containing old fashioned flowers. This is termed the old English garden, and is a great attraction to the public. Many plants survive the winter at Brockwell, which would not live at other parks less favoured in altitude. There is a prospect of adding another forty acres to this park, which I trust may be secured for the public before the jerry builder gets his grip upon it.

BISHOP'S PARK, FULHAM.—In passing, we will just notice the lamentable mistake of placing this space under the control of local bodies. Incompetency follows. A considerable portion of the palace ground is within the moat. The noble old trees and wide green spaces form an appropriate setting to the Bishop's Palace. Instead of utilising this as an expanse to the landscape, the short-sighted policy was adopted; the fine old trees cut down, and evergreen shrubs planted to hide the beautiful inner grounds. Such a result might be expected from the ordinary vestryman.

RICHMOND PARK, both in its vast extent and character, is unlike any other metropolitan park or open space. It is more or less known to tens of thousands of persons, but is probably intimately known only to a few, as it is quite possible to get lost in it. The greatest attraction to Richmond

Park is that one could find there perfect solitariness and be alone with Nature. Its fine old trees, wide open spaces, and close proximity to the river, has given it an advantage over many of the smaller parks, half a dozen of which could be hidden in one corner of it. From a flower garden point of view, there is none in Richmond Park; but this is to be found quite near at Hampton Court, where the floral display is always on a large scale. The whole of the flower beds are backed up with masses of green; therefore, colours can be used more profusely here than in many other places, as green is the predominant colour in Nature.

Horace Walpole speaks of the gardens at Hampton Court as the finest in England, but that is a matter of opinion. The herbaceous borders are interesting, and remind one of Lord Bacon's eulogy on "My Lady's Garden." There are some splendid avenues of Elms at Hampton Court which have a fresher appearance than those in parks nearer the metropolis, another of which I will mention.

RAVENSCOURT PARK was formerly a private estate before it was acquired for public use. There are some fine old trees, which were only saved just in time, as the jerry builder had got possession, and if he had not been compensated he would have soon settled all the trees in his usual way. Some idea of the value of land in the suburbs may be realised by the fact that the Ravenscourt estate changed hands just over two hundred years ago. The price then paid for the freehold was a trifle over £10 per acre; whereas to-day the same land would realise over £2,000 per acre; but even at this figure it is a good investment, as all great authorities on health agree that it is essential to have these breathing spaces for the people. No one doubts nowadays the beneficial and softening influence which these parks have on the health and tastes of the masses.

The growing suburbs of Willesden contemplate purchasing Lord Aberdeen's estate. Ealing also expects to have another fine old estate shortly. Many of our provincial towns have fine parks and gardens. The limits of this paper will not enable me to describe the splendid collections at Kew Gardens which are unrivalled in the world.—W. B. Gingell.

CAN ORCHIDS TALK?

WELL, not exactly, perhaps, but figuratively speaking they can; for bless you they are as sensitive as the lens of your Kodak, and any little slight is resented by them quite as much as it would be by your pet animals. On the other hand if you coax them a bit they will become as tractable as possible, springing into activity, vying with each other to please, by putting on their best garb in due course in the shape of a grand display of their charming flowers the like of which it is difficult to describe. I think sometimes, after a close study of their peculiarities extending over twenty years, that there is not so much difference between the animal and vegetable kingdom, in respect to Orchids anyway; for really their likes and dislikes are very much on a par with our own.

We get in a draught and to a certainty will take cold; they in a like manner suffer, and will soon show it by the leaves turning yellow and in time falling off.

Again, if we get but little rest we are soon knocked up; so it is with Orchids. They cannot stand the strain of continual activity and are soon played out if not allowed a season of rest.

Stimulants, too, if not taken sparingly and in a much diluted form, will cause blemishes to appear, to be followed by general debility; and so it is with Orchids (for they have a big thirst). It acts as a sort of a whip for a time, causing them to make abnormally large and sappy growths, but it is the reaction that shows the mischief up. First comes a speck which gradually develops into a spot, and presently off the plant goes.

Overcrowding, too, is bad for man and beast. It applies equally to plant life, causing spindly and weak growths which are quite unable to stand the vicissitudes of our climate. No matter how elaborate the scale on which you work in respect to structures and heating appliances they must have elbow room.

Regarding cleanliness, of course, it goes without saying that nothing or nobody but the *Boers* thrive in dirt, so that it will be seen that being under glass

Orchids cannot get a wash with the rains so it must be done by the sponge, &c.

I sometimes think they can hear, too. If so, how they must laugh at those know-all-about-the-plants, alone-I-did-it sort of people, who like to take the credit which is due to others. Knowing full well how badly they would fare if it were not for the man that watches over them and ministers to their wants when out of flower, as well as admires when in flower.

They like a change, too, as well as ourselves. We like a fresh garment, they like a fresh pot, and so on, so that in most particulars the resemblance is very real.—T. H., S.

GARDENING MISCELLANY.

VARIOUS NOTES.

SEEDS of *Grevillea robusta*, *Musa*, *Dracaena indivisa*, *Smilax*, and *Cosmos*, all very useful market and decorative plants, should be sown now. Special varieties of double *Petunias* should be propagated from cuttings at this time. A good strain of *Petunias* furnishes a beautiful batch of plants for summer indoor flowering. By keeping them well pinched, and growing them cool and firmly, a later batch will come in for August and autumn blooming. *Poinsettias* may now be shortened back somewhat and laid away under a warm stage till they are wanted for next season's cuttings. *Begonia Gloire de Lorraine*, or, at least, some of the spent plants, may be cut back now and slightly rested, previous to taking off cuttings. Stout leaves may be secured at this juncture and inserted for propagation in the same way as the *Rex* type are treated.

PITCAIRNIA CORALLINA.

THE genus *Pitcairnia* is a very extensive one, the species being all members of tropical America. In *P. corallina* we have one of the showiest from among the long selection. It is in favour at the present time, bearing long crimson-ruddy spikes, which spring from the base of the leaf-stems. These spikes number from three to seven, in a well-grown, large specimen, and are peculiar in so far that they are deflected or bent down over the edge of the pot. The leaf is slightly downy, long, broad, and arching; and may roughly be described as like a downy *Curculigo*. A porous soil, a very warm temperature, and moisture-laden air, are factors necessary in its culture.

THREE SHRUBBY FLOWERING PLANTS.

THOSE gardens are well off which can show batches of *Rhododendron indicum obtusum*, a pretty, reddish flowered variety; *Chorizema Chandleri elegans*, a terra-cotta bloomer; and *Spiraea Van Houttei*, with white flowers. Batches are much more advocated for effect by those fittest to give an opinion, than are stray plants which are dotted about on the stages. The massing of plants of a kind has this advantage, that it gives rest to the eye, and satisfies one's sense in this direction. In smaller gardens big batches cannot be grown, especially if a varied choice of plants is wanted. The *Spiraea Van Houttei* bears long sprays of closely set, small, white flowers, and light green ovate leaves. It is, like many other plants of its class, easy to house and take care of once it has attained a year or two's growth. The *Chorizema* is graceful in growth, and pretty in foliage, being after the pattern of a small holly leaf. The flowers are pea-shaped, and of that rather rare colour already noted, terra cotta and pale mauve. It flowers freely, and is a very pretty subject. *Rhododendron indicum* is well known, and much prized. The *Spiraea* and *Chorizema* may be raised from seeds, though cuttings of the young wood are more preferable in the case of the former. The *Rhododendrons* are much cheaper to buy from those who trade in them.

STREPTOCARPUS.

THE hybrids of recent years have become numerous, lending a wide selection of colours to choose from. Whites, mauves, and blues predominate, but time may give us a fuller range. The shades of colour to be found in *Cyclamen* are only about half-a-dozen, and more roughly may be said to be divided into red and whites. *Streptocarpus* are easier to grow

than are the Cyclamen, although they, too, have a nasty trick of stuhhornness under certain conditions of treatment. Cool-house treatment they certainly prefer. Water they like in goodly amount, a rich, friable loam, too, and freedom from the pestering suction of green flies, &c. A somewhat balmy, half-moist air, firm potting, and moderate root room, may one and all be taken as salient factors in their culture.

STATICE SUWOROWI.

For a bedding plant above a groundwork of some sort of procumbent plants, this pinkish flowered Statice may be borne in mind. It is employed largely in the London parks for such a purpose. It makes a useful auxilliary for the florist in the make-up of winter bouquets. For this purpose seeds must be sown early in June, and the plants which result therefrom may afterwards be accorded attentive treatment, such as are given to Eupatoriums, &c. The watering is a point to be careful with.

ROYAL GARDENERS' ORPHAN FUND.

REPORT AND STATEMENT OF ACCOUNTS FOR 1899.

The twelfth annual general meeting of subscribers to the above fund was held at the Essex Hall, Essex Street, Strand, W.C., on Friday, February 16th, 1900. In presenting their twelfth annual report the committee have pleasure in congratulating the subscribers on a year of steady progress, the receipts from all sources showing an increase of £75 1s. 2d., which is satisfactory as indicating that, notwithstanding the great difficulty experienced in collecting subscriptions, owing to the many urgent appeals made to the benevolent for support in aid of the various patriotic funds, the Royal Gardeners' Orphan Fund has not only been able to hold its own, but also to increase the amount of the year's aggregate allowances made to the orphans. The revenue derived from subscriptions and donations, though showing an increase on the previous year, reveals a sensible decrease in the amount collected by local secretaries, a circumstance which the committee can only regard with some anxiety, though they have reason to believe that the falling off in this source of income is only temporary, the result being due rather to the difficulty experienced in collecting subscriptions than to any slackening of the efforts of those who have hitherto done so much in support of the fund. In common with most other charitable institutions, there is only too much reason to fear that the fund may suffer from the pressure of the times during the coming year, but the committee sincerely trust that the supporters of the institution will assist them to the uttermost in their efforts to avoid such a deplorable contingency. To maintain the usefulness of the fund unimpaired should be the aim of every one interested in gardens and gardening, and the committee more especially appeal to gardeners themselves to increase their efforts on its behalf of collecting small sums in their own districts.

The number of children who have been elected to the benefits of the fund during the past eleven years is 113, and the total amount which the committee has been enabled to distribute among the destitute orphans during that period is £7,711 2s. 6d. The number of children now on the fund is seventy-two, exclusive of those elected at the annual meeting.

The committee desire to acknowledge with grateful thanks the keenly appreciated services rendered to the fund by Alderman Sir. Reginald Hanson, Bart., M.P., who so kindly presided at the Annual Festival, and whose cordially expressed appreciation of the work carried on by your committee, and his most forcible appeal for support on its behalf, resulted in a subscription list amounting to £602 12s., a result which was the more gratifying in that the festival had, for unavoidable reasons, to be held at a later period of the year than usual.

It is with extreme pleasure the committee make the announcement that Lord Battersea has very kindly consented to preside at the next festival, which has been fixed to take place on Tuesday, May 8th, at the Cafe Monico, 46, Regent Street, W.

By the recent death of Mr. Alfred Outram the fund has also lost the services of a devoted worker, and the committee, a colleague whose genial presence and whole-hearted sympathy with the objects of the fund will be greatly missed. The seat vacated by Mr. Outram's death has been filled by the election of Mr. Peter E. Kay, Claigmar, Church End, Finchley.

The resignation of Mr. J. Cheal has also been received, and the vacancy filled by the election of Mr. W. R. Alderson, Bell Farm, Hersharn Road, Walton-on-Thames.

The retirement of Mr. Marshall and Mr. Herbst is an incident in the history of the fund which your committee cannot but deeply regret, and their colleagues desire to place on record their high sense and appreciation of the valuable moral and material support which these gentlemen have so ungrudgingly rendered to the fund. Mr. Herbst, one of the founders of the fund, was one of the most constant attendants at the meetings of the committee until struck down with illness, from which he has unhappily not yet recovered, and the committee ask the subscribers to signify their appreciation of his good and faithful service by according him their special thanks. Mr. Marshall's services to the fund as chairman since the lamented death of Mr. George Deal in 1890, have been invaluable, and as a slight recognition of the uniformly courteous and efficient manner in which he has so long and so faithfully discharged the duties of his office, the committee have the pleasure of nominating him for election of vice-president.

The committee again most cordially acknowledge the generous and most practical manner in which the treasurer, Mr. Sherwood, has continued to assist the fund, and warmly thank him for his valued services during the past year. To the auditors, Mr. Martin Rowan and Mr. Peter Rudolph Barr, the hearty thanks of the committee are accorded for their patient and exhaustive audit of the accounts. Mr. Rowan is the retiring auditor, and is nominated by the committee for re-election.

The committee are unanimous in nominating their secretary, Mr. Brian Wynne, for re-election to that office.

CASH STATEMENT FOR THE YEAR ENDING DECEMBER 31ST, 1899.

RECEIPTS.			
	£	s.	d.
To Balance from last Account	658	13	5
" Subscriptions	345	11	8
" Donations	278	13	2
" The Emma Sherwood Memorial	13	0	0
" Annual Dinner	602	12	0
" Advertisements in List of Subscribers	27	18	0
" Miscellaneous Receipts	3	3	7
" Dividends on Stock and Interest on Deposit	273	17	5
	£2,203	9	3

NOTE.—INVESTMENTS:

2½ per cent. Consols	£7,070	6	10
3 per cent. Canadian Stock	2,000	0	0
L. and N. W. Railway Pref. Stock	340	0	0
Thomson Memorial Trust: East Indian Railway B. Anniversary of £14 (cost)	430	11	0

EXPENDITURE.

	£	s.	d.	£	s.	d.
By Allowances to Orphans	£946	15	0			
" Emma Sherwood Memorial	13	0	0			
" Grants in Aid	13	17	6			
				973	12	6
" Annual Dinner				155	9	1
" Secretary's Salary				99	13	0
" Printing and Posting List of Subscribers				27	9	6
" Printing and Stationery						
" Annual General Meeting and Audit						
" Hire of Room for Meetings						
" Advertising						
" Illuminated Vote of Thanks to Mr. Barron				81	0	9
" Postages						
" Bank Charges						
" Sundry Expenses (Petty Cash)						
" Balance—						
Cash at Bank	728	14	0			
Cash in Hand	37	10	5			
Cash on Deposit	100	0	0			
				866	4	5
	£2,203	9	3			

Having inspected the Securities and examined the Books and Vouchers supplied to us, we hereby certify the above Account to be correct.

(Signed) P. RUDOLPH BARR } Auditors.
M. ROWAN }

Dated January 30th, 1900.

After having read the report which was put before the meeting by the chairman, the adoption being seconded by Mr. W. Roupell, and unanimously agreed to, the secretary read a letter from the Bournemouth Gardeners' Association. This referred with regret and disapproval upon the terms of rule II., which allows more than one member of a family to receive support from the institution. Upon the motion of Mr. R. Dean, the proposition of the Bournemouth Gardeners' Association was relegated to the executive committee for consideration. In his remarks, Mr. R. Dean supported rule II. and its hearings, explaining in so doing, that only in extreme cases of family difficulty did the committee ever recommend two children from one family. The funds and the standing of the Gardeners' Royal Orphan Fund were not likely to suffer from their

hitherto policy. Mr. H. J. Jones seconded. The following resolutions were put before the meeting and unanimously adopted:—

(1) By Mr. A. W. G. Weeks, chairman, seconded by Mr. W. Roupell, "That Sir Reginald Hanson, Bart., M.P., and Mr. W. Marshall, be elected as vice-presidents of the institution."

(2) Also proposed by the chairman and seconded by Mr. R. Dean, "That owing to the lamented death of their late friend and trustee, Mr. Sydney Courtauld, that office being vacant, Mr. Wm. Sherwood be elected to it."

(3) Proposed by Mr. H. B. May, and seconded by Mr. C. E. Osman, "That Mr. N. N. Sherwood be re-elected treasurer."

(4) "That Mr. N. N. Sherwood be elected chairman," proposed by Mr. H. B. May, seconded by Mr. Osman.

(5) Proposed by Mr. Assbee, and seconded by Mr. Poupart, "That Mr. Martin Rowan and Mr. Rudolph Barr be re-elected auditors."

(6) Proposed by Mr. A. Dean, and seconded by Mr. J. Fraser, "That Mr. A. W. G. Weeks, Mr. H. J. Jones, Mr. R. Dean, Mr. W. Bates, Mr. H. B. May, and Mr. G. Reynolds, be re-elected as members of the committee."

(7) Proposed by Mr. Morris, and seconded by Mr. R. Barr, "That Mr. Whitpain Nutting, 106, Southwark Street, S.E., and Mr. E. G. Monro, Covent Garden, W.C., be elected to the vacant seats on the committee."

(8) Proposed by the chairman, seconded by Mr. H. B. May, "That the committee appreciating their great loss in the retirement of Mr. H. Herbst, convey to him their sincerest thanks for his long continued and ungrudging labour during his period of office, and sympathise with him in his illness."

(9) Proposed by the chairman, and seconded by Mr. Assbee, "That Mr. Brian Wynne be re-elected secretary at a salary of £100 per annum." Mr. G. T. Wyles, representing Southampton and district, corroborated the remarks made in respect to the ability and courtesy of Mr. Wynne as secretary. Mr. Wynne appropriately replied, after which the meeting dispersed till the closing of the hallot

At half past four, the following names were announced as elected, with their respective number of votes:

- 1st, Hilda Kathleen Mary Rogers, 506 (189)*
- 2nd, Aaron Hall, 470 (91).
- 3rd, Winifred Moxham, 429 (160).
- 4th, Charles Arthur Dranfield, 427.
- 5th, John Baird, 254 (41).
- 6th, Edward White, 237 (63).
- 7th, Geo. William Stevens, 153.
- 8th, Margaret May Wood, 148.
- 9th, Sarah Louisa Emily Langley, 135.

The remaining two children were placed on the list for relief, on the proposition of the committee, through the chairman; and this was sanctioned by those present. Since the printing of the voting paper there were three other urgent applications for relief; and they were also placed on the list for relief, making a total of fourteen children placed on the fund on this occasion.

ANNUAL FRIENDLY DINNER.

After the usual business of the annual general meeting the subscribers, committee, and supporters of the fund met together to partake of the annual friendly dinner at Carr's Restaurant, 265, Strand, W.C., at 6 p.m., under the presidency of Mr. George Monro, of Covent Garden. Amongst the company present we noted Messrs. N. N. Sherwood, J. Asshee, W. Bates, G. H. Cuthbert, W. Howe, H. J. Jones, J. Lyne, H. B. May, J. F. McLeod, T. A. Morris, W. Poupart, A. W. G. Weeks, B. Wynne, Percy Wynne, Edward Kromer, A. J. Monro, H. Cuthush, John Russell, G. J. Ingram, R. H. Pearson, D. B. Crane, John Pinches, P. Rudolph Barr, Geo. Barr, J. W. Moorman, Berry, J. Fraser, and E. Cuthbert Nunn, F.R.C.O., A.R.A.M., the latter being the organist to Leytonstone Parish Church, who on this occasion acted as accompanist on the piano.

After the usual loyal toasts, proposed by the chairman, and well received, he then proposed the "Royal Gardeners' Orphan Fund," of which he gave a brief history from its foundation in 1887, to commemorate the year of Her Majesty's jubilee. He recalled the splendid meetings held in Covent Garden Flower Market, when the market men first came seriously to the aid of the fund, which, since

* Denotes the number of votes received at last poll.

its commencement, eleven years ago, had supported 113 orphan children, and helped some of them to make a start in life, after being no longer eligible for support by the charity. He further expatiated upon what the people of this country could do when they thoroughly made up their minds; and went over ground from the relief of an orphan child to the relief of Kimberley and the colonies. For some months past all charities had suffered on account of the war, and the fact that the usual sources of support had been more or less diverted into other channels in order to support the widows and orphans of soldiers at the seat of war. The fund had thriven in spite of the war; but he would like to see gardeners themselves taking a more active interest in the Royal Gardeners' Orphan Fund, by becoming subscribers. He coupled with the toast the name of N. N. Sherwood, Esq., the highly esteemed treasurer.

Mr. Sherwood, in his reply, stated that, though this charity was so prosperous at present as to undertake the support of so many children as they had done that day, they must not go too rashly ahead. Nothing appeals more to the world than the poor orphan, whom it should be one of our first duties to support. We must not allow the grass to grow under our feet. Although the fund had nine thousand and some hundreds of pounds invested, it was desirable to be always having something to add, as it gave them a sense of security. He liked to see the reserve growing, and the committee coming forward to ask what he was to do with some fresh item to the credit of the fund. The greatest advertisement they could have was an annual election. He concluded by saying that he would always do his level best for this excellent gardening charity. Mr. A. W. G. Weeks said that the previous speaker was a real, live treasurer, to which Mr. Sherwood replied that it was a pleasure to him to help such a charity, and hoped he would long be able to give his assistance.

Mr. Herbert Cutbush proposed "The Committee," to which Mr. H. B. May on behalf of his fellow members of committee briefly replied.

Mr. W. Bates proposed "The Secretary, Mr. B. Wynne," and said he was glad to say Mr. Wynne had fully met the expectations of the committee during his first year of the secretaryship. It was no easy matter after such an excellent and popular secretary as Mr. A. F. Barron, who held the post from the commencement of the charity in 1887 till his resignation last year. Mr. Wynne thanked Mr. Bates and the rest of the committee for the way they had received him. He was the only member of the original committee still left upon it. He alluded to the two magnificent displays provided by the market men of Covent Garden, and said the earlier one provided the first substantial nest egg the Orphan Fund had. About £1,000 was secured. It was also a magnificent advertisement for the market men, and he naively suggested that the market men might organise another show of the kind. Mr. Wynne concluded by saying that he would do all he possibly could for the benefit of the fund, so long as he could command the confidence of the committee.

Mr. W. Poupart proposed the "Gardeners' Royal Benevolent Institution" and advocated the claims of this charity, also successful. Mr. G. J. Ingram replied that if the Orphan Fund required much exertion to keep it up to its best, so it was with the Benevolent Institution in these troublous times. They found that when the anxieties of living were removed the pensioners lived long so that they were unable to estimate their liabilities as in the case of the Orphan Fund; but it was something for the Gardeners' Institution to think that they were able to prolong life. There was room for both charities, however.

Mr. J. Asshee, of Covent Garden, proposed "The Chairman," and said he was a host in himself; and was both well known to everybody and highly respected in Covent Garden. Mr. G. Monro replied, and said that whatever he had done for the benefit of the Gardeners' Orphan Fund, that Mr. Asshee had done even more for that charity.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of

news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. R. Bullen, The Gardens, Kilhey Court, Worthington, near Wigan, for his article on "Pot Vines as Decorative Plants."

QUESTIONS AND ANSWERS.

Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Kind of Thyme Used for Flavouring.—H. A. P.: There is a difference of opinion, or rather of taste in the matter, some using the Common Thyme (*Thymus vulgaris*) and others the sort known in gardens as *T. citriodorus* or lemon-scented Thyme. The former is the more strongly flavoured, and is usually raised from seeds obtained from the seedsman. Indeed, this is the best way to raise it, as the plant does not so readily respond to division, though we think it could be raised easily enough from cuttings. It is less trouble, however, to raise a supply from seeds sown in April in lines, thinning out the plants when they have made appreciable growth. The lemon-scented Thyme is readily increased by division, as the procumbent shoots readily root in the ground. Every bit with a few roots may be planted out where it is intended to remain.

Flowering Shrubs for an Old Wall.—J. Wilson: We take it for granted that shrubs or climbers with relatively large and showy flowers are what you want. If so the following should answer your purpose:—*Jasminum nudiflorum*, *Clematis montana*, *Clematis caerulea*, *C. c. grandiflora*, *Deutzia scabra* (not a climber, though it may be trained as such), *Magnolia conspicua*, *M. c. soulangeana*, *Jasminum officinale*, *J. revolutum*, *Clematis Jackmanni*, *Rose Gloire de Dijon*, *Rosa multiflora*, *Ceanothus rigidus*, *Ceanothus Gloire de Versailles*, *Honeysuckle*, *Wistaria chinensis*, *Magnolia grandiflora*, *Ribes speciosum* (5 ft. to 8 ft. high), *Fuchsia Riccartoni*, *Forsythia suspensa*, *Pyrus japonica* in variety, *Lonicera fragrantissima*, *L. Standishii*, &c. The two last named have neither large nor showy flowers, but they are fragrant, and appear early in spring or even in winter, and are acceptable on that account.

Number of Species of Petasites.—E. C. H. D.: Thirteen species of Petasites are recorded in the *Index Kewensis*. Possibly some of them have been introduced since your edition of Dr. Hooker's *Students' Flora of the British Islands* was published. Please observe, however, that any figures given need not be regarded as absolute, because they are only intended to be an approximate estimate of the number of good species. There is always a considerable difference of opinion as to what a species really is, and consequently as to the number that exist. The species you send is Petasites fragrans, a native of the Mediterranean region, but often found growing wild in this country, as escapes from gardens. We have several times met with it in different counties. You sent a leaf of it to us last autumn, you may remember.

A Floral Clock.—Allen Keighley: Lists of plants are occasionally given, and which are stated to open or close at certain hours of the day, but many of them are more or less affected by the state of the atmosphere as to moisture, and the presence or absence of sunshine. The following is a list of plants constituting the so-called floral clock; but no doubt observations would show many others equally if not more accurate:—*Dianthus prolifer* (Proliferous Pink) shuts at 1 a.m.; *Sonchus palustris* (Marsh Sowthistle) shuts at 2 a.m.; *Tragopogon pratensis* (Goat's Beard) opens at 3 a.m.; *Leontodon autumnale* (autumn Hawkbit) opens at 4 a.m.; *Sonchus oleraceus* (common Sowthistle) opens at 5 a.m.; *Hypochaeris maculata* (spotted Cat's-ear) opens at 6 a.m., as does *Hieracium umbellatum* (Umbelled Hawkweed); *Hieracium subaeratum* (Savoy Hawkweed) and *Dimorphanthea pluvialis* (Cape Marigold) open at 7 a.m., but the latter only

in the event of a clear day; *Hieracium auricula* (Eared Hawkweed) opens at 8 a.m.; *Hypochaeris radicata* (Cat's-ear) and *Malva corollina* open at 9 a.m.; *Lactuca sativa* (Garden Lettuce) opens at 10 a.m.; *Crepis alpina* (Alpine Hawk's-beard) opens at 11 a.m.; and the Blue or Alpine Sowthistle (*Mulgedium alpinum*) opens at noon. You could probably add to the above list by observing a large number of wild or cultivated plants every day during next summer, and marking down on your list whether they open at regular hours or not, and whether the day is wet or fine.

What is Snow in Summer?—W. T. M.: There are two or three plants to which the name might be applied by those who are not very exact in applying the term. For instance, there is the Snowball-tree, a variety of *Viburnum Opulus* or Guelder Rose, and which flowers in summer. Then there is the Snowberry (*Symphoricarpos racemosus*) which produces berries that become white and conspicuous towards autumn. The designation is not strictly exact, however. The name Snow in Summer is applied, locally at least, to *Cerastium tomentosum*, one of the Mouse Ear Chickweeds, a plant often used for edgings and for carpet bedding purposes. Possibly this is the plant to which you refer. The young leaves become very white and snowy in appearance during the summer months. The large flowers are also white and very profusely produced.

Names of Plants.—H. J. W.: 1, *Acacia riceana*; 2, *Acacia armata*; 3, *Iresine Lindenii*; 4, *Iresine Verschaffeltii*; 5, *Echeveria secunda glauca*; 6, *Echeveria fulgens*.—W. N.: 1, *Dendrobium Pierardi*; 2, *Dendrobium crassinode*; 3, a good average variety of *Odontoglossum crispum*.—W. C.: 1, *Platyloma rotundifolia*; 2, *Polypodium lingua*; 3, *Pteris longifolia*; 4, *Sibthorpia europaea variegata*.—Vanda: 1, *Gasteria verrucosa*; 2, *Aloe serrata*; 3, *Sempervivum tabulaforme*.—T. J. L.: 1, *Narcissus Tazetta Paper White*; 2, *Azalea indica amoena*; 3, *Daedalacanthus nervosus*; 4, *Begonia knowsleyana*.—E. C. H. D.: Petasites fragrans (see separate note).

Communications Received.—A. Hope.—Riviera and Italy.—Toogood & Sons.—W. H. W.—R. Dean.—W. R.—E. M. B.—A. G. B.—Ed. Wood.—A. L.—D. T.

TRADE CATALOGUES RECEIVED.

VILMORIN-ANDRIEUX & CIE., Marchand's-Grainiers, 4, Quai de la Mégisserie, Paris.—Catalogue of Chrysanthemums of Autumn; also Catalogue of Dahlias and Cannas.

TOOGOOD & SONS, SOUTHAMPTON.—Toogood's Royal Farm Seeds.



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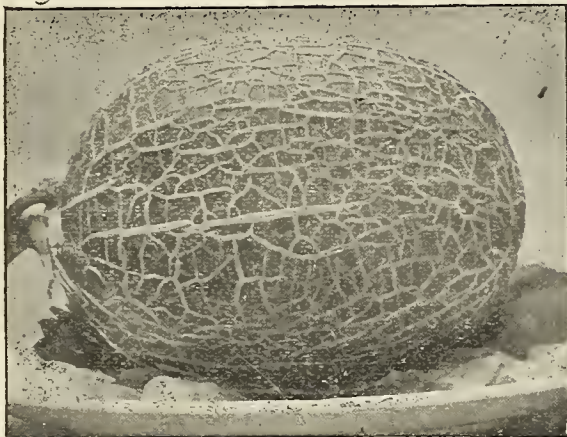
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James Veitch & Sons Ltd
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last four years at their Quemerford Station,* Wilts, with the object of determining this question, and answer it, in the affirmative, by stating "that really good rotation crops can be grown without the aid of farmyard manure for many years, provided that artificial be judiciously employed." The crops grown were Mangel, Barley, Beans, and Oats, in this respective order for the four course rotation. Mangel and Beans represent garden crops; and it would be easy to find substitutes for the others amongst the many subjects which gardeners are called upon to cultivate.

The manures employed in these experiments were kainit, superphosphates, basic slag and nitrate of soda. The kainit and basic slag, being very slowly soluble, were applied in the autumn; the superphosphates in early spring; and the nitrate of soda in separate dressings after the seedlings were above ground, the first immediately after germination, and the others at intervals of three or four weeks. The ground under experiment was laid out in plots, and during the first year the object aimed at was to determine what quantity of nitrate of soda was the most economical to apply to Mangel, Barley, and Oats, respectively. We may here state that heavy crops might result from heavy dressings; but unless the produce is sufficiently great to give a good return for the extra outlay, in fact to do more than pay for the extra manure, then no object is gained in applying such a heavy dressing. The proper way to solve this point is to leave a plot of ground unmanured by way of a check to ascertain what weight of crop it will produce without manurial applications. Of course this check is observed in all the experiments under notice. The real profit is that which accrues after so much has been set aside to pay for the manure. This is a point which gardeners do not seem to consider. If a heavy crop is secured the cost seems to be disregarded or quite immaterial. When a knowledge of the chemistry of manures, and the economical advantages of employing them in certain proportions, come to be more widely diffused amongst gardeners generally there will be less indiscriminate manuring than is carried on at present. If the aim is to get the heaviest crop, or the largest roots, or fruits regardless of expense, the same heavy applications may continue to be made for exhibition purposes. The same would apply to fruits for market, provided the price paid by the public for extra large samples were sufficient to recoup the grower. Thus the question comes to be a very complicated one amongst the gardening fraternity.

From an agricultural point of view the case is quite different. In the case of Mangel the Wilts County Council found that 4½ cwt. of nitrate of soda per acre constituted the most economical dressing; for Barley it was 1½ cwt., and for Oats 2 cwt. These differences are brought about by the peculiar requirements of each respective crop, and the different faculties each possesses for collecting the nitrogen present in the soil. It was demonstrated that Beans were in no way benefited by applications either of nitrate of soda or sulphate of ammonia. We have frequently, on previous occasions, stated the reasons for this peculiarity evidenced by leguminous crops generally. The second year was devoted to the purpose of ascertaining the most economical dressing of superphosphate for those crops. This proved to be 1 cwt. per acre for Mangel; and 3 cwt. each for Barley and Oats. Very little material advantage, that is, profit,

*Report of the Calne Agricultural Demonstrations. Eyre & Spottiswoode, London—East Harding Street, Fetter Lane, E.C., 1900.

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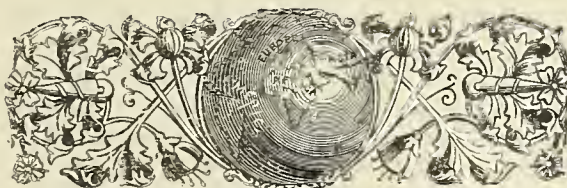
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MARCH 3rd, 1900.

ROTATION CROPS AND ARTIFICIAL MANURES.—There are still considerable differences of opinion as to the necessity for a strict observance of the rules of rotation cropping. In many gardens good crops of Onions, Potatos, Carrots, Parsnips, Dahlias, and other flowers and vegetables, are taken off the same ground for many years in succession, with the best of results. As often as otherwise, perhaps, the ground has been specially prepared for such crops in gardens, and in a way that would be impracticable in the field. Some crops there are, however, that would baffle a good gardener to grow successfully on the same ground year after year without the importation of fresh soil, which would practically amount to the same thing as rotation cropping. Another question is agitating the minds of experimenters and scientific men at the present time, and that is, can rotation crops be grown successfully without the aid of farmyard manure. The Agricultural Committee of the Wilts County Council has been carrying on experiments for the

accrued from applications of superphosphate to Beans. During the third year varying quantities of salt were used upon Mangels, with the result that 3 cwt. per acre gave the best results. This is no doubt due to the fact that the wild Beet plant is a native of sea shores. The Bean crop again proved an enigma, for although kainit was applied to different plots in varying proportions, ranging from 3 cwt. to 9 cwt. per acre, none of the returns were sufficient to guarantee the cultivator against pecuniary loss, or at least the crops were not sufficiently remunerative. During the fourth year basic slag at the rate of 4 cwt. per acre was applied to 16 perches cropped with Beans; and a similar area was left unmanured. The crops of Beans was practically the same from the manured and unmanured plots. We may here state that the land at the Quemerford Station is of a heavy and clayey nature. This may explain the want of success from the applications of manure for Beans. The latter, we presume, are capable of collecting sufficient food from heavy and relatively rich soils without immediate manuring.

The Wilts County Council admit that no manure is more reliable than well made, farmyard manure, in the southern counties of England, at least, on account of the uncertainty of our fickle climate, and the frequency of drouthy seasons which often render the application of artificial manures abortive by reason of the lack of moisture. In the absence of the latter there is really nothing to act as a vehicle in carrying the necessary food into the plant, nor moisture to help in bringing about the solution and chemical change necessary in the preparation of plant food, whether existing in the soil naturally or applied artificially.

Easter falls on April 15th this year; gardeners may need to keep the fact before them.

Mr. A. Ward, The Gardens, Stoke Edith Park, Hereford, has been appointed head gardener to F. A. Bevan, Esq., Trent Park, New Barnet, in the place of Mr. W. H. Lees, who is going into business on his own account in Watford, Herts.

Gardeners' Charity Guild.—In addition to the Duke of Fife, whose acceptance was notified here last week, the concert which is being organised for the 14th inst. will be under the patronage of Lord Balfour of Burleigh; Lord Amherst, of Hackney; Baron Schroder, Sir Trevor Lawrence, Sir William Maclure, M.P., and several other gentlemen. The Guild has evidently done a good thing in securing Mr. Sherwood as chairman of the concert, as we understand that gentlemen so far away as Birmingham have intimated their intention of coming to town purposely to support him.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting was held at St. John's Parish Room, on Thursday, 22nd ult. Mr. Charles Lock presided over a good attendance. The paper was supplied by Mr. A. Moore-Sara, of Elmside, Stoke Bishop, on "The Pollen Grain and its Functions." With the help of black-board diagrams he made the subject very interesting, tracing what is known of the conception of the sexuality of flowers, from the time of Herodotus down to the 17th century, when in 1676 De Grew in a hook on "Plant Anatomy" laid down in definite terms the law of vegetative impregnation, accepted by botanists to-day, and in a greater or lesser degree understood by all present day gardeners. Dealing in detail with the subject he described the formation of the pollen, some of the many methods of distribution, and the process through which it had to pass until fertilisation was complete. A short discussion followed, chiefly on the advisability of forming a botany class in connection with the Association. Prizes for three pots of Narcissus were secured by Messrs. Price and R's. Certificates of Merit went to Mr. White and Mr. Clark, each for an Orchid in bloom.

Early Outdoor Potatoes.—To protect the early rows of Potatoes in the open, some means of shelter should be provided. Low walls of turf run along between every three rows furnish this want, and the extra price obtained for early supplies fully pays for the trouble of running up the said turf walls.

The Recent Snowstorm, consisting, as it did, of wet, adhesive snow, bent down the heads of the Birch trees forming the undergrowth beneath the tall Pines on Esher Common, and broke off the tops of many of them. Others seem unable to straighten themselves again. The top branches of the Pines in many instances have been smashed about as if they had suffered a bombardment.

"One and All" Gardening for 1900.—This popular annual for amateurs, allotment holders and working gardeners is out once again. As usual Edward Owen Greening is the editor, the issue being a publication of the Agricultural and Horticultural Association, Ltd., 92, Long Acre, London, W.C. Last year there were 60,000 copies sold, and with such records to show, it proves that the class catered for must be fully satisfied. A booklet of this kind, so well illustrated with vegetable and flower photos, plus explicit text rules and description, must and is doing capital service by creating interest in gardening among the working people of our lands.

The Reading & District Gardeners' Mutual Improvement Association.—"Horticultural Buildings" was the subject of an interesting and practical paper read before the members of the above Association on Monday last, by Mr. G. H. Parsons, Horticultural Builder, Reading, who, in a few preliminary remarks, said that horticultural buildings, as compared with religious and domestic buildings, are quite modern. The last 200 years will nearly cover all records. Their necessity arose from the bringing home, by travellers and others, of plants and seeds that would not stand the rigours of our climate. The modern and popular taste for Tomatoes, Cucumbers, &c., has caused the erection of thousands of houses. Prolongation of season of different fruits, flowers, and vegetables, is also another prolific cause of construction. After explaining the action of the rays of light passing through glass at various angles, Mr. Parsons passed on to the consideration of glass and roof pitches, sites, forms of houses, heating, staging, pathways, brickwork, timber, ironwork, glass and glazing, painting, &c. Many questions were asked, and an exceedingly interesting discussion followed, in which the following took part:—Messrs. Woolford, Hinton, Fry, Neve, Pigg, Purkis, Cretchley, Rigg, Bryant, Ager, and Dore. At the close, a hearty vote of thanks was accorded to Mr. Parsons for his paper, and to Mr. Pigg, The Gardens, Samoa Villa, Kendrick Road, for exhibiting a beautifully coloured Amaryllis.

Agricultural.—We have received a copy of the 86th annual edition of Toogood's Farm Seed Guide, printed and published by Toogood & Sons, of Southampton, the Royal Seedsmen for half a century. Special attention is drawn in a prefatory letter to the fact that the firm has recently added some very important machinery to their seed-cleaning plant, which is now, the Messrs. Toogood consider, the most perfect in the world. Amongst other recent inventions and improvements are mentioned machines for removing sticks from Mangel seeds, Barley from Oats, practically all Cockle from corn samples, and the greater part of the Plantain or rib-grass seeds from shelled Clover. The first few pages of the book are devoted to illustration of the Messrs. Toogood's extensive warehouses, stores, wharves, &c., and to a practical and easily intelligible, illustrated article on the testing of seeds at home by farmers themselves. Mr. William Toogood justly considers every seedling to be exposed to sufficient risks beyond human control, without its being subjected to such totally unnecessary hazards as the use of inferior seeds. As may be expected from a house claiming nearly a century's practical work in laying down pastures all over the world, a considerable portion of the publication is devoted to the all-important subjects of pastures and pasture plants; and it may be added that the Messrs. Toogood sell pasture seeds only under official guarantee of purity and germinating power. Every farmer will find much to interest him in this book, which may be obtained free of any charge from the firm.

Hamamelis arborea.—During the recent hard frost, the long twisted petals of the Witch Hazel might have been observed curved tightly inwards to form little yellow balls, the result of the cold upon the protoplasm.

Primulas at Reading.—Being a member of the Reading Gardeners' Mutual Improvement Association, I was rather surprised when reading the report of our annual tea to see omitted, what was to me a very interesting and instructive pastime, and that is, the kindness of the Messrs. Sutton in conducting the whole party over their extensive seed warehouses, packing and invoicing rooms, &c.; and also the kind invitation to inspect their grand display. I can only endorse what has been already published in your valuable paper, concerning their display of Primulas, and also mention that other benefits are derived from these societies, besides the fortnightly meetings.—A Member.

Geo. Monro's Concert.—The fourth annual smoking concert given by the Geo. Monro entertainment committee, came off successfully on Thursday, the 22nd ult., in "Freemasons' Tavern" Grand Hall, Queen Street, W.C. Geo. Monro, Esq., was chairman, Geo. Tiffen, Esq., occupied the vice-chair, while a programme of twenty-seven items was executed during the evening. The audience which packed the hall was thoroughly satisfied with the rendering of the subjects by the various artistes. The programme had been well chosen and also well arranged, the humorous and the sentimental element being judiciously sandwiched. Such happy evenings where employer and employees join together in sociality are always pleasing to hear of.

The Kew Guild.—The annual general meeting of the Kew Guild was held at the Library, Kew Gardens, on the 22nd ult., when a large assemblage of the present staff, and a number of past Kewites sat down to discuss affairs under the presidency of W. B. Hemsley, Esq., F.R.S., F.L.S., Keeper of the Herbarium and Library. There was some lively discussion as to the filling of vacancies on the committee, and the re-election of others, with the result that balloting was resorted to. The posts were filled to the satisfaction of most of the members present. After discussion upon and the adoption of the report, it was decided to make arrangements for an annual dinner at which past and present Kewites could meet and fraternise. A dinner committee was appointed to carry out the arrangements. The balance sheet showed the Guild to be in an increasingly prosperous condition.

Maidenhead Gardeners' Mutual Improvement Society.—On Tuesday evening, February 21st, the members of the above society, who turned up in very fair numbers considering the floods in the neighbourhood, had a very good paper read to them on the Chrysanthemum by Mr. H. J. Jones, of the Ryecroft Nurseries, Lewisham. The lecturer treated his subject in a masterly manner, commencing with the baby cutting and ending with the show bloom, interspersing his able lecture with many amusing anecdotes. A few interesting points were these:—First he advocated the striking of cuttings in shallow boxes as against pots, warned his audience against premature potting and overcrowding; advocated the weak varieties to be grown in pots 3 in., 5 in., 8 in. to 9 in.; the strong varieties singly, in from 4 in. to 6 in., and 10 in. pots; bone meal in small quantity to be used in the first shift, and in the sixth shift dissolved bones as well as bone meal. For top dressing he advised one part of bone meal, one part dissolved bone, and three parts of loam. Do not feed at bud-forming time; in wet weather never depend on the rain for watering, but be sure and tap the bottom of the pots. In cool weather use horse manure water, and in hot weather that from cows. Never use the artificial manures or soot water in a highly concentrated form; and be careful to strain the same till of the colour of pale ale. House the plants at the end of September or commencement of October, according to dampness or dryness of locality; and fumigate three nights running afterwards to prevent fly. As before, avoid overcrowding, give plenty of ventilation, but no draughts, and a small amount of heat in the pipes on bad days to keep the air in the houses moving. Dress blooms on the plants, and cover up your blooms when staged at a show with tissue paper.—J. W. S.

Iceicles.—Uniquely pretty in Nature, is the sight of long icicles, depending from the bare branches and twigs of trees and shimmering in the moonlight.

Weather in London.—Sunday, the 25th inst., was a beautiful day, balmy and sunny, with birds singing, and the yellow Aconites, blue Chionodoxas, and the drooping Snowdrops shook themselves in sunshine. Before then and since then, however, the weather has been black and decidedly dismal.

United Horticultural Benefit and Provident Society.—The annual general meeting of the above society will take place at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday, March 12th, at 8 p.m. Mr. S. T. Wright, superintendent of the Royal Horticultural Society's Gardens, Chiswick, will preside.

Ealing and District Gardeners' Association.—Before the members of the above body, on Tuesday, the 27th inst., Mr. Alex. Wright, Bucklebury Place, gave an extremely interesting lecture, illustrated by slides prepared from his own photographs, on "A Surrey Garden." The garden, of course, was that of Falkland Park, a large and beautiful one, the chief features of which were entirely planned and for a long time maintained in capital condition by Mr. Wright.

A Gardener's Dream.—A member of the Ealing Gardeners' Society, in a few remarks made at the meeting of the 27th, wound up by announcing a strange dream he had had on the Monday night. He dreamt of the surrender of Cronje's army, an event which was verified by an official dispatch from the War Office during Tuesday forenoon. Furthermore, in his dream he heard the joy bells pealing out for the relief of Ladysmith on Wednesday (but unfortunately barren), when he woke himself by an exultant shout of "Hip, hip, hurrah; God save the Queen!"

Sweet Pea Bi-centenary Celebration.—Unquestionably, the popular flower for 1900 will be the Sweet Pea, and this is not to be wondered at when the ease with which these delightfully fragrant flowers can be cultivated is considered, or when memory recalls the exquisitely beautiful colour, shades, and combinations seen in 1899. The Sweet Pea also shows some amount of variation in form, which is the most remarkable in these days when hybrid flowers are abundant, for the Sweet Pea has been evolved by the patience of the florists from one species, viz., *Latyrus odoratus*, introduced 200 years ago. If other proof were needed that the Sweet Pea is to be the flower of the year, it is to be found in the enthusiasm with which the project for celebrating the bi-centenary of its introduction at the Crystal Palace, Sydenham, on July 20th and 21st next, is being supported by amateurs, professional gardeners, and seedsmen throughout the United Kingdom. On February 23rd the second meeting of the Celebration Committee was held at the Horticultural Club, Hotel Windsor, Victoria Street, S.W., when Mr. George Gordon, V.M.H., chairman of the committee, presided over a good attendance that included members from towns as far distant as Birmingham and Cardiff. Accepting special prizes, and finally revising the schedule, was the chief work of the evening, and now this part of the business has been completed, we are at liberty to state that thirty-four classes are provided, none with less than four, and some with five, prizes. These classes range from one for 100 bunches of Sweet Peas, with a first prize of £10, down to those for a single bunch of one variety, with first prizes of 8s. It is difficult to see how a more comprehensive schedule could have been drawn up, for provision is made alike for the small and the large grower, the artisan and the millionaire, while the value of the Sweet Pea for a home decoration will be demonstrated in classes for table decoration, florists' designs, epergnes, baskets and bouquets. The total prize money offered amounts to £140, and in addition to this a fine Champion Silver Cup is offered for the best amateur exhibit at the celebration show. In no less than nineteen classes the prizes are offered by well-known horticultural firms whose names will appear in the schedule that will be ready for publication immediately. In the preliminary notice of the committee, published less than two months ago, the cost of carrying the celebration to a successful issue was estimated at £300; and towards this sum nearly

£230 has already been promised. So much success having already attended their efforts, the committee feels justified in hoping that now the schedule of prizes can be obtained upon application to Mr. R. Dean, V.M.H. (honorary secretary), Ranelagh Road, Ealing, W., the further amount necessary to the proper carrying out of all details connected with the exhibition and conference will speedily be forthcoming. A decidedly international flavour will be imparted to the conference proceedings, as, in addition to British specialists, Mr. W. Atlee Burpee, of Philadelphia, U.S.A.; Mons. Vilmorin, of Paris; Mr. Benary, of Erfurt, and Mr. Krelage, of Haarlem, are expected to attend, and have all meanwhile shown practical sympathy with the movement by providing special classes. The class for American raised Sweet Peas should prove not the least interesting at the forthcoming exhibition. As the forty members composing the general committee represent such a large area of the United Kingdom, it was thought desirable, both to facilitate matters and save the incurrence of large personal expenses on the part of those residing many hundreds of miles away, to form a small Executive Committee to carry out the remaining details. The general committee will of course be called as necessity demands. Those gentlemen elected to serve on the Executive Committee are:—Mr. George Gordon, V.M.H., chairman; Mr. E. Beckett, Elstree; Mr. C. H. Curtis, Brentford; Mr. J. Fraser, F.L.S., Kew; Mr. H. J. Jones, Lewisham; Mr. J. F. McLeod, Roehampton; Mr. H. A. Needs, Woking; Mr. R. Sydenham, Birmingham; Mr. H. J. Wright, Wandsworth; and Mr. R. Dean, V.M.H., Ealing.

Maidenhead Horticultural Society.—This old society, which has had for its chairman, the past twenty-two years, R. Silver, Esq., a well known and highly esteemed Maidenhead man, seems in a moribund condition, brought about by various causes. First and foremost we must attribute its condition to the lack of interest shown by residents in and outside the Borough. They neither subscribe to nor even attend the exhibitions, which are always first-class. Any amount of money can be found for regattas, football, and cricket, but not so for horticulture. Secondly, the wet day of the show last season left the society £25 to the bad, £20 of which had to be made up by the committee; and thirdly, at the present day the committee are to blame for not providing a few other attractions at the annual meeting held on February 16th. The question to be answered was as to whether the society should be dropped. On the proposition of Mr. Stone, the exhibition was proposed to be continued with the addition of other attractions. This was carried by a majority of those present, but unfortunately led to the resignation of the late chairman and secretary, who, with others, objected to innovations other than horticultural exhibits. The meeting, not being able to get any further with the business, decided to adjourn the meeting until the 22nd. The whole question opens up a wide field for discussion in your valuable paper as to whether horticultural exhibitions swim or sink, and whether such sinking should be prevented at the present day by providing harmless and interesting amusements.—J. W. S.

HARDY FRUIT.

NEVER have I seen a better show of fruit buds than this year's promise; and, if only given a favourable time when the respective kinds are in bloom, I predict heavy crops of Apricots, Peaches, Nectarines, Plums, Cherries, Pears, and, as far as I can see, Apples too. Of course it is too soon to be over sanguine, as it often happens during March and the two following months, severe frosts occur, and keen cutting north-easterly winds play havoc with fully expanded blossoms and young growths; but when there is a plentiful supply of the former there is always a better chance of part of them escaping, such as Apricots and Peaches, as fortunately all are not open at once. The past two tropical summers are mainly responsible for this, I should say, for surely the excessive heat week after week must have ripened up every bit of wood where not too much crowded.

By the time these lines are in print the Apricot wall will have its glass coping, and a double thickness of herring netting hung in front a yard or more

from the trees; and this reminds me of a correspondence carried on last summer in one of your contemporaries as to the wisdom of such protection, quoting several instances where good crops of fruit had been gathered, and no protection whatever afforded, mentioning Peaches in particular. While quite believing this assertion, and that it is possible one may secure a crop, say, two years in succession, do the said trees make satisfactory growth as to warrant doing away with any such protection whatever? As far as my experience goes I most emphatically say no. It may answer if your trees are in a very sheltered nook or corner; but where one has from sixty to a hundred yards of wall due east or even south-west, something is necessary to guard off hail and break the keen cutting winds we usually get from now onwards. The latter accounts for a good deal of the blister we so often see on Peach and Nectarine trees, which must and certainly is against clean healthy growths being made, which is a great stride towards securing a full crop the next season. Of course, in a low lying district, where it is generally more damp, no one would think of leaving well-flowered trees to themselves, trusting all would be well with them whatever the weather.—J. Mayne, Bilton.

KALANCHOE FLAMMEA.

THIS useful species of Kalanchoe is, I have seen in THE GARDENING WORLD, offered by Messrs. J. Veitch & Sons, for distribution. There is so much to recommend this plant, that no doubt in a few years it will be considered indispensable for conservatory and room decoration. It is a native of Somaliland, tropical East Africa; and should the map be consulted for the temperature it requires, no doubt it would be put into tropical heat, which it does not necessarily require, to flower it successfully. Seed sown on the 25th of September, 1897, germinated by the 15th of November, the same year, having taken some six or seven weeks. These same plants were in flower by the middle of June, 1899, a period of about one year and nine months, from when the seed was sown till flowering time. It may easily be increased by cuttings, for a small shoot broken off emitted roots lying on the stage. The flowers are orange-scarlet, and arranged in a series of small clusters, which are so arranged that the inflorescence is almost flat, or botanically a corymbose cyme. The colour is bright and pleasing and the flowers last some weeks fully expanded. When grouped, the plants can be seen to greater advantage from above. They require a very porous soil, very careful watering, and should not be over-potted. During the summer give free ventilation, with plenty of light, shading only during bright sunshine, also keep the foliage dry.—C. P. Cretchley, The Honeys, Twyford, Berks, 24th February 1900.

THE FURZE DEBATE.

I'm muckle obleeged to "Alex. Wright" or "Alec. Vricht," as we wud say, for sympatheesin' wi' me about the snaw (p. 407), but as long as the ingle bleezes finely at hame, an' the furnace in the stoke-hole keeps the watter bilin', there's nae fear aboot me. I'll nae gang far, but sit siccar eneuch. We hed a renewal o' the snaw on Mununday and Tyesday, the 19th an' 20th ult., as weel as an awfu' bluffert o' win' on the Mununday nicht; the Americans wud ca' it a blizzard. Ony wye ye cudna see a stime for the win' an' snaw.

The Furze (sidna this be spelt Funns?) on Bucklebury Common maun be determined to floor, tae dae sae aneatb 9½ in. o' snaw, and a frost o' 18° to 20°. It can jist floor awa as lang as it likes for me. I'll wyte tull the snaw gangs doon the burn in snaw broo, an' then I'll be in fine time to see the Furze. By the bye we mak' oor beesoms o' birk, bedder, or breem, maistly birk, for the gairden, an' I wud rather that than strayvaigin ower the hulls leukin for Furze i' the noo. Mr. Wright says he has kept the Furze under notice sin' the third week in November, and means tae dae sae for a haill year. Eh! man, but that wud be a lang sit an' a cauld, cauld sit! I'm gay fleyed he'll get frozen to the Furze buss, an' in that case his record wud be broken. Here awa it taks postie a' his time to cairry the letters and papers, sae under the condections I'll sit siccar till the snaw gangs, an' that'll be afore the Furze blows.—Geordie Tam.

FERNS.

ALTHOUGH the subject has already appeared in your columns, a little concerning those which have to be raised from spores, might be interesting, providing the fertile fronds have been gathered and dried. The spores should now be rubbed out and sown. For this some 48 pots are the best. They should be half filled with crocks, covering with some rough material, and filling with a mixture of ordinary potting soil to within 1 in. of the top, making it moderately firm. The soil, if not baked or scalded, should have a thorough soaking of boiling water so as to kill all insects or seeds of moss, &c., it might contain, being then allowed to drain for a few hours. The spores might then be sown, and the pots stood in saucers filled with water which will keep them about moist enough, placing a piece of glass over the pots. This will require to be turned every day when the spores have commenced to germinate, so that the moisture collected does not drop on the prothalli, and cause them to start damping. In about six or eight weeks from the time of sowing they will be ready for picking off into small trays in a compost of loam, peat, and sand, placing them in a stove temperature, which suits them, until established in 60's. Where small plants are required better results are obtained in this manner than from division of the old plants.—*W. Waite, Southfields.*

COELOGYNE CRISTATA.

SOME of the most useful and best to my mind of stove Orchids are the above Coeogyne, and its varieties. They may now be said to be at their best. Two of the varieties only are grown in these gardens, the well-known cristata and alba. Two plants are growing in No. 1 pots, and it is intended to work the bulbs round the outside of the pots by wiring them in a compost suitable to them, consisting of fibrous peat chopped sphagnum and charcoal. When potting fill pans or pots half full with crocks. I find the more root room given them, the better they seem to do. They are now in full flower. A temperature of 55° will be required, watering moderately. When the growing period is upon them they require a temperature of 70° with applications of liquid manure at intervals, and plenty of moisture round and about them. Flowers are white and yellow, and fragrant. I find them very useful for table decoration, in small vases of water. Plants need keeping close to the glass at all times, shading during hot sun. To amateurs who may have a small stove or warm house, I strongly recommend a few of these plants. With careful attention, no very great trouble will be necessary. There are some eighteen species in cultivation, and about six varieties. If slugs are troublesome a hunt round with candle or lantern at night will be a great saving to the sprays of flower.—*S. Jordan, Danesbury Gardens, Welwyn, Herts.*

SWEET PEAS.

ALL lovers of the Sweet Pea, and I am sure they are numerous, will hail with delight the proposed celebration of the bi-centenary to be held at the Crystal Palace in July next. Few summer blooming plants are more easily grown, more appreciated, or give such good returns as these. They are as easily brought to perfection by the humblest of our cottagers, as by the professional gardener. To obtain the best results, the seed should be sown thinly, early in March, in well-drained, large 60 sized pots, and placed in a greenhouse or cold frame. The soil should not be too moist; air freely, keep near the glass, and on no account must they be allowed to become drawn. When they have attained to the height of 3 in. to 4 in., they should be planted out on well prepared ground, in their summer quarters, at a distance of 4 ft. apart, and staked at the same time. If possible three lines should be grown on a border. These enjoy and revel in well enriched and deeply trenched ground.

Strict attention must be paid to the seed pods, which should be picked off directly they appear; or if allowed to remain on will considerably lessen the size of bloom, and their flowering season. If this is done constantly they will under favourable conditions, flower till quite late in the autumn. During dry weather mulch with long litter and water freely.—*A. Thatcher, Aldenham House, Elstree.*

PEAS FOR EARLY SUPPLY.

WE have found no Pea to surpass Gradus in the north for an early picking. It fruits abundantly; the pods are of good size, and the quality is first-rate. As a dwarf Chelsea Gem is all one could desire—planted on a border 2 ft. or 2½ ft. apart—this sort has for years borne immense crops of good sized pods. It does not waste itself speedily by its free bearing proclivities. The ground being well mulched (if soil is not very deep and of light texture) will enable this valued Pea to last long and maintain the fine quality of the Peas. I fear we are apt to sow too many small podded Peas for first supply. Though they are (in many cases) finely flavoured, they are not generally appreciated in the culinary department. No Pea, north and south of the Tweed, seems to have retained its popularity longer and better than the good old Ne Plus Ultra. Once when on a visit to a leading nurseryman in Surrey (a keen connoisseur of Peas), I was told by the gentleman that he sowed this old favourite in November and gathered capital crops from it in June. The good old Sangster's No. 1 and Dickson's Favourite Peas, as second earlies, are capital and still popular. Some of the large podded sorts do not fill well in some parts, and are of less value than they are considered to be.—*M. T., Carron, Stirlingshire.*

WATERING.

HERE is a subject that has been written on again and again, yet each writer has a different way in placing it before his readers, but all to the same purpose, that the greatest care is necessary with young gardeners in using the water can, especially during November and the following three months or so. If they will only study the question a bit they will soon see that very few plants succumb at being kept rather on the dry side, compared to those that get over-watered at this time of year. Many men when attending to the watering of pot stuff, rely solely upon knocking the pot with their knuckles, as to the ring it gives out, whether it requires water or not. This is certainly a guide though not always a safe one to follow, especially with plants that are potted with loose material; besides the tap with the knuckle the soil on the surface should be examined with the finger, not stuck in an inch as I have often seen done on newly potted plants. If requiring water give a good soaking, not merely a dribble, perhaps only enough to go half way down the pot. Always bear in mind that plants potted in much peat should be gone over the second time, as they absorb water much slower than when loam is the staple soil. A trustworthy man with his water pot is on the right road to make a good gardener.—*J. Mayne, Bickton.*

THOSE THAT KNOW.

OF all the people that visit our public gardens none are more amusing to hear than the "ones that know everything." These persist in informing one and all of their knowledge, and although this class is occasionally well informed they more often tack any name or description to a plant or flower. The *Acalypha hispida* passes as the "Love Lies Bleeding—quite a common garden flower." Indeed, this fine species has many remarks, usually unfavourable, to put up with. "Funny," "peculiar," and "funereal" are some of the adjectives applied to this plant, very few appearing to admire it. Cotton wool wrapped round Orchid spikes to prevent the attacks of slugs affords the public a puzzle. With many the Orchid becomes the cotton plant, while a few suppose the tufts to be the work of some insect. A gentleman pointing to a *Dendrobium* attached to a substantial block of wood remarked that after the Orchid had "eaten the wood up" it would be given fresh material. He evidently credited the plant with a good digestion. "Darling," asked a young wife, "what are those yellow things?" referring to the unopened buds of *Stanhopea Wardii*, hanging from a basket. "Some tropical fruit similar to Bananas," was her husband's original reply. A father, showing his daughters some Pitcher plants made the startling statement that "when the flies fall into the water the lid goes down with a pop."—*David S. Fish.*

Lime and Potash are the predominating ingredients in the production of wood, stones, and pips in fruit trees.

The Orchid Growers' Calendar.

CYPRIPEDIUMS.—There is no set time for re-potting these interesting Slipper Orchids as they flower at various periods; but generally the bulk will be ready about the spring of the year. Most of them except the *Selenipedium* groups may be termed somewhat of an aquatic, so that in the re-potting of them the operator should bear this in mind and not elevate the plants above the rim of the pots as is customary with most Orchids. The compost, too, should be of a more heavy nature, such as the admixture of one part fibrous loam to two parts of lumpy peat would impart; taking care, however, that the drainage be perfect, and that nodules of sandstone, crocks or charcoal and a little silver sand be mixed with the compost to make the whole porous, so that the abundance of water which they require during growth may pass freely away.

The *Selenipediums* such as *C. longifolium*, *C. Roezlii*, *C. Sedenii*, *C. Schlumieri*, and the various garden hybrids, of which *C. Sedenii* was one of the first, seem to like being elevated above the rim of the pot and to be grown in a lighter compost, such as peat and live moss only, working in pieces of crock as the work proceeds. After the potting is done place in a shady part of the warm division and keep the syringe going about between the pots, but do not apply much direct or the compost is apt to become sour before the roots get thoroughly hold of it, which is undesirable.

CATTLEYA HOUSE.—The *Cattleya labiata* section may now be re-potted or top dressed, if not requiring larger pots, taking in hand the summer flowering *C. l. Warnerii* first, as it has made some progress as regards new growths. I mentioned top-dressing. I may say that this should not be adopted as a general practice, because it is difficult to get rid of all the woodlice that are to be found amongst the drainage.

COOL HOUSE.—Growing and flowering freely in this house is the pretty little *Odontoglossum Cervantesii decorum*. Its culture is so easy that we wonder it is not met with more often. Like most of these dwarf growing gems, it does best when grown in pans, suspended near the glass. The compost should be good peat and moss in about equal parts, always avoiding over potting, as it is much easier and better to afford them some fresh material when required.

SHADING.—We would recommend that the roller blinds be fixed up at once, so that should the weather be bright, they may be run down for an hour over the *Odontoglossums*, and also the *Phalaenopsis*, during the middle of the day. This advice applies more to the country where the atmosphere is much clearer than in and near large towns.—*S. C.*

THE PLANT HOUSES.

The Greenhouse.

PYRUS FLORIBUNDA.—Among the many sweet forced flowering shrubs of the present time I think few will compare with this one. It is easily forced, and not difficult to treat during the summer. If plunged outside in ashes along with the other hard wooded plants which have been forced and hardened off, it will be quite happy till the end of autumn. A nice selection of young shoots should then be made, pruning out those which have done service or are past blooming. The flowers are borne on the young wood, so that this will have to be thoroughly ripened if a goodly quantity of flowers are wanted the following winter. It is well not to pot on too frequently, but rather to rely on top-dressing and feeding with liquid manures. Nice flowering plants can be raised from cuttings.

HIPPEASTRUMS.—The potting of these may still continue. An open compost with goodness in it is what they like. Plunge the bulbs in bottom heat, and supply the needful moisture. Good bulbs are able to throw up strong flower spikes, even though their roots are very scarce. A very great deal depends on the thorough ripening of the bulbs in autumn.

FORCED LILACS.—Plants which have done their duty should immediately be pruned close back to old wood, care being taken to leave buds enough to grow out for the formation of bushy plants again. They should be grown on in nice cool pits until such

time as they are hardy enough to be placed out in the open air.

FORCED ROSES.—It is hardly necessary to say that the airing of the Rose houses during this very changeable period requires some experience and patience. As previously stated, whenever mildew shows itself upon a leaf, warm soft soapy water and a sponge should be at once secured, and the spot of fungus wiped cleanly off. The surface soil of the borders, or pots if they are grown thus, will be found all the better for an occasional stirring. The paths and borders (or stages in the case of pots) should be damped down once a day with weak liquid manure. If there are evaporating troughs in the house I advise these also to be kept full. We are told that leaves and stems do not assimilate nitrogen from the air, but I have the opinion that whether it has really been discovered or not, they certainly benefit from the presence of what must be termed feeding elements in the atmosphere. Rub out one or more shoots from those branches which are bearing too many from one point. Rose cuttings in frames may be looked over, setting them back a little wider apart than before. It is hardly likely that they will require a shift.

PELARGONIUMS which were taken as cuttings at New Year time should now need a shift into 4 in. pots. A rich, open soil is what they delight in, and a place upon a shelf should be given. So soon as the old plants which are now supplying blooms are on the decline and not wanted for any further display, prune off all the flowers and dry the plants off for a while. When the wood is as firm and ripe as need be take the cuttings and strike them in small pots. These, as well as those in the 4-in. pots at the present time, will be grown on through the summer for the autumn and winter supply of this year and next.

FUCHSIAS.—A batch of young plants of this popular plant should at this time be in 5 in. pots, and coming on steadily, being placed on a Fig or Peach house shelf. Staking and pinching are the chief works to attend to at this time.

MISCELLANEOUS.—Give weak stimulants to *Clivias* (*Imantophyllums*) showing flower. Pot up *Chrysanthemums* from the cutting boxes. Prick off young *Begonia* and *Gloxinia* seedlings. Prune and arrange greenhouse climbers.

The Stove

POTTING and propagating are still the principal operations indoors. Sponging has also to be seen to.

GLOXINIAS.—Other batches of these may be shaken out and started. Older plants now progressing favourably should be let alone. Be very careful in the watering of freshly potted plants. A heap of harm is done by over watering newly potted plants. The soil becomes soured long before the roots ramify in it, and use its goodness.

BEGONIA GLOIRE DE LORRAINE should now be propagated in quantity. Leaves put in some time ago are now beginning to form little eyes at the base of the close cut petiole. A box or bed should be filled almost with pure sand, which must be kept nicely moist. A slight bottom heat, and not too damp an atmosphere, is what will be found most suitable to the leaf cuttings. The base of the leaf (the leaf having its stalk removed) should be slightly pressed to the sand with the fingers, but do not break the veins. A slender hooked pin should now be pressed through the leaf almost at the base, and the rest of the blade folded back against sand. Thus with care nice little plants shall accrue.—*J. H. D.*

Kitchen Garden Calendar.

ONIONS.—In many gardens this is an important crop and one that tests the skill of the cultivator as much as any on poor, light soil; but if proper attention has been paid to digging and preparing the land, there is no reason why satisfactory results should not be obtained, and a good crop of fine bulbs secured. We have grown excellent crops both on light, sandy soil and strong, heavy loam, though on the former more attention is needed during the early stages; for until the roots have penetrated deep enough to take hold of the manure the growth does not seem to make much headway. On light ground the seed should be got in as early as possible. We have sometimes sown in February,

but it is not often that the soil can be got into working order thus early in the season, so that the month of March is a more suitable time. This year the ground is unusually wet, as we have only had eight fine days during the whole month, and in low-lying places the soil is still soddened. However, the first favourable opportunity should now be taken to get in the seed. Choose a fine day and lightly fork over the surface of the land, and when sufficiently dry so as not to stick to the boots, go over and tread it firmly, rake smooth, and draw out the drills. "We allow 15 in. between the rows." Sow the seed thinly, and cover in. We do not recommend making the soil smooth with the back of the spade, neither do we approve of the plan of small paths between the beds, as the former causes the soil to cake together, and the latter is a waste of ground. Large Onions, except for exhibition purposes, are useless. Cooks do not like them; neither do the Onions keep so well as firm bulbs of medium size. The globe varieties keep best, therefore some of these should be grown.

PARSNIPS.—To grow these roots well, it is necessary that the soil be deeply dug, otherwise recourse must be had to making holes with a bar. On gravelly soil we have found this latter mode of great advantage, for though it takes a little longer to get over the work, the crop pays in the end, for is it not bulk of fine fleshy roots that is required? These are not served up in the dining-room, therefore the greater the bulk that can be produced off the ground the better, provided they are clean and not course. To have roots of this class the soil must be free from any course manure; so, after the holes are made, they should be filled in with soil that has been passed through a $\frac{1}{2}$ in. sieve. Old potting soil, or that taken from the surface of the ground will answer the purpose well. We make holes 10 in. apart in the row, allowing 18 in. between the rows. Three or four seeds are then pressed into the centre of each and covered in, no further trouble being needed.

CARROTS may now be sown, but at present we would advise that preference be given to the early forcing varieties, such as *Parisian Forcing Gem*, *Golden Ball*, and the like. These may be sown a foot apart, either on the open border or in the quarters.

EARLY TURNIPS.—It is impossible to have these too soon, for there is usually a blank between those sown in the autumn and the spring ones, as the latter make but poor progress in their early stages. The ground on which early Turnips are grown cannot well be too rich, neither can they have too much moisture during the month of May. It is, however, sometimes difficult to get them to make headway in their early stage on account of the flea; but this in a measure can be overcome by watering with weak liquid manure, or dusting the plants frequently with dry wood ashes, lime, or basic slag. The ground between the rows should also be frequently moved to destroy the flea and let in the sun and air to raise its temperature. Early *Milan* and *Snowball* are two good varieties. The former, however, must be used when quite young, as it soon goes stringy. *Carter's Forcing* is a quick growing variety, something after the stamp of a large white Radish; but cooks do not seem to like it on account of its shape.

FRAMES.—In these structures there will be a numerous assortment of plants at the present time that will require constant watching to keep them robust and healthy. Peas that were sown in pots with a view of planting out must have the lights drawn off them on all favourable occasions. Lettuces that have been in these through the winter must also be exposed as much as possible to prepare them for being planted out when the weather is favourable for so doing. Cauliflower plants, too, will need attention to prevent them from getting crowded; but they ought not to receive a serious check, otherwise they will bolt when planted out instead of making a free growth. Hotbeds, too, will demand more care; for as the sun gets more power the temperature in these will rise quickly, causing the foliage of their occupants to get scalded unless air be admitted. Onions, Lettuce, Cauliflower, Carrots, Potatoes and French Beans all suffer, though the two last-named require more heat, therefore, on that account are not so readily injured. The last lot of *Asparagus* growing on these will soon be cleared out, and where Vegetable Marrows are required early a few seeds may be

sown to supply plants to take the place of the *Asparagus*. Continue to sow small salads so as to keep up a supply.—*F. W. J.*

Gleanings from the World of Science.

THE undermentioned subjects were discussed at the meeting of the Scientific Committee of the Royal Horticultural Society, on the 13th ult.

Elm bark with Larvae.—Mr. W. Brooks, of Weston-super-Mare, forwarded a piece of bark of an English Elm tree, with the following observations: The Elm trees are attacked by an insect which is destroying them. Some of the trees are fine, nearly 100 ft. high, and in their prime; others are smaller. The larger trees are attacked more especially on the north side; but the smaller all around the stem from bottom to top. One of the largest trees shed all its leaves in August, and it looks as if the whole of the trees will die."

Mr. McLachlan sends the following report:—"The Elms are attacked by the larvae of a beetle. No perfect beetles are to be found in the bark sent, but there are numerous larvae, each in a small cell, in which it will undergo its transformations. So far as can be judged from these larvae, they are those of *Scolytus destructor*, so common in many places. In order to destroy them it was suggested, more than forty years ago, by the late Capt. C. J. Cox (who probably took his idea from the French), that all the old outer bark be pared off by a spokeshave or some similar instrument (the scrapings being of course collected and burnt), taking care not to injure the inner bark and wood. Dressings of dilute petroleum, repeated at intervals in dry weather, might also be of service. But the subject opens up a wider question—viz, whether the beetle is the cause of the condition of the trees, or only steps in where these latter are in a moribund state from some other cause. The writer of these remarks is inclined to think the beetles come as scavengers. At any rate in the case of tall old trees, probably already 'stag-horned,' it is practically useless to employ remedial measures, and the best thing is to cut them down and burn them, or at any rate cart them away at once from the vicinity of trees not already attacked. The bark of such old trees is usually riddled by the larvae from base to top. When the trees are younger and less tall, remedial measures, such as those suggested, might be tried. Even supposing the trees to be in an unhealthy state from some other cause, the attacks of the beetle must aggravate that state and hasten decay; and if these attacks could be lessened or averted there might be a chance of the trees recovering from the other conditions whatever they may be. But as a rule disease or decay has already proceeded too far before being discovered."

Fern roots attacked by grubs.—Mr. Burt, of The Gardens, Caenwood Towers, Highgate, sent a specimen of soil and grubs with the rhizomes of *Adiantum cuneatum*. Mr. Hudson observed that he was not unfamiliar with them. The specimen was forwarded to Mr. McLachlan, who reports as follows:—

"The grubs at the roots of *Adiantum* are those of a species of weevil, probably *Sitones*, but I cannot commit myself to anything more precise without seeing the perfect insects. I should think the best thing to do now would be to turn out the plants from the pots, shake the old soil from the roots, and repot in clean earth, taking care to burn all the old with the grubs. When the foliage shows signs of being attacked go over the pots at night, turn each pot gently on its side, and shake the foliage over a sheet of paper. By this means multitudes of the perfect insects may be collected and destroyed, and the deposition of eggs prevented."

Orobanche on Pelargonium.—A plant in flower was received from Frances M. Cooper, Forest Road Gardens, Wokingham, described as having "established itself in a pot of *Geranium*. The latter at first showed no sign of diminished vigour; but now the specimen has come into bloom its host-plant seems to be weakly, and its leaves are turning yellow. The plant does not seem quite like any wild species." The *Orobanche* was of a purple colour throughout, but not agreeing closely with any true British species.

HINTS FOR AMATEURS.

Anemones.—Considering how large a part or share the various types of Anemones have in adorning our gardens I shall direct a few notes to the consideration of the genus. All know and admire the pure white *Anemone japonica alba*, and the less loved but pretty pink variety, both of which bloom toward the decline of summer. Many may know this, or these, Anemones by the popular name of Michaelmas Anemones. But handsome, beautiful, and useful though these tall species are, do you care more for them than you do for those Windflowers of spring? Their red colours are even more glorious than the brightness of a soldier's scarlet tunic, and *A. Pulsatilla* is dressed in a "bonnier" blue than the boys of the "Household" Brigade. "The red, white, and blue" of the Hepaticas (which was a sub-genus, but is now included with *Anemone*) might well be taken in hand for arranging a design of Britain's flag in a spring flower bed. Fancy such a sight in Hyde Park! And then during early summer we have the small white and pale blue alpine Anemones of the *A. nemorosa* type. Thus during all except the winter months Anemones of some sort are to be found in bloom. The scarlet Windflower, *A. fulgens*, and *A. Pulsatilla*, the Pasque Flower (blue), are both largely grown for market supply or for home decoration. The other early flowering Anemones are chiefly confined to the hardy plant borders.

Taking what we will term the Poppy Anemones first, their needs are simple. Under this class comes *A. coronaria* and its varieties. These yield a very varied assortment of colours, and can be raised from seed. A midsummer sowing in well prepared ground in the open air will yield plants which will flower the next year. A summer sowing saves a deal of trouble, and is probably more reliable than a sowing made at the present time. With good seeds and a sheltered and well prepared position the young plants, under favourable conditions, will flower the same year as sown. Notes upon their culture in pots need not be given at this time.

The alpine Anemones delight in a well-drained soil, and should be planted some time in autumn. The *Anemone Hepatica* may be increased by division. It also prefers a deep and rich soil in a shady position. There are three chief varieties of a *Hepatica*, these being *A. H. caerulea*, *A. H. alba*, and *A. H. rubra*. The *Anemone japonica* and varieties are easiest increased by dividing the old roots. Beds of them may be, and ought to be, left undisturbed for years, top-dressings being given if the beds become worn out.

Primula Auricula.—The "Dusty Millers," or Auricula, which is but a very distinctive specific type of Primrose, are found in all gardens, some in greater, some in lesser amount. They do not demand a great amount of time or capital to grow handsomely enough, yet it will always be found worth while to treat them well. He who makes up his mind to have at least one special bed of flowers on which to devote energy and patience, could not do better than try his hand at Auricula growing. The types are various enough even to demand the attention of one experienced in their growth. The fanciers of show and fancy Auriculas consider their pets quite as much in need of thoughtful attention as he who dotes upon prize poultry. Young plants of the alpine section in frames at the present time should receive all the air possible, for the sake of their being safely transferred to the open beds without suffering a check in a month's time. It is best to sow the seeds soon after the pods have properly ripened. This allows of their being grown on through the winter to produce plants which will be at the stage of those of which I now write. Well prepared beds are very necessary. The Auricula prefers a deep soil, into which it can root and not suffer from drought in periods of little moisture.

A friable condition of the beds is what should be aimed for. If the soil is very stiff it will be necessary to have had it exposed to the action of the wintry weather. It will require all the breaking up and working about that can be given to it. On the other hand, soil which is inclined to be too well drained (a gravelly or sandy soil) can hardly have too much matter of a retentive nature added to it. Wood ashes are much appreciated by Auriculas. The common Alpine Auriculas may be put out in open

air beds. These should be 4 ft. broad, with an alley between each two beds. String a line along the length of the beds, and plant the little Auriculas at distances of half-a-foot, and in touch with the line. About the same distance is necessary between the rows themselves. Make the plants firm, but do not set them down too deeply. If the ground by any chance happens to lack enough of surface moisture, an occasional watering will be necessary to let them start away well. Should the young plants exhibit signs of flowering, the spikes should be taken off during the first year. Strong plants may carry one or two spikes. The object should be to get well developed young plants in the first instance. Old beds may have the surface soil loosened, and a good top-dressing of decayed manure, wood-ashes, and soil given. This should be put between the rows of plants, and also around them. Old plants get scraggy and valueless unless they are well looked after. Young batches are very easily raised.

Echinops.—The perennial species in need of division should be taken in hand by the middle of next month at latest. Where the clumps have become large, or where it has been decided to discard them from the finer borders and relegate them to a place wherein they can spread and naturalise,—in these cases, do the work next month. The plants, which resemble Thistles in habit and appearance, are of the very simplest culture, all the trouble needed being merely to plant them in ordinary garden soil, where they will grow right enough. *E. sphaerocephalus* is a very well known perennial kind, with pale blue flower heads. These are produced in summer. *E. Ritro* and *E. commutatus* are others which are desirable to include. Their height being all about 2 ft. to 3 ft., a middle position in the border should be accorded them.

Roses.—So hard, and so uncertain has the weather been of late that the Roses which one would like to see pruned cannot be touched. Many of the H.P.'s on walls and other places have already put out growths, and, with weather at all favourable, they will certainly push steadily on. We believe the Messrs. Croll, of Dundee, where the weather, if anywhere, might be expected to be stormy and changeable till late on, prune even outdoor Teas so early as the present time. If they can do so, and win prizes year after year, it proves that the practice is good and the risk cannot be so great as is sometimes imagined. It is this which often deters the pruning till frosts have little chance of being severe. I would say, then, in this matter of pruning, that, if you care to run a little risk, the plants which are now breaking should be pruned in a very short while from now. Those who would rather see March well in, and who wish to experience its meteorological character before pruning, are, of course, quite at liberty to use their own judgment. For myself, I do not prune until this time one month hence, leaving even the Teas and Noisettes until April.

Fruit Tree Pruning.—The finishing off part of the pruning must now be seen to. Apples and Pears may possibly be partly to go over yet, but, unless for an exceptional case or two, if the work is not now almost completed, then you are behind. The same rule applies to Currants and to Gooseberries. To save the Gooseberries from probable infestation by saw flies, whenever the first buds begin to break, dust the plants with soot.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Propagating Vines.—*A. Edgar*: Vines are propagated at this time chiefly from "eyes," but can also be increased by cuttings and layers. Cuttings are adopted by those who grow on a very large scale, such as proprietors of continental Vineyards. Eyes which are plump and good, springing from stout wood previously well ripened, must be selected. The shoots bearing them are cut straight through about $\frac{1}{2}$ in. from either side of the bud. Thus the shoot with the eye will be 1 in. long, the end from which roots are to be emitted being cut slantingly. Prepare 3-in. pots, and, using a compost of one part nice fibrous loam, one part leaf mould, with an addition of sand,

insert the eyes. Some sand is usually placed below the eye, which is firmly pressed down, the bud appearing level with the surface soil. After this, plunge the pots in a bed, having a bottom heat of 80°, with a temperature of 65° to 70°. In many places little squares of turf are used in place of pots of soil, these in every way answering the purpose for rooting into. Gently water the soil with tepid water, but be careful not to continue the practice too persistently. When fresh white roots are visible, and are growing vigorously, potting up into carefully prepared and warmed soil may then be done.

Planting and selection of Potatoes.—*W. M.*: Some anxious gardeners do manage to get in their earlier outdoor planting of Potatoes during this month, in districts even north of the Tweed. For mid-season supply you had better prepare your land thoroughly and plant by the middle of March; 4 in. is deep enough. Undivided sets of about 2 in. in length and breadth, with a few of the eyes taken out, are preferred by many growers. Large Potatoes should be divided, care being taken to have stout eyes in each division. When earthing up the young haulms, do not draw up the earth too closely to the shoots. By leaving the stems somewhat free at the neck, rain, and the moisture from the dews runs down to supply the roots, whereas with sloping sides, closely pressing the stems, much of this would be carried entirely off. A number of varieties for your purpose will be found in this list:—*Kidney* varieties: *Myatt's Prolific Ashleaf*, *Beauty of Hebron*, *Early Puritan* (inclined to be sappy in all but sandy soils), *Magnum Bonum* (very large), *Sharpe's Victor*, and *The Bruce*. Round and pebble varieties are *Sutton's Satisfaction*, *Up-to-Date* (a grand cropper, but subject to disease), *Windsor Castle*, and *Jeannie Deans*.

Salt for Destroying Weeds.—*Lovimer*: When applied heavily enough upon weedy paths, salt certainly kills the weeds. But in its wake we have generally found a thick carpeting of mosses and other lowly growths. Well drained and consolidated paths pay for the trouble of making.

Ivy for Walls.—*R. Salter, Leeds*: We have often advocated the planting of Ivy for wall cover. It is an entire fallacy to say that it attracts or retains dampness. One point of demerit lies in the fact that the roots extract and loosen the lime between the stones. The swaying and the weight of Ivy unsupported often tries the strength of old walls, but these are matters which timely thought could rectify.

Narcissus minimus.—*Daff*: It can be grown in a nicely sheltered pocket of a rockery. The light must, however, be good. You will have to keep it in mind for planting next October. The Good Luck Lily (*N. tazetta chinensis*) is grown by our gardeners in bowls containing water, the bulbs being supported by stones and pebbles. It was figured in our bulb number.

Astilbe japonica.—*James Wagner*: It is a rule with many good cultivators to force their *Spiraeas* and *Astilbes* every third year. That is, they are forced one year and divided up and planted again. They grow. During the next winter they rest, and also the following winter, coming in again for forcing in the third year. Forcing every other year is also accomplished.

Lifting Rhubarb.—*J. Williams*: If you have to lift the plants then we suppose the solution is evident. However, if you take a quantity of the soil with the clumps or crowns and place them a little deeper into the new position, the check to the plants will hardly be noticeable. Give a mulch after planting.

Sweet Peas in Pots.—*J. Conway, Staffs.*: As many others may have the desire to grow Sweet Peas in pots as well as in the open this year, as being a special year, we are glad you have put the question. The funds and arrangements for the conference are advancing in a manner satisfactory to all concerned. Five inch pots are large enough, and the usual precautions of having them clean and well drained must be seen to. Fill them up to within 1 in. from the top and place in seeds about 1 in. apart either way, or say twelve to fifteen seeds in all. Any friable soil may be used.

Cover the seeds over with a thin layer of soil, water the whole, place the pots in a house of 58° temperature, and leave them. When the plants are 4 in. high place taller stakes, say 3½ ft. high, spreadingly around, and if fine netting or any other supporting framework suggests itself to you these could be employed along with stakes. Indeed, so tractable are Sweet Peas that we should not be surprised to see some of the large growers exhibit naturally developed colour combinations and varied designs. By sowing Navy Blue and Emily Henderson, or Early Blanche Ferry, the latter two being whites, and separate pots to start with, and by keeping them separately trained when potted in larger pots, it would be possible to have the representation guitar or other form. Do not allow the plants to hang nor to become drawn and weakly, and avoid large shifts. Seven inch pots should be size enough to flower them in.

VICTORIA REGIA.

THE accompanying illustration of the queen of Water Lilies was prepared from a photograph sent by Mr. Cretchley, the Gardens, The Honeys, Twy-

CHEMISTRY FOR THE GARDEN.

VI.—AMMONIA AND NITRIC ACID.

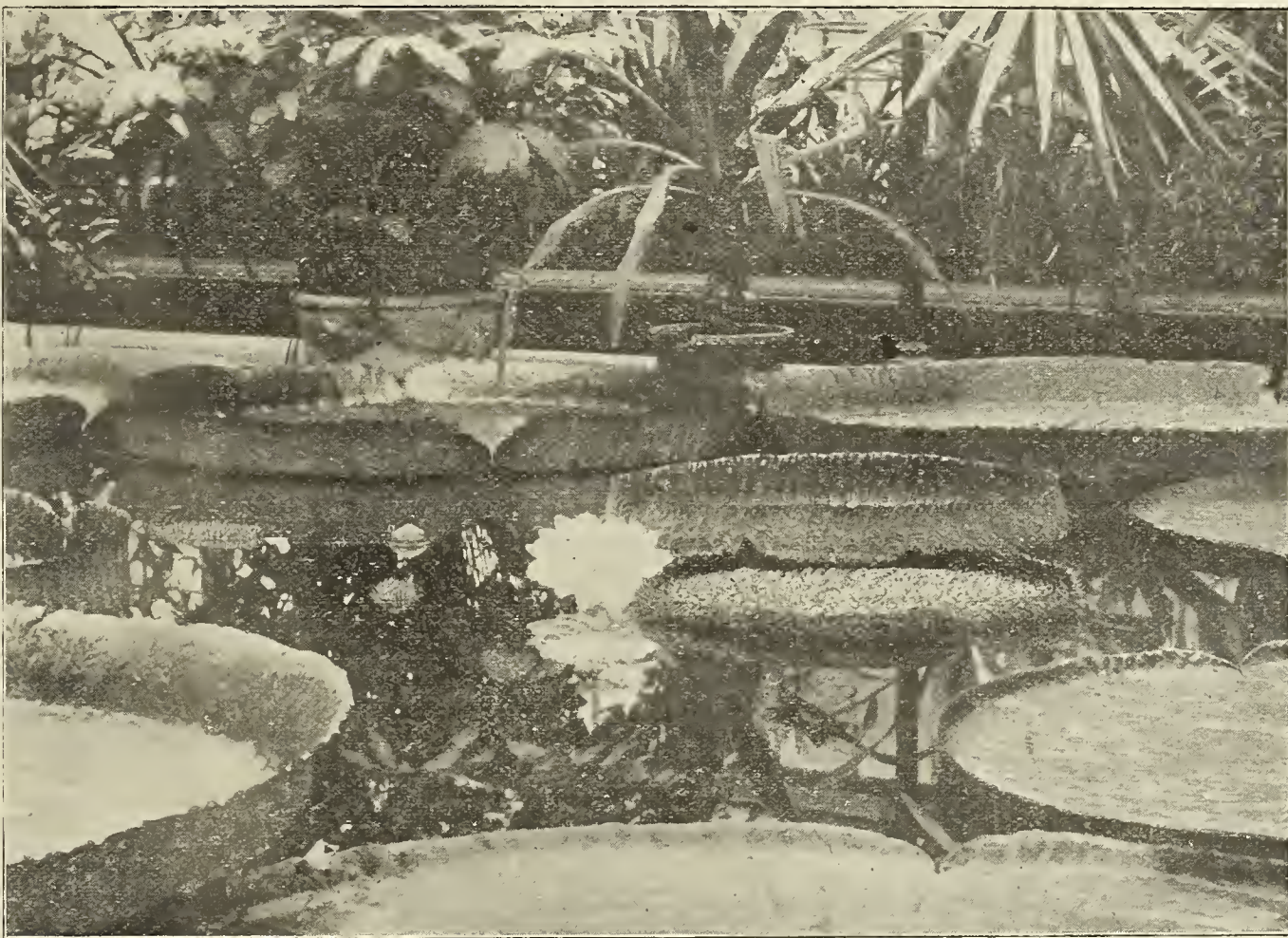
(Continued from p. 411).

FROM time to time the results of experiments have proved that the salts of ammonia are not in every case beneficial for the soil. It is, we regret to say, too often thought by tillers of the soil that all shall be well if any specific manure of extolled excellency is liberally applied to the soil. To overcome this fallacy it is necessary to have a general idea at least of the constituents existing in the soil about to be improved by a chemical manure whose chief ingredients consist of ammonia. Mineral salts require to be largely in evidence to assist ammoniacal salts becoming suitable food for plants. Leibeg, many years ago, pointed out the great danger of persistently applying manures chiefly consisting of ammonia year after year to the land. When such fertilisers are applied, he said, that the presence of potash and silicic acid is always presupposed. In a soil of ordinary fertility these constituents are by no means represented in a meagre quantity, but both are greatly demanded as plant food. It will be obvious that the demand will be necessarily

carried out with manures, that we find the same manures under the same apparent circumstances, often prove so variable and conflicting in their results. Heat and favourable moisture must have a great disposition to prepare a manure into proper plant food, while, on the contrary, cold and wet must have quite a different effect. Some seasons, on the same land, the effects of the muriate of ammonia appears to suit better than those of the sulphate, and so on with all the nitrogenous compounds. With respect to the muriate we give, as our own opinion, that its use is preferable generally on certain light soils having a good deal of ferrous oxide in their mixture. The sulphate generally gives a much better result than the nitrate of ammonia under any circumstances.

This seems rather strange seeing that the latter contains double the amount of nitrogen that the former does. From this we must infer that everything does not always depend on the quantity of nitrogen which any individual salt contains. I would appear that the base to which nitrogen is attached has a good deal to do with the success of its operations on plant growth.

The abundance or comparative absence of neces-



VICTORIA REGIA.

ford, to illustrate an article upon the subject, some time ago, when his communication went amissing in coming through the post. He says the photograph represents a new variety of Victoria regia, the chief characteristics of which would be the more highly coloured flowers, and the greater depth of rim to the leaves, the rim in this case amounting to 6-in. in depth. The illustration will give readers, at a distance from gardens in which the Victoria is grown, an idea of the appearance of the plant when grown in a hot-water tank under artificial conditlons.

BEGONIA GLOIRE DE LORRAINE.

THE hints thrown out by a large American grower may be of service to some who find difficulty in raising a stock of this grand plant. He says, "It takes time to become acclimated. One of its necessities is a warm and comparatively dry atmosphere. It resents much moisture on its foliage. Careful watering is necessary. A night temperature of from 65° to 70° is about right, and although I feel satisfied they do not like a moist, stuffy atmosphere, they should never suffer from lack of root moisture."

much greater in the presence of ammonia. In form an approximate estimate of the presence of the necessary minerals in the soil is one of those important things which every gardener and farmer ought to be able to decide. The practised eye is seldom at fault in arriving at fairly correct conclusions with regard to the fertility or sterility of a soil; while in every case an analysis may not be quite satisfactory for reasons which, when treating of soils, we shall endeavour to place before our readers.

The manurial values not only of ammoniacal salts, but of other fertilising agents, are very much subjected in their influence to the peculiarities of local conditions as well as that of soil. The weather must have much to do in the regulation of the growth of any crop, and without favourable conditions in this respect it is vain to suppose that any stimulating manure can effect marvels where weather fails.

Perhaps experiments have been too often carried out on lines that did not give the matter of local conditions the due attention in the resulting calculations as undoubtedly they deserve.

It is greatly owing to local conditions, when scanning over a series of reports of experiments

sary mineral oxides must also have a modifying effect in forming food, perhaps, which the plant may not immediately require. It is not unreasonable to think that plants can exercise their choice in selecting the food of which they stand most in need. Iron, for instance, does not go to form very much of the plant's structure; yet if a plant shows symptoms of paleness in the foliage, which denotes deficiency of iron, the plant would assuredly sooner absorb the salts of iron than those of any other mineral though they might be very much more valuable fertilisers.

The association of soda with nitrogen has a very marked effect on the fertilising influence of nitrogen on vegetation. Every person is acquainted with the valuable power of nitrate of soda for certain subjects. Evidently the nitric acid in this compound is in the most convenient form possible for plant absorption, and would appear to be as easily decomposed as it is dissolved by the weather. The semblance between nitric acid and ammonia is very much. The one can be easily resolved into the other by a little chemical experiment. In the soil these changes continually go on according to the agents brought to bear upon them—ammonia into nitric acid and vice versa.—Oxygen.

(To be continued.)

CYCLAMEN AT READING.

THE quaint beauty and utility of the flowers of the greenhouse race of Cyclamen will long ensure their popularity with the general public. Even those gardeners who have not yet made a speciality of them, or mastered the secrets of success under conditions that are not always favourable to success, warmly admire well grown collections that come under their notice; and we feel certain that successful cultivators will continue to increase in proportion to the desire to possess them for conservatory and greenhouse decoration in winter.

We recently had the pleasure of inspecting the houses filled with Cyclamen in the nursery of Messrs. Sutton & Sons, at the Portland Road Nurseries, Reading. The plants commenced flowering in November last, and, as the buds are developed in succession, a grand display is maintained for several months together, in spite of the fact that seed pods are allowed to develop from an early period of their career. In this respect they differ strikingly from Chinese Primulas, whose flowers begin to drop soon after the fertilising brush has been applied.

The old Persicum strain has been developed beyond all recognition within the last twenty years, and are now scarcely, if at all, inferior to the original of the Giganteum strain, which has likewise maintained the pace. Vulcan is still the darkest colour, not only in the Persicum, but in all types. It is also of dwarf habit, and very floriferous, the intense crimson flowers making a splendid foil to the pure white varieties, such as Sutton's White Butterfly, which is likely to be popular for many years to come. The snowy purity of this, and their profusion is a guarantee of this; for it is the most floriferous of all the white varieties. Salmon Queen is the most distinct colour of recent innovations, and is a charming flower, whether viewed by itself or by contrast with any other variety. The type distinguished by the appellation of Crimson and White maintains the original hues of what we take to be, if not the original type, at least one of the first breaks from the wild *C. latifolium* (persicum), obtained, so to say, by the washing out of the pink hue from the upper part of the petals, and concentrating the purple at the base of the same. The variety has, in fact, been made more decided and distinctive. Another one belonging to the same strain is pink, of so decided a tint as to be describable as rosy-pink.

The giant strain is fully as varied as the older race above mentioned. Giant White holds the same position here with regard to colour, as White Butterfly does in the Persicum strain, though the two are otherwise perfectly distinct both in size and form. New colours continue to be added to the giant race, and this is an earnest of the advance that continues to be made by Messrs. Sutton & Sons. Giant Vulcan has now been obtained in small quantity; and the same may be said of Giant Salmon Queen. Giant Pink is of taller habit than the above mentioned, and the length of the flowers is also a remarkable feature. Giant Crimson is, if anything, more floriferous, the colour being as described by the name. Somewhat paler is Giant Purple. Then we have other colours in Giant Rose and Giant White, the colours of which are sufficiently indicated as to require no description beyond the fact that they have been selected for perpetuation on account of their decided shades of colour. While all may be raised from seeds in separate colours, they may be had in mixture if so required.

The Papilio strain is gaining in popular favour on account of the broad and rounded outline of the petals, and their crisped or fringed margins. The colours are already fairly numerous, including white, purple, rose-purple, white and soft purple, and other hues.

The long stalks of all the strains enable the flowers to be pulled (not cut) and used for decorative work in company with cut flowers or separately in house embellishment. Next autumn and winter's stock was sown in November, and the seedlings are coming along favourably.

The white, rosy and pink flowers of *Primula ohconica* are annually improving in size; and their abundance makes them very effective for conservatory decoration. There is every prospect of a future for this species. A hatch of hybrid *Streptocarpus* is both pretty and interesting, because the plants have been raised by hybridising the ordinary hybrid race with *S. Wendlandii*. The flowers are blue or violet and larger, while the stems are shorter than those

of *S. Wendlandii*, which develops only one inconveniently large leaf. The new strain commenced flowering in November.

The tuberous Begonias for the forthcoming display next summer are already advancing through the seedling stage. Those of the *B. semperflorens* type were pricked off some weeks ago. Fine batches of *Saintpaulia ionantha* and *S. i. alba* show what a profusion of flowers they are capable of producing, not only at midwinter but all other seasons. The popular Begonia Gloire de Lorraine has been flowering profusely and continuously since last May.

The frames are well stocked with hatches of other popular flowers. The ordinary and highly developed garden strain of *Cinerarias* commenced flowering at least a month ago; and the same may be said of *C. stellata*, the plants being large, healthy, and vigorous, though most of them are grown only in 32 size pots. Calla Little Gem is also well grown here. The famous Reading strain of *Calceolarias* gives promise of being as fine as ever. The plants are grown in 24 size and smaller pots, the surface of which is covered with the healthy and massive leaves, indicative of the best of treatment.

INSECTICIDES.

AN American contemporary thus sums up our present knowledge of the use of insecticides:—

1. No one agent is effective against all pests.
2. A combination of destructive agents far more effective than a single one.
3. Certain slow breathing and very resistant forms of pests required to be treated with repeated doses.
4. Necessity of watching for second broods, as insecticides have no effects on the eggs.
5. Thoroughness of application essential.

Owing to the danger attached to the use of potassium cyanide, this does not seem to make much progress as an insecticide.

AN OUTLINE OF CHARACTER AND CULTURE OF THE HERBACEOUS AND ALPINE FLORA.*

THE above heading is connected with a subject which is a very large one, and includes, if we take into consideration all the various kinds which are cultivated in an up-to-date garden, those which are in use for the herbaceous border, dry and wet positions, the shade loving, edges of woodland walks, ornamental water, and finally the alpine garden or rockery. Each part can be furnished with its own particular plant or plants, adapted to grow in the various places mentioned. Nor must we forget the fact there are other classes of herbaceous plants which are in use as food, others as fodder for cattle, and a vast number of great value in medicine. In point of number a subject of this kind contains an endless amount of species and varieties to enumerate in detail; therefore we will confine ourselves to those of the flowering kinds which furnish both rock garden and herbaceous border, combining in effective grouping and colouring, also their use as cut flowers for decorative purposes.

Their limits as to age or period of growth may be from a few weeks to several years, and may be classed as perennials, biennials, and annuals. I think we all pretty well understand these terms. In size, height, habit, structure, of foliage, flower, colour, and odour possessed in the many natural orders, they all differ and differentiate in the many genera and species contained in any one order.

We find those of the alpine flora very dwarf compared with those growing in low lands or valleys, the latter ranging in height from 18 in to that of 10 ft. or more, as we find in some Sunflowers, *Spiraeas*, &c., whilst others like *Gunnera manicata* have foliage of an enormous size, from 20 ft. to 70 ft. in circumference, specimens of which attain that measure when grown as a water-side plant. Flowers, too, are smaller as we ascend the mountain, and more so as we near the summit, only appearing as tiny specks on the plants, as in the case of the tiny alpine Forget-me-Not, *Eritrichium nanum*, whilst

large flowers, are to be found in the Sunflower family, belonging to the order Compositae, taking the form of round heads, flat discs, and encircled by the ray florets of golden-yellow; whilst those of the *Rudbeckias* have rising central cones, surrounded by their ray florets of lemon-yellow. As to habit, the flowers are generally throughout erect growing, and possess all the many shades of the foregoing colour.

In Campanulaceae, which include the Hare-bell genus, we have those of a more or less drooping character; flowers bell-shaped and blue, the leading colour throughout, white occurring only in a few instances.

Plants of this order vary in height from a few inches to 5 ft. or 6 ft. Many of the smaller forms are pleasing subjects for the alpine garden; whereas the taller ones are useful for grouping in the border.

In the biennials belonging to this family the bells are very large and in shape like a cup and saucer, but differ in point of colour from those of the perennial form, which is mainly blue, whilst these merge into white and rose tints. But we generally assume that blue is the colour for the Campanula, because so many of the vast number of species belonging to the order possess this shade of colour.

Among rock plants blue figures very conspicuously, and no order sets it off so well as the Gentianaceae, particularly in *Gentiana verna*, *G. bavarica*, and *G. acaulis*. Again, in Boraginaceae we have a pleasing form of trailing plant which shows it up to advantage, viz., *Lithospermum prostratum*. Also, it shines out a variety of tints in lighter or darker shades in many of the bush-like forms of *Pulmonarias*, *Borage*, *Cynoglossums*, *Omphalodes*, &c. In the tall perennials we find it very marked in the order Ranunculaceae, in the forms of *Delphinium* hybrids, and parental species of *Aconitum*.

Blue is generally first in season, and making its appearance in the alpine garden in the species of *Chionodoxa*, *Scilla sibirica*, *Anemone blanda*, and *Hepatica*; and I might add it is generally the last to be seen in the fall of the year among the tall forms of *Asters*. Blue as a colour is more manifested in its brightest hues among mountain plants—more so than you will generally find among taller perennials, which are more fitting to furnish the herbaceous border; and I venture to say it ranks second on the list of plants over which it presides or governs.

I mention this because, in speaking of colours, yellow stands first, that is to say, it predominates over the largest number of flowering plants, both among the herbaceous and alpine perennials and throughout the vegetable Kingdom, and particularly so in the largest of natural orders, Compositae, which have for their primary colour that of yellow, from that of the rich golden to those of softer hue of lemon-yellow tints.

The next colour, and one of extreme value to the florist, is white, but I am inclined to say it is rather spare, that is, as a clear white among tall perennials. It figures in *Physostegia virginica alba*, tall forms of *Phlox*, and *Funkia grandiflora*, the best of all whites as a hardy flower. White is also prominent in *Anemone japonica alba*, and a few types of *Achillea* and *Campanula persicifolia alba*. True, we have it in its many shades to be found among our *Spiraeas*, *Centaurea* and *Chrysanthemum maximum* types.

The colour appears clear again, and in the majority among the many which are in use in the rockery, in the forms of *Iberis*, *Aralis*, *Androsace Arenaria*, &c. But of course these being of a very dwarf nature they do not play a very important part in use as cut flowers.

Red is the next colour, one we could not very well do without. It is poorly represented among Alpines, that is, a clear scarlet, with the exception of *Zauschneria*; although *Saponaria ocymoides splendens*, and *Calandrinia umbellata*, *Androsace Chumhyi*, *Dianthus Atkinsoni*, as a deep blood red, and its allied companion, *D. cruentus*, are very charming objects on the projecting rocks of the alpine garden. Yet for good clear reds we have to call in the additional blends of the hulbous section of the herbaceous flora in the many species of tall and dwarf kinds of *Tulips*, &c., known in commerce. The colour appears at its best, and of the most striking hue in the large majority of the annuals which are grown, more particularly dwarf *Phloxes*, *Zinnias*, and others.

The taller perennials cannot claim in this colour a very large number, although it is shewn in variety of

* Read before the Devon and Exeter Gardeners' Association, February 14th, 1900, by Alfred Tucker, of the Royal Nurseries Exeter.

shade in *Liatris*, dwarf and tall kinds, *Lythrum roseum*, *Spiraea palmata*, *Rudbeckia purpurea*; and set forth in its best in the scarlet *Geum coccineum*, and *Lychnis chalcedonica*; and of black and bright hues in *Potentilla*.

Blood red we have in the old garden forms of *Paeony*, and of softer shades in the many hybrid varieties.

For orange red we have to refer to the *Tritomas*. Taking the colours collectively we find them making an early appearance, and all represented more or less in the alpine garden first.

Yellow takes the lead in the tiny *Morisia hypogaea*; blue in *Anemone blanda*, *Scilla sibirica*; white in *Saxifraga burseriana*, *Arabis*, &c.; red in *Cyclamen Atkinsoni* varieties.

Flowers possessing coloured rays or petals, of course, are in use in the art of decoration; and again colours act as a medium or agency of attraction for insects, which greatly assist in fertilisation, for the reproduction of species. In the case of many seeds and fruits which are highly coloured, birds are attracted, and act as one of the many ways for the distribution of seed. A single flower does not possess all the four primary colours, but it oftentimes occurs that many have a suffusion of all the four shades of the primary ones. A flower may possess one or more such as a clear red, or it may be blended with white or yellow, with dark centres, &c.; so that many flowers occur which are bicolors; but not often do we get tricolors in the herbaceous flora.

(To be continued.)

A COMPARISON.

HAVING read with interest an article on pages 406-407 of your last issue, *re* "Varieties of Strawberries suitable for market growing in Midlothian," it has occurred to me to be worth while comparing in brief the varieties grown in the Midlothian districts for the Edinburgh market, with those grown in the Clydesdale fruit farms for the Glasgow Bazaar.

It having fallen to my lot to be employed for a period of time on one of the extensive fruit farms of the west, I have always taken a special interest in this subject.

My master in this case being a shrewd, intelligent gentleman, and having a large retail trade as well as that of producing for the wholesale market, he was, thereby, in a position to gauge the public's taste and fancy.

Finding that appearance was an important factor in the public's appreciation of the Strawberry, and trusting that they would willingly sacrifice the little loss in flavour to the increase in size, he resolved to plant the then much lauded Noble, and the results he obtained far exceeded his expectations.

Early and abundant crops of large, well formed berries rewarded his enterprise, his consignments commanding top prices in the market, and several leading fruiterers in the city solicited special direct deliveries.

As illustrating its good travelling qualities, we supplied a certain party with large quantities, the only means of transit to whom being by rail and steamboat, thus necessitating frequent, and often not very careful, handling, yet they arrived in prime condition.

This variety which then gave such excellent results has now, however, to give place to its successor, which may be termed the "Queen of Strawberries," that is, Royal Sovereign, and during the past year the grower to whom I refer has laid down acres of this variety and hopes to achieve great results from it.

It has proved to him to be fully up to its raiser's description, being hardy, vigorous, of large size, firm flesh and splendid flavour. I might here mention that they are grown on gravelly soil with a southern exposure, in beds 3 ft. wide, with 18 in. between the beds. A great advantage is that by this arrangement, the fruit when ripe and weighed down does not rest upon the soil but is kept clean by the carpet of foliage below it.

But what do the Midlothian growers say of these two grand varieties which I have mentioned? They are worthless. The former is deficient in flavour and too soft to carry, and the latter of too weak a constitution.

Great diversity of opinion, however, exists

between growers (Clydesdale) resident within a radius of a few miles as to the best variety. One occupying a low-lying piece of ground grows only a seedling of his own raising which is conical in shape with a rich, sweet flavour. Another confines himself to the old Wizard of the North, which is so much in demand as a preserving berry. Garibaldi is also a general favourite, and here also demonstrates its peculiar fitness for the marketers. John Ruskin, a hardy, vigorous, early variety, and President are to be met with. Elton Pine and Waterloo are grown as late varieties but can scarcely be recommended as profitable.

Coming to new varieties which may prove an acquisition, is a berry of Continental origin described as a "Continual" bearer, St. Joseph. It is of good size, shape and apparently hardy, but it has got to prove itself worthy of a place in the market gardener's collection.—*W. L., Edin.*

SAP FLOW.

THEORY has always taught me in my life experience that it was impossible for a branch of a tree to live any length of time, clean barked all round the branch down to the hard wood. In the summer of 1896 my attention was drawn to a Pear tree, on which was a large branch full of fruit. Near the main stem it was quite barkless down to the hard wood. It had been so for some years, and is still alive, and carries fruit each year. Now, if sap does not flow upwards in the hard wood what keeps that branch in foliage and fruit?—*E. Yeomans.*

There is no doubt much to be determined upon the important subject broached by A. D. on p. 394, in relation to the flow of sap in trees. The field of inquiry, however, is not so unexploited as might appear on the face of it. The term "absolutely dry" is hardly appropriate, or on all fours with the facts of the case when applied to any portion of a tree, whether dead or alive. The wood may, and does, contain a certain amount of moisture, though that may have little effect upon or relation to the vital activities of the tree as a living organism. Class teachers, who are supposed to know something of the subject, speak as if the heart wood were dry and dead. Dead it most certainly is; and in those trees which have a close grained and often dark heart wood, the latter may contain a limited quantity of moisture, but it is quite immaterial to the life of the tree, which may live possibly for centuries after the centre has crumbled into dust by the admission of moisture and air from above by the breaking of a limb by the wind, or its removal by a woodman's saw or other agency.

The sap in plants has a progressive but not a circulating motion like the blood in animals. To say that it ascends from the roots through the wood to the leaves, and then back again by the inner bark and the cambium layer to the roots; is mere theory, and has long ago been exploded. Trees, and for the matter of that, all plants possessing a rise of sap from the roots towards the leaves, lose many times the bulk and weight of water from the leaves than ever goes down again to the roots. In order to prove by what tissues this current of water rises in trees, Thos. Andrew Knight, F.R.S., of Horticultural Society fame, away back near the beginning of the present century, made some experiments. By removing a ring of bark from the trunk he found that the tree still retained a healthy appearance and went on growing; also that the tissues above the ring continued to deposit woody matter and to show thickening at the edge of the cut, thus demonstrating that some amount of sap descends by the bark. He next removed the pith and the central and harder layers of wood. The tree continued to support its leaves as usual, so that the rise of sap to the foliage could not have been passing through the hard heart wood. He next cut a ring of tissue from the stem of an Oak, removing the bark and the younger wood (alburnum), leaving the hard heart wood or duramen bare. The foliage soon began to wither, and the tree soon after died. This is accepted by modern physiologists as a solution of the fact that the "sap current" flows in the younger wood next the bark. A. D. asks whether this is in the "really hard wood," or the soft cambium layer. The above experiment says in the wood just beneath the cambium layer, and extending some distance inwards.

A. D. also asks, "How soon after formation into a woody layer does the cambium layer become

sapless?" Well, the cambium layer never becomes sapless. It is really the only part of the tree that is alive at the present time, with, perhaps, some of the cells or vessels of the soft bark immediately on the outside of it. When growth is going on actively some of the cells of the cambium develop into wood cells and vessels which soon lose their vitality, that is their protoplasm, after being fully developed, and having thickened their walls. After that they may remain intact for centuries, but are practically lifeless after losing their protoplasm. There is always a cambium layer in an Oak, for instance, till the tree dies outright.

Concerning the sap descent, it may be stated that only a small percentage of it ever descends, just sufficient to carry the material required for thickening the branches and trunk, and to extend and thicken the roots.

Again, when an Oak is in full leaf in summer, and during the day when it is losing moisture by transpiration, the cavities of the wood cells and vessels contain only air, the sap rising in the walls of the said cells and vessels. During night transpiration ceases, but the roots continue their work of pumping up water, which finding no means of escape by the stomata of the leaves, filters into the cavities of the wood and vessels till the same may be said to be gorged like the flooding of land by the overflow of rivers. If the stems were then cut they would exhibit the phenomenon of bleeding which would not be the case during the day.—*P. L.*

FORMALITY IN GARDENING.

It seems odd to read that it is so much prettier to see Wallflowers growing just as naturally and indiscriminately sown than when they have been planted at equal distances apart. We have but to vary these common garden flowers by introducing all other garden plants and then find what singular appearances our gardens could present. It is all very well to sigh for informality in gardens, and there is no objection to so planting, that as little of that formality may be evident, but to assume that gardening can be conducted, whether in relation to flowers, shrubs, trees, or vegetables, without considerable formality is ridiculous. Gardening of necessity constitutes formality, because it is work done on recognised lines. When these lines are no longer followed then gardening is absent, and Nature alone is left.

Why may not a bed of Wallflowers, no matter what colour, when properly planted be as pleasing to see and to cut from as a bed sown where growing and left to thrive as best it can. It by no means follows that in putting out plants at equal distances straight lines are of necessity formed, but where these equal distances are observed, do not the plants materially benefit? And have not all an equal chance to grow and flower? And is not that gain? When plants are sown and grown in wild form, some that may be the earliest or strongest grow and strangle or crowd out the others, and in all cases for their good they are far too crowded.

To look upon such a condition of competitive existence is painful. It is particularly so to the gardener, because all his teaching, all his experience favours the equal treatment of all, that all may have an equal chance. Had we allowed the wild growth practice in gardening to exist, very much of our most beautiful or useful plants would have been killed in infancy, or, perhaps, never have seen the light. Their existence now is due to the gardener's care, to his wise judgment and treatment, not only in enabling all to have an equal chance, but also to specially encourage those which seemed to be of the weaker nature, that they may have in due course ample facilities for developing their properties.

Practically gardening is in direct antagonism in one sense to the doctrine of the survival of the fittest, as it exists in Nature, because in that case the fittest is but the brute strongest, though not always the best. There may be some reason for what may be regarded as wild or informal growth of all things sown or planted in essentially wild garden areas. But even in those it not infrequently conflicts with one's notions of propriety to find large clumps of essentially garden plants where things that are always associated with wild or natural surroundings should be found best. Where would be our satisfaction in having what are called kept gardens, did we not in them have essentially garden features and garden culture? In what respect should we learn

to appreciate our artificial wild gardens (for all these after all are artificially planted) did we not have in our gardens proper features markedly diverse? It is idle to look for charm in any garden that does not evidence the garden art, although that art need not, or, indeed, should not, exhibit striking contrasts with Nature's operations. But gardening is, and must be, human art; hence no garden is worth the designation that does not exemplify intelligent culture and keep in the fullest degree.—A. D.

A MISSING GIRL.

£100 REWARD.

A STORY of a peculiarly heartrending character comes from Northumberland. The portrait we print is that of a young woman of prepossessing appearance, who has been spirited away from her home under extremely painful circumstances. Her relatives are highly-respected inhabitants of the popular golf resort of Alnmouth, near Alnwick. Last August Ruth Brown left her home to pay a visit in Harrogate, and, after being there but a short while, suddenly disappeared. Since then all reliable traces of her have been lost. The following description of her has been issued and widely circulated:



MISS R. S. BROWN.

Miss Ruth Swan Brown disappeared from Harrogate on August 16, 1899. She is tall (about 5ft. 9in.). She is 22 years of age. She had on black dress, trimmed with beading at the knee and bottom of dress; fawn-coloured cloth jacket, white sailor straw hat, with dark band. She wore also large ribbed ring of native Indian make, with several raised points at top, red stone in centre, and one small stone at each side; also a nail and heart brooch with red stone. Miss Brown had with her as well a lady's gold watch. Anyone giving information which will lead to finding the missing young lady will be paid the above reward. Apply to her father, Mr. William Brown, builder, Alnmouth, Northumberland; or to his solicitor, Mr. Charles Percy, Alnwick. It is stated that, in September last, a Newcastle lady, riding on the top of an omnibus, saw the missing girl, unaccompanied, walking along the Strand in London; but inquiries based on this slight clue have not led to the desired result.

EARLY FLOWERING SHRUBS.

WINTER BLOOMING HONEYSUCKLES.—The two (for there are but two flowering at this time) *Loniceras* which adorn our gardens during all open winters, through part of January and February, are somewhat confounded. *L. Standishii* and *L. fragrantissima* are alike in having white flowers, which are very small, yet are freely produced on short peduncles springing from the wood of the previous year. Both bloom before the foliage develops. The fact of their blooming on the young wood of the previous year warns us not to prune until after the flowering period. *L. Standishii* is the better plant for walls, *L. fragrantissima* being of too bushy growth. The foliage of *L. Standishii* is somewhat hairy, which distinguishes it in the later stages from its glabrous neighbour. Advisedly a sheltered position is more to be preferred when planting either of them. They are not very conspicuous blooms, yet being fragrant and flowering in the open air at the time of the year they do, their boldness lends them charm.

JASMINUM NUDIFLORUM.—On the plea that we cannot have too much of a good thing, I would refer in a sentence to the naked flowered yellow Jasmine. This year it began to flower with us in Kent some time before Christmas, and has been in bloom since. In fact to all appearance it means to continue to do so for a double length of time. On cold and exposed gables, with cold draughts of wind running past for weeks on end, what plant could be finer for the purpose of ornament than this hardy and very graceful growing yellow flowered Jasmine? Lying loosely over a dividing fence or rail, the flowering vigour of the plant is just the same. A poor and hard soil suits it admirably. It is readily increased from cuttings or by layering the long shoots.—H. D.

CORNUS MAS.—We have some eighteen or twenty species and varieties of *Cornus* in our gardens, and of them all the *C. mas* flowers earliest, and is as showy as any. Just as the Witch Hazel goes out of bloom or loses its brightness this yellow-flowered species of *Cornus* steps in to continue the golden colour until a more advanced period. The shrub bears cutting in, though its habit is all that one need desire, being bushy, with stout and long clean growth. The flowers are really small clustered umbels of separate corollas, each of which springs individually from the one year and older wood. A well flowered bush, especially one of about 8 ft. in height and 5 ft. or 6 ft. in diameter, is a gayful object in the shrubbery during February and March. No finer method of using the plant could be practised than by massing nicely grown and well kept plants in beds, and planting Snowdrops and Glory of the Snow or Scillas beneath them. The plant is not fastidious as to soil, but seems to do exceedingly well on one of a porous or gravelly condition. An open position also should be selected. This *Cornus* was introduced from Austria to England in Queen Elizabeth's time. It bears the English name of Cornelian Cherry. It has a number of variegated varieties.

WHY DROP THE MAIDENHEAD SHOW?

IN another part of the paper an announcement appears as to the probable disappearance of the Maidenhead Horticultural Society from off the face of the earth, owing to a split in the camp, as to whether a flower show should remain simply and entirely a horticultural display, or whether if such horticultural exhibit fails to draw the public other attractions in the way of poultry show, gymnicanas, athletic sports, dancing, fireworks, concerts should be countenanced. Of course, to the real lover of flowers, fruit, and vegetables the entrance fee of 1s. or 6d., as it may be, to the show is so much money well spent; and the same individual may be seen most if not all the time in the tents, admiring, judging and criticising the various exhibits, making notes, crowding his pockets with catalogues, the policeman eyeing him as he leaves this or that tent, as though the receptacle in question was bulging with someone's Peaches and Apples (but this is the wrong man to pitch upon for that unfortunate light fingering which so often brings discredit). But on the other hand, for one devoted horticulturist you get fifty to a 100 visitors, some of whom would not know a gourd from a marrow, a *Gloxinia* from a *Streptocarpus*. I am not finding fault with them for this, and for that very reason wish still to provide an educational object lesson for them. My personal feeling in the matter of shows is to encourage such visitors even at the expenses of providing other attractions. When such visitors, and they form the large majority, have once looked through the tents and find nothing else provided they depart, finding fault with the executive that they have had to pay 1s. to look at a few Cabbages, and that is the last time the exhibition will be honoured with their presence and money. Now the latter word, we are told, is the root of all evil. How would the exhibits staged develop without a root, and how can a committee of any horticultural society get on without this root? I may be quite wrong in advocating such a departure from the old flower show days, but one must move with the times; and if an executive finds it cannot keep its head up above water, financially, it either has to drop the show altogether or introduce other attractions. Half a loaf of bread is better than none. Surely a show with outside attractions is better than none at all. I admit if such exhibitions can be run without side shows so much the better, and should

be glad to be put in the direction of getting a first-class recipe to be without them; but as so many societies have found to their cost to be contracted spells ruin.—J. W. S.

NATIVE FLOWERS OF SOUTH AFRICA.

THE flora and fauna of the Cape Colony, Natal, and the Transvaal are various and fascinating. Many of the birds sing, and many of the flowers have perfumes peculiarly their own. The gigantic Cape Disa, and the glorious Table Mountain Heaths, of hundreds of varieties, have certainly no heavy perfume, but, on the other hand, the thousands of quaint little peeping veldt flowers, from Pimpernel to Orchid, have subtle, suggestive odours which are exquisite and refreshing.

In the Cape Colony, for many miles between the Paarl and Cape Town, the line is bordered with so-called "Pig-lilies." These are none other than our carefully tended and garden-produced *Richardias*. But in South Africa they grow wild, and in luxuriant profusion. Near Ceres there are great fields full of these snowy white blooms with their orange-yellow spadixes; and to see a couple of little negro children playing about in this amplitude of whiteness is a delightful study in black and white.

Up in the Transvaal, if a farmer cultivates flowers at all—and all Boers are not as unappreciative of beauty as their detractors suggest—he almost always has on his stoop, or verandah, a couple of tubs containing plants of *Keitje Perring*. This is our *Gardenia*. It is smaller, certainly, but equally exquisite in scent, and, with a little care, it flowers in great profusion. The *Tuberose* also flourishes amazingly in the open air with but the smallest attention and cultivation. The bulbs shoot up their three or four-foot stems, each bearing very sweet smelling flowers, in an incredibly short space of time.

In Pretoria, Roses are prolific—in fact, most of the streets are bounded by Rose hedges throughout their length, and they bloom with a frail, pink, monthly Rose blossom for three-quarters of the year. In public places, such as Burgher's Park, the profusion of Roses, Lilies, Carnations and *Tuberoses* is bewilderingly beautiful. The wild Orchids of Swaziland are famous. They are of at least twenty different kinds, and, although now no longer rare or valuable, they are exceedingly curious, and, with a little care and extra heat, they can be induced to develop into very wonderful plants.

The blue Gum tree, or common *Eucalyptus* tree, flourishes amazingly, and, from a tiny seedling, grows to twenty feet high in three years. This seems surprising, but it is hard, solemn fact. A well known English tenor, who was travelling in the Transvaal, once remarked that he verily believed that if you planted walking sticks you could reap umbrellas in a fortnight.

On nearly every veranda in Johannesburg grows the easily trained and useful *Granadilla*. This is a species of *Passion Flower*, with a pretty little feathery starred flower, and a very delicious egg-shaped, crinkled up, brownish-green fruit, containing a yellow pulp, with many flat, black seeds. It has a cooling, slightly acid flavour, which must be tried to be appreciated. The *Granadilla* grows easily and quickly, and in flower, in fruit, and in foliage, it is very beautiful.—*Gardening (American)*.

GARDENING MISCELLANY.

PEA GRADUS.

THE remarks of Mr. Carmichael upon this deservedly popular Pea took me very much by surprise, and I fully anticipated the flood of correspondence which has resulted from his adverse criticisms. I would not have ventured any remarks of my own, although having had ample opportunities of endorsing all that has been said in its favour, were it not that quite recently, conversing with a gardening friend in charge of one of the very driest kitchen gardens with which I am acquainted, who claims for it the distinction of being the best drought resisting Pea he knows. Last summer it remained in bearing two weeks after the popular kinds sown at the same time had succumbed to the drought.—W. B. G.

IRIS JAPONICA.

THIS is rather an unusual species. Its fan-shaped mode of leafing, its evergreen close growing habit, and its adaptability for pot culture, render it distinct. The foliage is bright green, and 2 ft. or more in length, somewhat resembling that of *Agapanthus umbellatus*. The flowers are very handsome, but had they been larger and borne more clearly above the foliage, they would have been greatly improved. As it is, they are just held above the foliage, in colour blue, with a yellow and white spotted throat. The peduncles are strong, and long enough to make the plant suitable for flower cutting purposes.

BOX EDGINGS.

I READ in your paper to-day that you recommend stone, brick, or tile rather than Box plants for edging, because you think it cheaper. Edging done with stones, bricks, or tiles always will look dead and dirty as the years go on. Box edging will look lively and always pleases the eye when kept properly, and the cost will not exceed 6d. per yard. When planted properly it will very seldom show bad places. Every six or eight years Box ought to be relaid, and you will gain a profit by selling those plants which you do not want. Taking everything into consideration you will come to the conclusion that Box edging is profitable, better looking, and not more expensive than stone, bricks, or tiles.—H. Lohrman.

GLOU MORCEAU PEAR.

GLOU Morceau Pear is one of our best mid-winter varieties. To do well it wants a warm, well-drained soil, and in many places where little natural shelter surrounds the garden it should have a wall. Where the locality is favourable it does well as an espallier, but the roots must be kept near the surface. To prevent their going into unfavourable bottom soil a concrete or other hard border should be made.

SOCIETIES.

ROYAL HORTICULTURAL.—Feb. 27th.

ORCHIDS were in strong force on Tuesday last at the Drill Hall. Cyclamens, Camellias, Daffodils, and greenhouse plants were present in considerable quantity, and hardy subjects generally made their presence felt to some extent.

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited a general collection of Orchids, amongst which hybrids were very much in evidence. There were well-flowered pieces of *Laeliocattleya callistoglossa superba*, *Lc. c. splendens*, *Lc. Antimachus Caenæa*, and others. Handsome pieces and fine hybrid varieties of *Dendrobium* were *D. Ainsworthii intertextum*, *D. Wiganæ superbum*, *D. splendidissimum*, *D. atrovioleaceum*, *D. wardianum*, &c. Very pretty and interesting were *Laelia* Mrs. M. Gratrix, *Sophrœlaelia laeta superba*, *Phalaenopsis* Mrs. James H. Veitch, and others. (Silver Flora Medal.)

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, exhibited a very extensive and most interesting collection of Orchids, including a pan of seven seedling *Cypripedium* in bloom, all from the same seed pod, and every one different, some of them strikingly so. Very rare were *Dendrobium treacherianum*, with purple and maroon flowers, and *D. jerdonianum*, with clear orange flowers. Neither of these are much known. Peculiarly interesting were such small gems as *D. barbatulum* and *D. specio-kingianum*. *D. Wiganæ xanthochilon* was really handsome. *D. Clio*, *D. burfordiense*, *D. splendidissimum grandiflorum*, *D. Luna*, *D. pallens*, and other hybrids were in grand form. The *Phalaenopsis* were also very fine. (Silver Gilt Flora Medal.)

Messrs. B. S. Williams & Son, Upper Holloway, London, staged a large pan of *Coelogyne cristata* and numerous *Cypripedium*s, including *C. rothschildianum*, *C. winnianum*, *C. lebaudianum*, *C. Boxallii nigrum*, &c.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited a group of Orchids, including a magnificent piece of *Cattleya Trianaei alba*. Handsome also were *Dendrobium wardianum*, *Cattleya Trianaei perfecta* and *Odontoglossum crispum* Lord Kitchener.

Messrs. F. Sander & Co., St. Albans, had a group of hybrid *Phaius*, *Epidendrum orphanum*, and *Epiphrontis Veitchii*, all dwarf and freely flowered. They also showed the hybrid *Selenipedium titanum*.

H. T. Pitt, Esq. (gardener, Mr. F. Thoroughgood), Rosslyn, Stamford Hill, N., staged a splendid group of *Odontoglossums*, *Dendrobiums*, and a splendidly flowered piece of *Cymbidium eburneo-lowianum*. Both the *Dendrobiums* and *Odontoglossums* were well flowered; the latter included *O. naevium*, *O. crispum*, *O. sceptum*, *O. cirrhosum*, and many others. (Silver Gilt Flora Medal.)

Wellbore S. Ellis, Esq. (gardener, Mr. Barrell), Hazelbourne, Dorking, staged a group of well flowered *Odontoglossums*, chiefly *O. crispum*, *O. andersonianum*, *O. Coradinei*, *O. Pescatorei*, &c. (Silver Flora Medal.)

Mr. James Cypher, Orchid grower, Cheltenham, staged a fine group of Orchids, including well flowered *Dendrobium Cybele*, *D. Ainsworthii*, Cypher's var., *D. nobile nobilius*, *D. leechianum*, *D. atrovioleaceum*, &c. They also had fine *Sophrontis grandiflora*, *Miltonia Rozei*, and *Lycaste Skinneri alba*. (Silver Banksian Medal.)

W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs., was accorded a Silver Flora Medal for a small group of choice and valuable varieties of *Odontoglossum*, such as *O. loochristiense* Kimberley, *O. excellens spectabile*, *O. sceptum grandiflorum*, *O. crispum* Yellow Gem, &c.

A Cultural Commendation was accorded to T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, for a magnificent plant of *Dendrobium splendidissimum grandiflorum*.

Messrs. J. Veitch & Sons, Ltd., staged the new hybrid *Laelia Edissa*. Col. Shipway (gardener, Mr. Walters), Grove House, Chiswick, staged a cut spike of *Cymbidium tracyanum*, with a heavily bearded lip. A species of *Schomburgkia* was exhibited by Lord Rothschild, Tring.

G. S. Ball, Esq. (gardener, Mr. Gibbons), Ashford, Wilmslow, Cheshire, exhibited the very pretty new *Zygopetalum Ballii*. R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), exhibited the pretty *Restrepia striata*. Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham, exhibited two plants of *Laelia jongheana*, a rare species recently re-introduced in some quantity.

Messrs. Paul & Son, Waltham Cross, Herts., staged splendidly grown and floriferous specimen *Camellias* in pots, besides a number of boxes of *Camellia* cut blooms. The *Clematis indivisa* in pots, which were so attractive at the previous meeting, were again staged in interspersed with the *Camellias*. As before stated, such worthy groups have an effect on the public regard, and must surely revive the decayed love for these hard woods. (Gold Medal.)

Messrs. Cutbush & Son, Highgate, London, N., had a very interesting, if not so showy, group of hard-wooded and foliage plants. Particularly fine were the dark crimson *Epacris Diadem*, *Boronia megastigma*, *E. Lady Panmure*, *Erica wilmoreana*, and *E. melanthera*. The latter is a particular favourite, and an exceedingly decorative plant. *Acacia Drummondii*, &c., was also shown as a small pot subject; and so with *Iris reticulata*. (Silver Banksian Medal.)

Mr. Geo. Mount, Rose Nurseries, Canterbury, showed cut *Roses* which, from their substance, depth of colouring, and strength, must be described as magnificent. The varieties were: Capt. Haywood, La France, and Mrs. John Laing. (Silver Gilt Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited on this occasion a huge collection of *Cyclamen persicum* in all the shades of colour to be found in these plants. The specimens were specimens in all senses, and the beautiful markings of the foliage, which was plentiful and strong, added yet greater value to this handsome strain. (Silver Gilt Banksian Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, showed their delicious trusses of *Javanico-jasminiflorum* *Rhododendrons*, plants of which no garden should be without.

Messrs. John Peed & Son, Roupell Park Nurseries, Norwood Road, S.E., arranged a neat and fairly extensive group of such serviceable plants as *Dracaenas*, *Pandanus*, *Ghent Azaleas*, yellow-leaved *Abutilon*, *Phyllodendrons*, *Begonia Glorie de Lorraine* (capital specimens), and forced *Deutzias*. The group did the firm credit. (Bronze Flora Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, W.C., staged a group of hardy flowering bulbous

plants and Christmas *Roses*, which created strong interest, as the Messrs. Barr's groups always do. *Narcissus cyclamineus* and the *Iris unguiculata alba* were perhaps the chief objects of attraction, but the *Crocuses*, *Glory of the Snow*, *Hardy Cyclamen*, *Primulas*, &c., were all sweet and attractive.

Mr. P. Parnell, Esq., Woodland, Streatham Hill, S.E., put up a group of *Narcissi*, amounting in all to some scores of plants. The chief varieties shown were *Emperor*, *Empress*, *Barri conspicuus*, and others. (Silver Flora Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., set up a very strong group of cut bloom of *Narcissi*, a few also in pots, and a large selection of Dutch *Hyacinths*. Of the latter, sweet and attractive were *Yellow Hammer*, *Gen. Pelissier*, *Czar Peter*, *Marie*, and Mrs. H. J. Jones, the latter peculiarly good. The *Narcissi* were of A1 quality, chief of these being *N. bicolor Horsefieldi* and *Golden Spur*. (Silver Banksian Medal.)

Messrs. Thomas S. Ware, Ltd., Hale Farm Nurseries, Tottenham, N.E., had a small table of such pretty little alpine as *Adonis amuriensis*, *Saxifraga burseriana*, *Gaultheria procumbens*, *Iris reticulata soptensis*, *Galanthus Elwesii Whittallii*, and hardy *Cyclamen*. The group formed a very pleasing change. (Silver Banksian Medal.)

Six dishes of Apples came from Mr. John Crook, Ford Abbey, Chard.

From Osterley Park Gardens came two plants of *Cyclamen persicum*, two years of age, and flowered for a second time in the same pot. The plants bore a tremendous show of blooms, one especially which probably bore 150 blooms.

Her Majesty the Queen sent a nice collection of *Violets* from Osborne. (Vote of thanks.)

Mr. H. Lohrman, landscape gardener, Beckenham, S.E., exhibited three highly executed plans, one of landscape design or situation garden, and two plans for a formal flower garden. The exactitude and high-class skill shown in these drawings should set Mr. Lohrman's name down in the mind of any who require the services of a garden designer.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, set up a group of *Irises*, *Snowdrops* and *Anemones*. So fine were these that admirers flocked around the stand with persistence during the whole time of the show. *I. stenophylla*, a new pale-flowered variety, received a First-class Certificate and will be treated of under "Plants Recently Certificated." *I. reticulata major*, *I. r. Krelagei* and *I. Dandfordiae*, a bright yellow species, were objects of great beauty.

From Lord Suffield (gardener, Mr. Allen), Gunton Park, Norwich, came a splendid group of *Lachenalia tricolor*, and from the fine quality of these it is evident that Mr. Allen has grasped the full secret of how to treat them. (Silver Banksian Medal.)

C. P. Serocold, Esq. (gardener, Mr. R. Bullock), Taplow Hill, Maidenhead, exhibited a good table of Apples, twenty-nine dishes in all. The colour of many of these fruits was splendid and the quality of some of the fruits as expressed by experts was extremely good. (Silver Gilt Banksian Medal.)

Mr. Geo. Wythes, of Syon House, sent a heavily fruited branch of the rarely seen *Vanilla*.

Mr. James Hudson, Gunnersbury House, sent nice fruits of the African *Papaw*. Both of the above exhibits attracted special notice.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Herr G. Van Overberghe, for the article on "Chrysanthemums." Several of the competitive articles were close upon it in point of merit.

LINNEAN SOCIETY OF LONDON.

The undermentioned subjects were discussed at the meeting of the Linnean Society of London, on Feb. 15th, 1900:—

Variability of *Asplenium Bradleyi*.—Mr. R. Morton Middleton, F.L.S., exhibited a series of specimens of *Asplenium Bradleyi*, Eaton, one of the rarer rock Ferns from Tennessee, to show its extreme variability. The simplest fronds exhibited were found in a damp, cold, perpendicular rift, which no sunshine could enter, at an elevation of about 1,700 feet; these fronds had the simple pinnate structure, with green rhachis and rounded, toothed pinnae of *A. viride*, Hudson, but were more coriaceous than in that species. Dr. Gattinger, author of the Tennessee Flora, was satisfied that the plant was *A. viride*; and Gen. Kirby Smith, who had had ample opportunity of studying *A. Bradleyi* on the eastern slopes of the Cumberland Plateau, remarked that *A. viride* and *A. Bradleyi* were so much alike that they might be varieties. The other plants exhibited, however, showed a gradual tendency to become more and more compound, culminating in a luxuriant specimen with pinnatifid fronds 10 inches long, the green rhachis becoming purple and shining in all the plants exposed to the sun's rays.

The affinities of so variable a fern are naturally of interest. Eaton ('Ferns of North America') remarked: "If there could be a hybrid between *A. eheueum* and *A. montanum*, it would be much like our plant." Asa Gray, following Eaton, said, "Intermediate between *A. eheueum* and *A. montanum*" Baker, in the 'Synopsis Filicum,' says, "Between *montanum* and *lanceolatum*." Mr. Middleton believed it to be very near to *A. viride*, and perhaps intermediate (though not a hybrid) between *A. viride* and *A. lanceolatum*. *A. viride*, identical with the species of Europe and Asia, is essentially boreal, and occurs in British America from New Brunswick to British Columbia, as well as in the State of Vermont. *A. Bradleyi* then takes its place, extending south from New York to Georgia and Alabama, and west to Arkansas. *A. lanceolatum*, Huds., is not American at all, but is found in Europe, North Africa, and some of the Atlantic islands (Madeira, Azores, and St. Helena). The exhibitor did not consider that *A. Bradleyi* had any special affinity either with *A. montanum* or *A. eheueum*, which are entirely American except that the latter appears in Cape Colony. Britton and Brown, in their new 'Illustrated Flora,' state that *A. Bradleyi* prefers a limestone soil, but Mr. Middleton had found it strictly confined to sandstone, although the carboniferous limestone was immediately adjacent. Critical remarks were made by Mr. C. B. Clarke and Mr. Carruthers.

Vegetable Canker.—Mr. J. B. Carruthers, F.L.S., exhibited specimens and lantern-slides to illustrate the growth of the vegetable canker *Nectria ditissima* on the Cocoa-plant, and gave an account of certain experiments which he had made to destroy it without injury to the tree which it attacked. Additional remarks on the subject were made by Prof. Farmer.

QUESTIONS AND ANSWERS.

* * * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as *Carnations*, *Pelargonium*, *Chrysanthemums*, *Roses*, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Onions for Seed.—A. G. B.: The present is a good time to plant out the bulbs you have selected with the view of testing the permanency of those you fancied last summer. The continued rain has, of course, made the soil wet and unsuitable for working upon it; but all you have to do is to wait for a dry day or two that will sufficiently harden the soil to enable you to get upon it without puddling the same. Put the bulbs sufficiently deeply in the soil to just cover the bulb, leaving the neck or the upper portion of the same exposed. Only moderately rich soil is necessary, as early maturity of the seeds is desirable.

When Will Poppy Anemones Bloom, if Planted Now? A. M.: All being favourable to their growth, Poppy Anemones, put into the soil in the open air now, will come into bloom about the second week of May, and continue for a month if you make a good-sized plantation of them. When the soil is in proper working order rake it smooth, and mark out

the ground in lines about 6 in. asunder. Then with the trowel plant a good crown at every 6 in. apart, putting them 2 in. or 3 in. below the surface.

Climbers for a Verandah.—Ed. Wood: For the purpose of keeping the place cool in summer no plant is better adapted for the purpose than *Aristolochia Siphio*. Well established and thriving old plants produce large leaves in great quantity and quite sufficient to thoroughly break the force of the sun's rays. Other plants more or less suitable are *Wistaria chinensis*, *Jasminum officinale*, *Virginian Creeper* and *Ampelopsis Veitchii*. The foliage is the most important feature of the *Aristolochia*, for although the flowers are curious they are inconspicuous. The same may be said of the *Virginian Creeper* and *Ampelopsis*, whose long, rambling shoots hang suspended from the eaves of the house and round the tops of doors and windows thus affording a great amount of shade after the walls have been well covered by them. The mauve flowers of the *Wistaria* in late spring, and the fragrant white flowers of the *Jasmine* in summer are highly ornamental, independently of the foliage in furnishing shade.

Sowing Early Peas without the Use of Pots.—T. M. Davis: There are two methods that may be recommended. The first is to get a number of rough boards of moderate width that may be lightly nailed together, so as to form a long V, so to speak. A nail here and there will be sufficient to hold them together, even if not driven home. You can easily make them stand upon the angle, so to speak, by nailing a short piece across each end. Then put the rougher portions of the soil (old potting soil from beneath the benches will do) in the bottom. Sow the Peas upon this, and cover them up with soil. These boxes may be placed in a Peach house or vinery at work, so as to afford a little heat to give them a start. After the Peas are well up the boxes may be transferred to pits or frames, and kept near the glass, at the same time affording them plenty of air to keep them dwarf and sturdy. The other method is to get long strips of tough turf; lay them grass side downwards, and cut a furrow along the top with an old knife or trowel. Sow the Peas in these furrows, and cover them with soil. This hatch may be treated in the same way as advised for the boxes. Later on, when the weather is getting more favourable for growth out of doors, the Peas should be hardened off for a week or ten days, then transferred to their permanent trenches in the open ground. The boxes may be put in prepared trenches, and the boards separated by gently drawing the nails and letting the soil slip into the trenches.

Cyclamens Refusing to Grow.—E. A. Adcock: We have carefully examined the corms or, as you term them, bulbs, and found a few mites upon them, different from the bulb mite, and not likely to be the cause of the mischief. A very young wireworm was also present. By examination of the roots under the microscope we found them full of nests of the eggs of Eelworms (*Tylenchus*), with some of them liberated and moving about. We have no doubt this is the full explanation of the decay of roots, leaves and flower buds soon after they develop. The roots are in fact completely crippled, and quite unable to occupy the large ball of soil you sent, as turned out of a pot. If you examine the roots you will find nodules or unnatural swellings upon them. Sections of these put under the microscope show them to be riddled with holes and filled with eggs of Eelworms in great numbers. It is quite hopeless to try and restore the plants to vigour, as those you sent were utterly ruined. The only thing you can do is to burn all the plants and char the soil, or take it to a distance from the garden and empty it down or bury it deeply. You will have to begin again by sowing fresh seeds at the proper season. You must get fresh soil from another source before attempting to make a fresh start. The pots should be thoroughly washed and allowed to dry for some days before using them for other plants. It must be a great loss to you; but there is no help for it seeing that the Eelworms live inside the roots and cannot be destroyed without at the same time killing the plants.

Names of Plants.—E.C.H.D.: 1, *Glaucium luteum*, 2, *Crithmum maritimum* (Samphire); 3, *Silene maritima*; 4, *Cardamine hirsuta*; 5, *Arabis alba* variegata (not a British plant, though occasionally establishing itself in rocky places near gardens).—W.R.: 1, *Anemone Hepatica rubra*; 2, *Crocus aureus luteus*; 3, *Chionodoxa sardensis*; 4, *Arabis alba*—Ed. Wood: 1, *Adiantum formosum*; 2, *Adiantum cultratum*; 3, *Asplenium Adiantum-nigrum*; 4, *Polystichum angulare*; 5, *Coronilla glauca*; 6, *Cytisus racemosus*.—R.M.: 1, *Doodia aspera*; 2, *Asplenium Hemionitis*; 3, *Selaginella emiliana*; 4, *Begonia incarnata insignis*; 5, *Acacia verticillata*.—A.L.: 1, *Dendrochium wardianum*; 2, *Cypripedium callosum*; 3, *Cattleya Trianaei*; 4, *Primula floribunda*; 5, *Cyperus laxus variegatus*; 6, *Ficus falcatus*.

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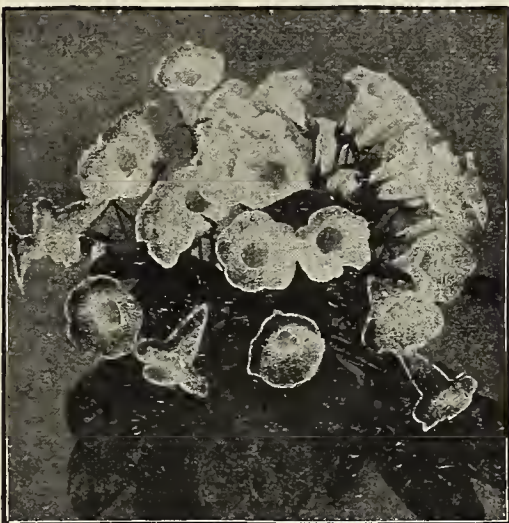
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MARCH 10th, 1900.

NEXT WEEK'S ENGAGEMENTS

TUESDAY, March 13th.—R.H.S. Meeting in Drill Hall, Westminster, S.W.

WEDNESDAY, March 14th.—Fourth Annual Smoking Concert of the Gardeners' Charity Guild, Cannon Street Hotel, E.C.

NOVELTIES AND POPULAR FLOWERS.—The definition of a novelty is something fresh or new; and in the matter of fruits, flowers or vegetables, it means the acquisition of a new species, hybrid or variety, whether for use or ornament, that we can grow as an addition to those we already possess, or to supplant an older and maybe inferior form. Novelties may be new introductions, garden hybrids, or seedlings, whether cropping up accidentally, or the result of intentional cross-breeding and selection. The two latter terms generally go hand in hand; for cross-breeding generally gives a superfluity of inferior forms or varieties not surpassing, if they equal, existing forms from the cultivator's or the public point of view. The best are, therefore, selected for perpetuation, or as

stepping stones to something better. The objects of getting novelties are of a varied character, two of which are (1) to get something better than one already possesses, and (2) simply the gratification of getting something different from existing forms. No one who has ever engaged in the operation will deny the real pleasure derived from watching a bed or batch of seedlings coming into bloom for the first time, and anticipating something new and handsome. Even if ultimately disappointed, he will try again, striking out new paths, it may be, in order to secure some combination of form or colour, which he reasonably surmises may be produced or wrested from Nature under the guidance of his head and hand. In some things "novelty survives long knowledge," as the poet has it; but in many, perhaps most, garden flowers, novelty soon gets played out, and the eye gets tired of sameness too long and too oft repeated. In other cases, it may be admitted, particularly in the case of fruits or vegetables, the life of a variety gets played out long before the popularity of the said variety wanes. Hence the necessity for novelties in order to secure fresh constitution or vitality, so that the race may escape extermination by disease, and produce that weight of crop, which can reasonably be expected of them, and by which alone they can repay the care and trouble expended upon them.

New introductions sometimes have an inherent tendency to vary, as they did possibly in the wild state. The observant cultivator has but to seize upon and develop the best forms or varieties that come to hand. As in the case of the Chinese Primula and the Chrysanthemum, some introductions may already be inclined to vary as the result of artificial cultivation in those countries from whence they came. In

other cases this tendency to vary has been induced in our own gardens. In any case it has been well said that skilful and intelligent gardeners do but seize upon the new things that turn up, whether good or bad, and turn them to advantage. A different way of expressing it is that cultivators cannot command any desirable variation they may have in view, though they may labour patiently and wait for their reward. The constitution of some plants is more pliable than that of others, in which case the cultivator sooner gets rewarded; though it must be admitted that some have to retire from their self-imposed tasks, unthanked and unrequited. Many old garden flowers have been so improved that latter day cultivators may rear and bloom hundreds of seedlings before they get one superior to existing favourites. Here it might be said the cultivator is worthy of his hire; but the realisation of it does not always follow, that is, the compensation may be inadequate for the labour and time expended in securing the novelty or improvement, for they are not always synonymous.

The cultivation of a plant, brought from its native habitat, may induce variation as the result of cultural treatment; increased food, or a plentiful supply of it; by the lack of competition with the plants in its native habitat; and by the new environment and climatic conditions, if grown in the open air, or the new conditions provided in hothouses. On the other hand variation may be induced by hybridisation, or fostered by cross-breeding under the fresh physical conditions above mentioned. Hybrids may be considered the direct result of design; and cross-bred plants the outcome of more extended or prolonged operations. Sports may and do arise from hybrids as the result of reversion, or the separation of artificially combined characters. They may be confined to variations in colour, but sometimes extend to differences in form, either of flowers or foliage, or both.

Some admirers of flowers decry the production of novelties, or portend disaster to the existing simplicity of flowers, by the alteration of their form, or the production of double varieties; and for such reasons try to dissuade the cultivator from spoiling them by his so called improvements. Simple and single flowers are graceful and pleasing, and moreover, have their uses. In proportion to their utility so will they find admirers and cultivators, but that need not stay the hand of those who would improve upon the widdings for the gratification of mankind; for, after all, that is the aim and end of all novelties and improvements. No one has ever been able to transform the irregularity of the Sweet Pea into the regularity characteristic of the Buttercup; but between the two there is a vast extent of possibility, within which the plantsman may prosecute improvements, without fear of the ultimate results. Have Delphiniums, Paeonies, Dahlias, Carnations, Daffodils and other popular flowers been spoiled by the evolution or development to which they have attained? One and all of them have truly been glorified from a decorative point of view. In the landscape or even the garden border, lively and bright masses of them are suggestive of holiday attire, and bits of bunting that indicate rejoicing. Fashion in these days changes with more or less rapidity and novelties, whether of variation or improvement are but an endeavour to meet the demands, and satisfy the desire for freshness and advancement. It may satisfy the peculiar tastes of the Japanese to remain contented in contemplating a tiny, crooked, artificially restricted tree for 50 or 100 years; or please other oriental nations to remain stationary in the embellishment of their antiquated gardens,

as in aught else; but all that is entirely foreign to the spirit of the Briton.

Another protest goes abroad that the doubling of flowers, and the reduction of irregular ones to a uniform regularity are against the aim and design of Nature. Such flowers they say are no longer capable of reproducing their kind, and if left to their own resources would inevitably perish. To some extent this is true; but it all depends upon the form which the so called doubling takes. Many double flowers, whose organs of reproduction have been left unimpaired, are perfectly fertile, and regularly raised from seed. Moreover, the statement does not apply to exotics cultivated in gardens, so long as a remnant is left in their native habitats. Exotics from warm climates could not live here without artificial protection, whether single or double, improved or unimproved. There are greater agencies at work tending to the extermination of wild flowers. As the land becomes more and more closely cultivated a large percentage of our native plants get exterminated or have to take refuge on hedge banks, waysides, river banks and other uncultivated places. Where the land is built upon they become entirely exterminated. As the world comes more and more under cultivation and the sway of mankind, so the native plants dwindle. In the province of Bengal, India, the soil has so long and so closely been cultivated, that no wild plants but the weeds of cultivation are to be found. Then it may happen that a large number of cultivated and improved plants of garden and field will outlive their wild relatives, as, indeed, is the case to-day.

Strawberries are now on sale in Covent Garden Market.

Quantities of Grapes are being sent to the soldiers in South Africa.

Weather in London.—The weather has been cold again, with showers on occasions.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, March 13th, in the Drill Hall, James Street, Westminster, from 1—4 p.m. A lecture on the "Evolution of Plants," illustrated by various garden strains coming true from seed, will be given at 3 o'clock, by Mr. R. Irwin Lynch.

Captain W. A. Harrison, eldest son of Mr. John Harrison, of the well-known Leicester firm of seedsmen, sailed from Southampton on February 17th in charge of a contingent of 113 men of the Leicestershire Volunteers, bound for the front in South Africa. The men were, in fact, going to join the 1st Leicestershire Regiment, and at Southampton they embarked on the ss. *Guelph*.

Devon and Exeter Gardeners' Association.—Mr. F. W. E. Shrivell lectured before the above association on Thursday, March 1st, his subject being "Further experiments with chemical manures in Kitchen and Market Gardening." After our liberal note upon Mr. Shrivell's work, in a recent issue, it will be needless to repeat the results of the experiments already submitted. Superphosphate and kainit are more serviceable when dug into land in autumn and winter, leaving the applications of nitrate of soda till such time as the growing crops are able to immediately utilise it. As a lawn dressing, to help the grass and suppress Daisies, Crowsfoot, Plantagins, or Buttercups, the following was recommended per 100 square yards:—14 lbs. basic slag, 9 lbs. kainit, and a later dressing of nitrate of soda. If Clover was not wanted, phosphates and potash should be omitted. At the conclusion of the interesting lecture a discussion was carried on by Messrs. P. C. M. Veitch (chairman), Slade, Weeks and Merriott. The lectures have been most satisfactory, and voted by all to be valuable. Several of the members of the Exeter Gardeners' Association have already seen the benefit of applying the information in their practice.

The Royal Gardeners' Orphan Fund.—At a meeting of the Committee of this fund, held on the 2nd inst., Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, was unanimously elected chairman, in succession to Mr. William Marshall.

A Gardener's Dream.—It may have struck many that the notice of the Ealing gardener's dream (page 421 last week), which he had on the 26th, should have come out so strangely true. We went to press on the Wednesday, and things at that time looked black enough with Gen. Buller, yet we had not reached our offices on the Thursday before we heard "the joybells pealing" (or at least the shouts of a Fleet Street crowd), and, furthermore, the fact that Ladysmith really *had* been relieved on the Wednesday. Thus in both instances the gardener's dream was a strict foreshadowing of events, and fortunately *not* barren!

Ancient Society of York Florists.—York is well supplied with horticultural exhibitions, having the Gala Floral Fete, one of the most distinctive meetings in the land, and besides this the show held under the auspices of the above society. The annual schedule and prizes for the present year's show is to hand. The sum of £400 is offered in the various classes, so that there should be no decadence from a horticultural standpoint. Looking over the report the impression is certainly satisfactory, and though the committee have to own to an excess in expenditure of £23 9s. 11d. over receipts, the society they are able to say is gaining ground. The balance of £188 odd is still at the society's call. The schedule of classes is much the same as heretofore. The secretary is Mr. Geo. F. W. Oman, A.S.A.A., 38, Petergate, York.

The Acquisition of the Alexandra Palace.—The fact that the Alexandra Palace can be purchased for £100,000, and made free to the public, has come as a great surprise, a delightful surprise to the great majority of Londoners. A body of philanthropically disposed gentlemen have already deposited £5,000 as a first instalment of the purchase, the remaining sum is hoped to be raised, without difficulty, by public donations and County Council grants. The Palace itself is a magnificent building, capable of seating in its central hall about 20,000 people. Around it are about 162 acres of land. The rapid spread of London makes it imperative to seize every chance of saving an open space on the edge of the widening circle of houses. In addition to the money needed for the purchase of the Palace and grounds, it is hoped that sufficient money will be subscribed to purchase the Grove, consisting of 10 acres of splendid woodland, situated on the west side of the Palace, for which £11,000 is asked. Mr. Cecil Rhodes has some property in the neighbourhood of the Alexandra Palace, and someone has ingeniously suggested that he should buy the Palace, and thus make himself popular with Londoners for ever after.

Woolton Gardeners' Society.—A meeting of the above was held at the Mechanics' Institute on the 1st inst., Mr. J. Stoney presiding over a good attendance of members and friends. The secretary, Mr. R. G. Waterman, gave a lecture on his "Tour through the south of Ireland," illustrated by over eighty coloured lime light views, chiefly taken from Queens-town, Bantry, Kenmare, and Kiilarney, and kindly lent by the Great Southern and Western Railway Company. The lecturer took his audience through this delightful scenery and on through Tralee, Velentia, Cahirciveen, Sneen, Parknasilla, Limerick, &c. The habits of the people and their dwellings were enlarged upon; the beauties of nature were explained and illustrated by the pictures; and a general idea was given of its valuable qualities to produce fine timber and plants by measurements of various kinds. Specimens of the Ash and Holly measured 4½ ft. in diameter; Wellingtonia gigantea, 3 ft.; and Yew, 2½ ft. Furze, Osmunda, and Bracken, were stated to reach very large proportions; whilst many of the hardy Ferns were unusually fine. Great credit was given for the admirable catering that was met with, and the unfailing kindness and courtesy of the natives to their large numbers of visitors. Some account of the general charges was given, which were considered moderate. A hearty vote of thanks was tendered to the lecturer for the pleasing and satisfactory account of the southern portion of the Emerald Isle.

"The Riviera and Italy for a £10 Note."—Such is the title of a little pamphlet issued by the Continental Traffic Manager, London, Brighton & South Coast Railway, London Bridge Terminus, S.E., from whom full particulars may be had. The pamphlet takes one, by means of its black and white and also coloured blocks with descriptive text, from black London through France to sunny Italy, pointing out and explaining the interesting features. To those with £10 to spare no better use could be made with the money, either looked at from an educational or hygienic point of view, than to use it on a tour eastward.

DECIDUOUS CALANTHES.

As the season for repotting the above much valued Orchid is so near at hand, I will describe the way in which I have seen them grown most satisfactorily. I believe it would be quite safe to say that most Calanthe growers adopt the plan of potting the bulbs straight into their flowering pots. Now, why should not the Calanthe be grown on the "potted on" principle, just the same as any other batch of plants? I have seen this method practised at two different establishments with highly satisfactory results. To state the above principle briefly, it is thus. When the bulbs are ready for potting sort them into three classes, extra large bulbs, ordinary size, and the small ones. The latter may be placed in 5 in. or 6 in. pots, there to remain all through the season as they seldom flower or need further attention other than watering. The "ordinary sized" bulbs pot into 54-size pots, and the "extra large" ones into small 48's. Then, as the season advances, and the new growths have made sufficient progress to have filled these small pots with roots, give them a move on into larger sized pots. It will generally be found suitable to place the 54's into 48's, and these again into 6 in. or 7 in. pots. This method causes a little more labour, but, when well grown, Calanthes amply repay it, as they are undoubtedly the most valuable of our terrestrial Orchids.—C. Turner.

KALANCHOE FLAMMEA.

THE species of Kalanchoe are natives of tropical Asia, tropical and South Africa, and Brazil, only one coming from the latter country. The flowers are



KALANCHOE FLAMMEA.

conspicuous and ornamental. The flowers are small individually, but collectively they are very showy, and freely produced in corymbosa cymes at the end of the stems and branches. The leaves are opposite and fleshy, as are most of the members of the Cras-

held at Chiswick last year, as the best novelty there, other than an Orchid. Since then it has passed into the hands of Messrs. J. Veitch & Sons, Ltd., Chelsea, who placed the illustration of it at our service. Although it comes from the most easterly part of



VERBENA NEW MAMMOTH.

Africa, some distance above the Equator, it may be grown in an intermediate house or warm greenhouse, provided the atmosphere is maintained in a fairly dry condition, as befits its succulent character. Its cultivation is easy, as is its propagation from seeds or cuttings, so that we expect to see it of frequent occurrence in gardens in the near future.

VERBENA NEW MAMMOTH.

VERBENAS are among the most beautiful and popular of garden flowers. The herbaceous perennial species are now represented in greater or less amount in large and in small gardens, because of their persistence in flowering, their easy management, and the many brilliant colours which their flowers can give. Seed sowing is now the commonest method employed to raise an annual stock, and of course each year new combinations and shades of colours are secured. Where the hybridiser's hands and head have been at work, not only do we have improved or new colours, but we also find that the form has been developed and quality in all respects improved. Crossing and rigid selection have been and are still being carried on by various of our florists until Verbenas have heads of bloom almost equal to our best Zonal Pelargonium trusses. A glance at the illustration of Verbena New Mammoth serves to corroborate the above remarks anent the best of these named introductions. When a real advance has been made and some distinctness gained, a special name to the novelty is very necessary. The name may not last for ever but it remains for specialisation until a better strain in the same lines takes the field. The colouring of the New Mammoth strain is rich and most vivid, the general habit and size being an advance on recent types. It makes a first class bedder, or for edgings to long borders certainly no strain of Verbenas surpass the New Mammoth. It is worthy of all recommendation, as those who have seen it, or who may secure it, will ultimately agree. By sowing about this time, strong plants will be ready for planting out towards the end of May. Rich and well worked borders, and an open position, should be chosen. The illustration was put at our service by Messrs. J. Carter & Co., High Holborn, London.

either white, yellow, or purple, and the recently imported species under notice has orange-scarlet flowers. *K. grandiflora* is a large yellow flowered species, with distinctly fragrant flowers. Of all we have seen under cultivation *K. flammea* is the most

sula family, which includes the Sedums, Houseleeks, Rocheas, and others of that type. It was raised from seeds at Kew, and a group of it was awarded the Gold Medal of the Royal Horticultural Society at the International Conference on Hybridisation,

LUPINUS ARBOREUS SNOW QUEEN.

ABOUT the end of May and the beginning of June our gardens begin to get gay with the herbaceous perennial Lupins. The Tree Lupin also commences to bloom in early summer, and keeps on flowering profusely all the summer. It came originally from California, the wild plant having pale yellow flowers, though several variations have arisen since then. A figure of the species appears in the *Botanical Magazine*, t. 682. The variety under notice, Snow Queen, has been evolved and fixed by selection from batches of seedlings raised from *Lupinus arbores*. In the original wild form the yellow flowers were pretty enough, but the value of the white blossom of Snow Queen can hardly be overrated on account of its conspicuous character and striking effect when seen in masses in the landscape. It forms bushes about 4 ft. in height, and many have a diameter exceeding that when planted in well drained soil of a friable or even a sandy character, and allowed plenty of space to develop its natural form, which is that of a semi-globular bush, the branches and twigs pointing in all directions, and everyone of them sooner or later terminating in a raceme of flowers of snowy purity.

Fine effects are obtained by planting it in shrubberies, where the white Pea-shaped blossoms will be shown off to the best advantage against a background of the foliage of evergreen or deciduous subjects. The effect is striking under these conditions, but what it would be as a large bed or clump in an open position, where it may be seen from a distance, may be better imagined than described. The flowers are produced in such quantity that you may cut and come again without impairing the effect of the bush or clump. For decorative purposes as cut flowers in dwelling-houses they are well adapted. Seeds are produced in abundance, so that no difficulty is experienced in keeping up a supply even if a severe winter should injure or cut up the old plants. Messrs. Barr & Sons, of King Street, Covent Garden, London, and Long Ditton, Surrey, placed the accompanying illustration, which well portrays the habit of the plant, at our disposal.

LILIUM HARRISII.

THE method of growing this valuable *Lilium*, by nurserymen and florists, is very successful, and differs from that which is practised in many private places. For nurserymen there are only two seasons when there is any profit on large batches, namely, Christmas and Easter. Between those seasons only enough for wreaths, cut flowers, etc., are grown. The bulbs are imported in September, and potted in the following manner:—Very seldom larger pots than 48's are used for one bulb, and three small bulbs are often potted into a 32. One large, flat crock is placed over the bole, then a handful of silver sand. The bulb is pressed into the sand; enough soil is pressed firmly round the bulb till it is nearly covered, filling the pot about half way. Only a compost of best fibrous loam and a little sand is used for this. The bulbs are then shaded till they begin to grow, and, at a certain stage, when small roots are emitted from the stem, they are top-dressed with a compost of best fibrous loam, with a little manure and sand. Full advantage is taken of these stem roots; and if they are not attended to at the proper stage of growth, success is an uncertainty. The plants are kept growing in a temperature of 60°. Syringe about mid day with tepid water. When the pots are nearly full of roots, manure water is given to them alternately, changing the manure as often as possible. —C. P. Cretchley, *The Honeys, Twyford, Berks.*

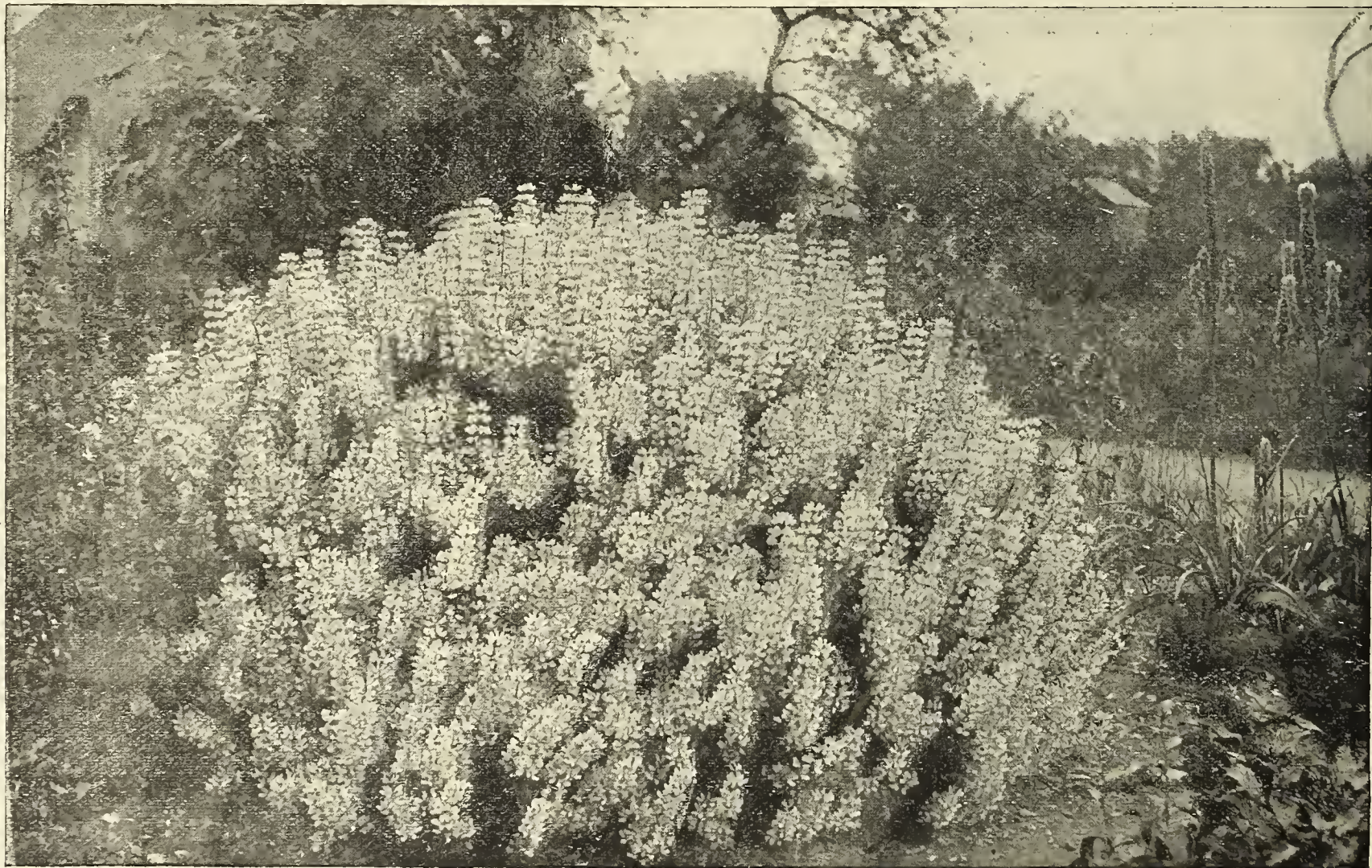
ERIGERON COULTERI.

DORONICUMS occupy no mean position in our grade of appreciation for hardy perennial border plants. They are yellow. The many coloured single *Pyrethrums* can scarcely receive more liberal praise than is yielded to them and their merits by all hands on every side. Still they do not yield either a pure white or a pretty lavender-blue and from this fact they leave a place to fill, a place for the very elegant *Erigerons*. The subject illustrated on

fact may be mentioned that *E. Coulteri* commences to bloom in June when such pure white flowers are still scarce. A glance at the figure serves to show the usefulness of this subject either for the border or for cutting purposes. The *Erigerons* are easily



ERIGERON COULTERI.



LUPINUS ARBOREUS SNOW QUEEN.

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To Whiten Boards.—To one part of lime add two parts of soft soap and three parts of silver sand. Lay a little on the boards and rub well with a wet scrubbing brush. Rinse with clean water and wipe dry.

this page is so well seen in general habit and appearance that many words of description would obviously be redundant. *E. Coulteri* is a native of North-west America the flowers being pure white and in size similar to those of *E. speciosus*. The additional

increased by division of large plants at this time, or by sowing seeds in early summer, transplanting the seedlings and finally planting them in their permanent quarters. The illustration of this novelty was lent us by Messrs. H. Cannell & Sons, Swanley]

DIGITALIS PURPUREA MONSTROSA.

GARDENERS and seed growers have for some years been interested in a variety of the Foxglove, that produces a large and regular bloom on the top of the



DIGITALIS PURPUREA MONSTROSA.

flower stem. The ordinary flowers are tubular and more or less drooping, as every cultivator knows, but that under notice is openly bell-shaped and erect, looking straight to the sky. By careful selection this floral curiosity has become more and more decided, distinct and constant, so that, according to our observation, a large percentage of the plants come true from seed. Only the top flower behaves in this way, but by carefully crossing the drooping flowers with the erect one, and annually selecting and saving the most distinct, there is no telling what a careful cultivator might bring about after a few years by perseverance. Messrs. J. Carter & Co., High Holborn, London, placed the accompanying illustration at our disposal. It will show at a glance the peculiar features of this strange development of the Foxglove. We have seen something precisely similar amongst Pentstemons, another genus belonging to the same natural order, but as far as we know there has been no attempt to perpetuate it as in the case of the Foxglove.

TREE CARNATIONS.

It is not too late to put in slips or cuttings of these; and with strict attention the same will afford a good supply of bloom from October onwards. Where practicable, pull out the slips from the main shoots, such requiring little or no trimming, being preferable to tops as they emit roots much quicker. Prepare 3 in. or 4 in. pots, filling same with a mixture of finely sifted loam, leaf soil and sand, not pressing too firmly, surfacing with a little sand, placing six to eight slips in each pot, around the sides only, and watering same with a fine rose can. Give bottom heat of 70° with top heat of 55° to 60°, keeping close and shaded from the sun, affording little or no overhead moisture, as such settles in the axils of the grass, often causing decay of the slip. In about

four weeks they should be fit to pot off singly into 2½-in. pots, using similar soil as advocated above. Place them on a shelf near the glass, avoiding draughts and overwatering, and shade if necessary for a few days only. As soon as established remove the point of each, transferring them into 5-in. or 6-in. pots before the roots get entangled, using similar soil, except that it should be less fine. Add a little peat and mortar refuse, pinching again when established. Place in cold frames at end of April and outside a month later, staking each. Keep clear of fly.—*J. Mayne, Bilton.*

GIANT FLOWERED SWEET PEAS.

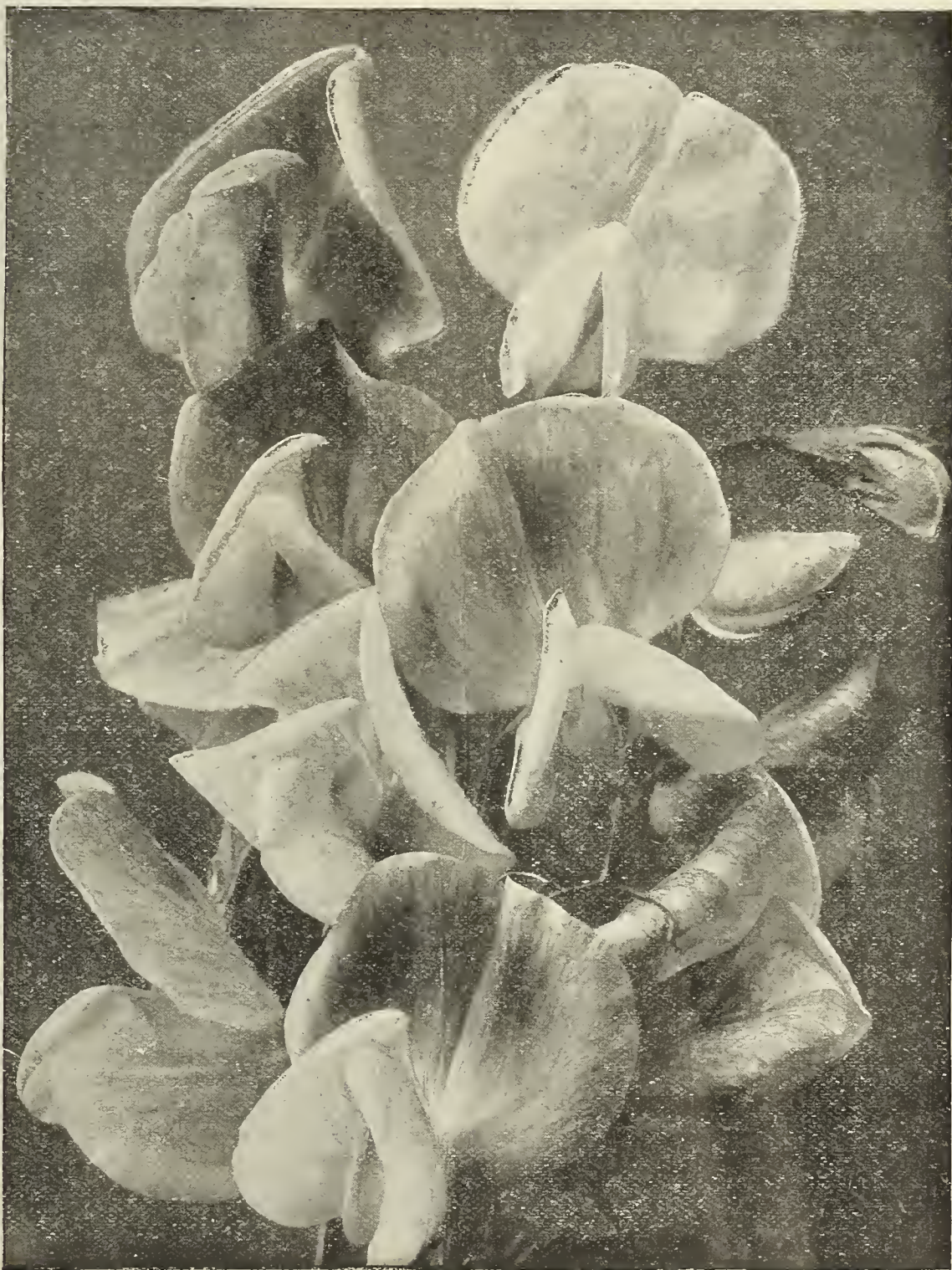
No other annual has made such a rapid advancement within the last two decades as the Sweet Pea (*Lathyrus odoratus*). The improvement has been confined chiefly to the size, form, and colour of the flowers. A dwarf race has also been evolved.

The giant-flowered race does not take its name from the increased size of either stems or leaves of the plant, but refers entirely to the size of the flowers, just as in a Chinese Primula or a Cyclamen. The great and increasing attention which is being given to Sweet Peas is but a reflex of their popularity, deservedly due to the intrinsic loveliness and

right hand of the illustration are varieties having the upper petal (known also as the vexillum or standard spread out flat. There is also a more or less evident notch at the apex of the expanded standard. The other type has an infolded or hooded standard. Some cultivators prefer the flattened form, and others the hooded flower. In our opinion, not only are both forms permissible in select collections, but each has a loveliness of its own, both serving to furnish the variety desirable in a florist's flower for garden and home decoration. The Messrs. Sutton have evolved their giant flowered race simply by careful observation and the selection of those individuals producing extra large flowers. During the process of working up a stock, all rogues are carefully weeded out, so that in the course of a few years any particular new variety will be fixed and permanent, coming true to name. Many colours already exist in the giant strain, such as white, sky-blue, dark blue, rich purple, scarlet, yellow, striped and other hues.

THE STAR CINERARIAS.

ALTHOUGH all the Star Cinerarias are beautiful, in the opinion of many the bright blue varieties are far preferable. The rich blood or magenta coloured



SUTTON'S GIANT-FLOWERED SWEET PEAS.

Copyright S. & S.

usefulness of the sweet scented flowers. By the courtesy of Messrs. Sutton & Sons, Reading, we are enabled to place before our readers an illustration of their giant-flowered race, which includes the two leading types as far as form is concerned. On the

varieties are certainly pleasing, and we wish them with us, but at this particular period of year with so much of white and yellow about indoors the blue becomes welcomed. But it is not an ordinary blue the blue of *Cineraria stellata*, it is dazzling,

yet so deep that the strain of their glistening is unfelt, the eye is, indeed, rested. A colour which can call forth encomiums even from those who day and daily criticise is surely of uncommon merit. The stateliness of this race of plants, and the enormous heads they bear, are yet other qualities.

colours, ranging from pure white to deep red, with all intermediate shades. What might be the limits of the strain we cannot yet see or prognosticate. A decided white Picotee edge has already been noted, and possibly others even more decided and beautiful will follow. A First-class Certificate has been

by Messrs. R. Veitch & Son, Exeter, will give our readers at a distance an idea of this remarkably distinct novelty. Several varieties are here represented in the matter of colour; and we hope to see the cultivation of the strain in this country largely undertaken so as to further its development.

CANDYTUFT WEBBS' NEW PINK PEARL.

EVEN the most common and most easily cultivated of garden plants may be productive of the finest effects when grown in quantity. The variety of Candytuft under notice belongs to *Iberis umbellata*, and is characterised by the pearl-pink colour of its flowers. All richly coloured flowers require plenty of sunshine to show them off to the best advantage, and if grown in any quantity they must be viewed from a distance on account of the glare they produce. That the effect, however, is telling cannot be denied. White flowers, on the contrary, are seen to excellent advantage whether the sun is shining or not; and as the fading day sinks into the dusk of twilight they remain the most conspicuous flowers of the garden. The delicately coloured variety under notice would also retain its conspicuousness with fading light, and serves to brighten the garden in no ordinary way when the owner wants to enjoy it in the cool twilight of the warm summer evenings. The flowers being produced in umbels, and the branches of the plant being produced much upon the same level, the effect is greatly heightened, especially when grown in a mass as may be seen by reference to the illustration lent us by Messrs. Webb & Sons, Wordsley, Stourbridge. This represents a field of Candytuft in the foreground, as grown at the Kinver seed farms.

CYCLAMEN PAPILIO.

WE may say at the outset that this is an entirely new and distinct strain of *C. latifolium*, still best known under the name of *C. persicum*. We have now seen a number of exhibits of the strain, by different cultivators, both in this country and on the Continent; and so beautiful and well-received are they that they have evidently come to stay. Papilio means Butterfly, and in that sense some use the name; but as it has been applied to a variety raised in this country, it would be advisable to retain the name Papilio when speaking of this new break so to avoid confusion in gardens. The essential features of the strain are that the petals, or segments, of the



CYCLAMEN PAPILIO.



Ed. Webb & Sons.

WEBBS' NEW PINK PEARL CANDYTUFT.

flower have become abnormally widened at the outer end, crisped and fringed there, and also more or less plaited longitudinally so as to afford accommodation for their great width while still in bud. The new strain is already endowed with a great variety of

awarded it by the National Horticultural Society, Paris; and an Award of Merit by the Royal Horticultural Society, this being the highest award practically for purely a florists' flower. The accompanying illustration kindly placed at our disposal

Introduction of Glass.—The English people were taught how to make glass by artificers from Gaul, now called France. The earliest use of it was in the churches, which the people of these islands built after their conversion to Christianity, about 720 A.D.

DELPHINIUM MRS. RUSHTON.

THE improvement that has been effected amongst the perennial Larkspurs can hardly be appreciated at their full value without going back to the comparatively puny flowers of twenty or thirty years ago,

breeding and selection have brought to such great perfection as we are now able to witness at the leading exhibitions during the early summer months, say, May, June, and July. Amongst those who have been pre-eminent in this excellent work are Messrs. Kelway & Son, Langport, Somerset, as their magni-

spikes of clear cobalt-blue sepals are veined with rose, while the centre is filled by small white petals. These flowers are borne on long spikes which give them a stately and majestic appearance. Delphiniums take that position in the garden in early summer, which the Purple Loosestrife (*Lythrum*) and the Yellow Mulleins (*Verbascum*) assume later on, and might all be employed, that is, planted in lines and bold masses for effect in the garden and pleasure grounds. The illustration of *D. Mrs. Rushton* was supplied by Messrs. Kelway & Son.



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DELPHINIUM MRS. RUSHTON.

KNIPHOFIA CAULESCENS.

THE term, Red Hot Poker, has not inaptly been applied to the *Kniphofias* or *Tritomas* as they are variously termed, but applies more particularly to the widely cultivated *K. aloides* which constitutes such a brilliant feature of the garden when autumn is already upon us. *K. caulescens* flowers earlier in the season, and is very distinct in more ways than one. The flower stems are shorter than those of *K. aloides*, and the same may be said of the flower spikes, which are more massive, and red while on the point of expansion; but as soon as the individual and tubular flowers are fully developed they change to yellow. Thus the upper half of the spike would be red, and the lower half yellow, the contrast of colour being strikingly conspicuous. The plant itself is very robust in habit, and inclined to elevate its mass of leaves upon a short, stout stem, thus explaining the specific name. The leaves are very broad, thick, glaucous green, and quite distinct from the three-angled and narrow leaves of the better known species above mentioned. Messrs. Kelway & Son, Langport, Somerset, placed the accompanying illustration of *K. caulescens* at our service. The plants are here shown growing in the open. A few of them planted in prominent positions on the rockery are very effective; and the well drained condition of the soil of such sites is highly beneficial to the welfare of the plants in winter.

HARDY TREES FOR HOME ADORNMENT.

By way of lending variety to domestic adornment, much advantage can be taken of our hardy decidu-



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KNIPHOFIA CAULESCENS.

both the single and the double types. The old *Delphinium elatum* received a great filip when florists began to hybridise it with *D. formosum* and *D. grandiflorum*. This greatly increased the size and beauty of the existing sorts, which persistent cross-

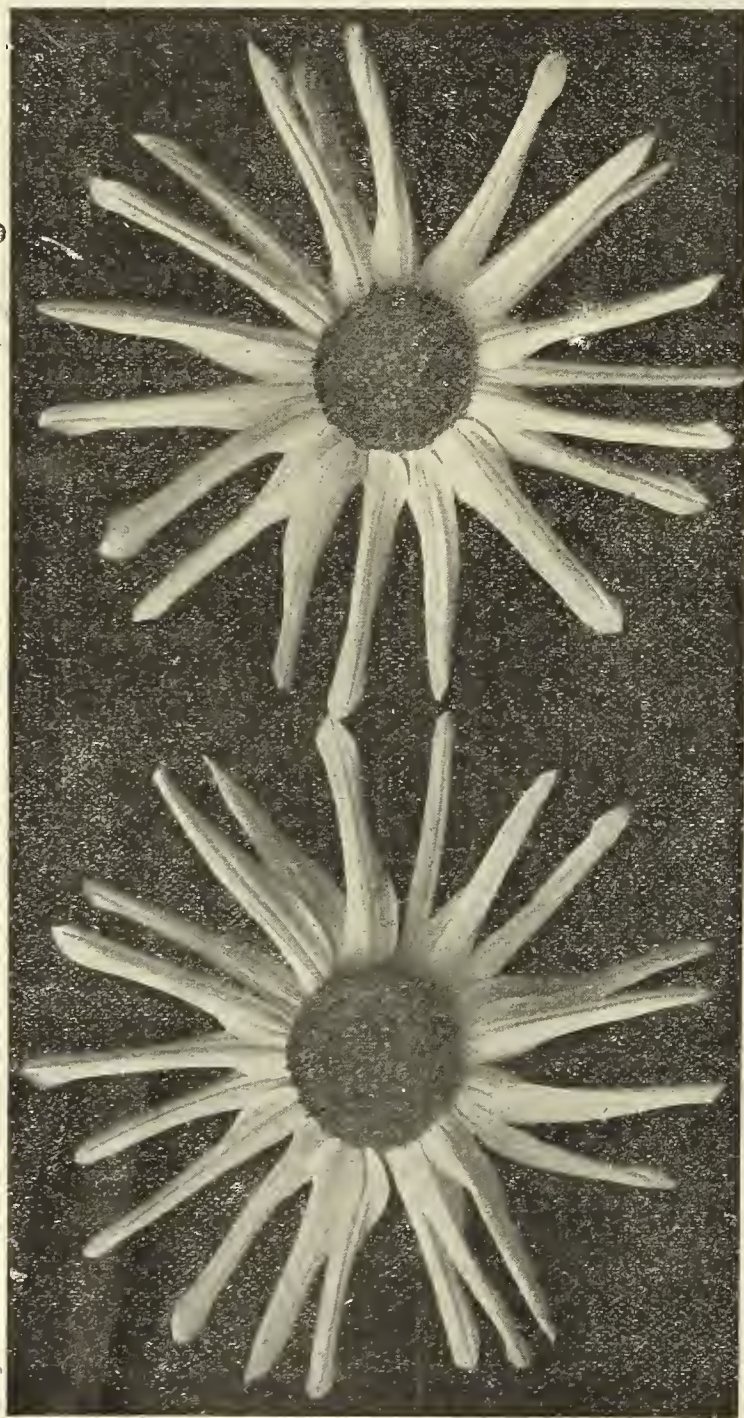
ificent exhibits at the Temple Show, Drill Hall, and other places amply testify. *Delphinium Mrs. Rushton* is one of many with large flowers of lovely colours, many of which rival the *Gentians*, though the form of the flower is so different. The long

ous trees, at very little expense. Palms and Ferns are, of course, indispensable, but why should deciduous subjects be ignored? Several sorts, from their elegant foliage, suggest themselves, but none, so far as I am aware, can compare with the common

Horse Chestnut. What object is more beautiful than a little plant of this sort from 1½ to 2 ft. in height in full foliage indoors when the rude winds of March are still raging outside. It is not only when the large palmate leaves are fully developed that the little plant is worth possessing, but from the time that the great, waxy buds begin to swell, gradually casting their winter suit, until the perfect leaf stands fully furnished, a process of absorbing interest is revealed. In this humble plant the grower enjoys a miniature spring and summer in advance, and even those with predilections for "Autumn sae pensive" can behold this season typified and anticipated in the sere and yellow leaf preceding final collapse. To attain this object it is only necessary to procure seedlings of a suitable size for 6-in. pots in the autumn, and store away in any odd corner, bringing them into an ordinary sitting-room in relays early in the year. A growth of *Lycopodium* on the surface hides the rims, and makes the adornment complete, when the pot is placed in a vase.—*J. McAvra, King'sburgh, Prestonkirk, N.B., March 5th, 1900.*

HELIANTHUS CUCUMERIFOLIUS GRANDIFLORUS GIANT STAR.

THOUGH single blooms of the above are only shown in the accompanying illustration they probably serve a better purpose in showing the truest character of the individual blooms than the depicting of a plant or truss would have been. So well known is



HELIANTHUS CUCUMERIFOLIUS GRANDIFLORUS GIANT STAR.

Helianthus cucumerifolius that only the points of deviation from it as the type need be recorded. In the case of the Giant Star, greater elegance in form, the improved shape and appearance of the blooms and greater distinctiveness of colouring are the chief

features of merit. The disc is intensely black, while the revolute ray petals are brilliant yellow, a contrast as unique and beautiful as anyone could desire. Add to this the hardy nature of the annual, its simple needs and the usefulness of the plants



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ASTER, SUTTON'S OSTRICH PLUME.

themselves for border or front shrubbery furnishing or for providing long-stalked blooms for floral decorations, and we have a subject of undoubted value for general use and beauty. The flowers are borne well above the foliage, their season extending from early summer to late autumn.

ASTER SUTTON'S OSTRICH PLUME.

THE ultimate tendency of the florist's aim and purpose for many years past has been to make the flowers or flower heads as neat and round as if they had been outlined by the compass. Sooner or later a desire arises amongst the lovers of flowers for their own sake, that is, amongst the British public, for a return to the more graceful, free and easy outline of the natural simplicity of primitive flowers. This is seen in the reception given to single and even semi-double flowers, which many florists would regard as a retrogression from the paragon up to which they have been, all their life long, modelling their favourites. From their point of view the China Aster has been brought to great perfection; and, to do them justice, there is room in the garden, and a use for the flower they have, by long continued exertion, been able to evolve. All the same, the use of simple flowers for decorative purposes in the cut state, and in various other ways, has much to recommend it to the general public. In this instance we put forward the claims of a new China Aster, Sutton's Ostrich Plume, bearing single and semi-double flowers, the long and loosely arranged rays of which recall the free and easy grace of *Chrysanthemums*, which would be described as Japanese if the centre were more filled up. If given plenty of room when planted out, this type makes a plant of spreading, bushy habit. The illustration which Messrs. Sutton & Sons place at our disposal makes further description unnecessary, the habit of the novelty being as clearly defined.

PROFITABLE YEARLING STRAWBERRIES.

INSTEAD of one or two trusses of fruit one usually sees to above, especially in small gardens, from one to two lbs. per plant may be obtained by laying runners in pots and planting out in July as follows:—In June, when the young plants show signs of roots, they must be taken in hand. Select the best runners from two rows of your bed, turning them between the same, so that you have a clear space between every two rows for gathering remaining fruit, watering, etc. Upheap 60-sized pots with soil; the old potting refuse riddled is suitable. Take these to the bed in a box that will stand between the rows, place the young plant on soil, in pot, press all down, putting a stone on the top to keep runner in its place, and water through a coarse rose. When the pots are full of roots they may be cut away, placed in a



CACTUS DAHLIA KEYNES' WHITE.

shady position, and kept well watered until planted, which must be done before the end of July. The ground that has grown early Potatoes will suit them, heavily manured. If the weather is dry after planting, thoroughly water occasionally. By October, they will be fine plants, when they should be well mulched. Pot rooted runners have great advantages over the trench system; they receive no check, and every root the plant can make is secured. With proper treatment they bear well for three years.—*G.B., Mona Cottage, Holbeach.*

BEGONIA CALEDONIA.

No doubt most of our readers are familiar with the name of this Begonia by this time, and not a few have seen the plant in bloom at one or other of the several Chrysanthemum shows, at which it made its appearance last autumn. For the sake of those who may not have seen the plant we are now able to use an illustration of the same, placed at our service by Mr. John Forbes, Buccleuch Nurseries, Hawick, Scotland. It is a sport from *B. Gloire de Lorraine*, from which it differs by having pure ivory white flowers. *B. Gloire de Lorraine* is a hybrid between *B. socotrana* and *B. Dregei*, the former coming from the Island of Socotra, and the latter from Brazil. The white flowers of *B. Dregei* and the rosy flowers of *B. socotrana* may be regarded as combined in the rosy-pink flowers of *B. Gloire de Lorraine*. The new sport, *B. Caledonia* may be regarded as a separation of the colour of *B. Dregei* from the hybrid. The form and colour of the leaves, the habit and free-flowering character of the plant remain the same as in *B. Gloire de Lorraine*, so that *B. Caledonia* makes a very suitable companion to its parent, the one showing off the peculiar beauty of the other by contrast. The cultural treatment required is the same in both, as are the methods of propagation by cuttings and leaves.

LACHENALIAS.

THOSE that possess a greenhouse should give these bulbous plants a chance in baskets. Grown this way they make splendid decorative plants. First place the dormant bulbs thickly together in a pot in light soil about November to start them. When growth has attained a length of about 1 in. they will be ready for transferring to the basket, which should be circular in form, and made of galvanised wire. Get some wood moss and put a layer over the bottom and a little way up the side. Have your compost ready, which should consist of two parts loam, one of leaf mould, and a little sand. Place about 1 in. on the moss, pressing it fairly firm; then lay round the bulbs, allowing the inch of growth to just peep out through the moss; then another layer of soil with moss up the side; then some more bulbs, and

so on, until the top is reached, when a few may be inserted upright to give a finish to the whole. Give a gentle watering with a rose can and suspend near the glass. When they are seen to be growing freely afford them copious supplies of water at the roots.

in due time the spikes of flower will be showing, when a little liquid manure will be beneficial. When in flower they may be placed in conspicuous positions, where they never fail to attract the attention they deserve. *L. tricolor* and *L. Nelsoni* are the best.—*S. Cooke, Rosefield Gardens, Sevenoaks.*

DAHLIA KEYNES' WHITE.

WHERE the original colour is some shade of red, scarlet, or yellow, there is some difficulty in securing a pure white variety. The pure white Dahlias in the section of show Dahlias have long maintained their position. For years past, attempts have been made to get a pure white Cactus Dahlia. Mrs. A. Peart and, later on, Mrs. Fell and Miss Webster, made their appearance. The first two may be described as decorative varieties with a considerable amount of cream in them. Miss Webster is pure white, except that in hot weather the back of the florets get tinted with pink. As a pure white, it has been awarded fourteen First-class Certificates, but, being as much allied to the decorative as the Cactus section, it has already been surpassed by *Keynes' White*, which is more decidedly a Cactus Dahlia. The long, pointed florets are more or less incurved towards the tip, forming a type of flower to which a large number of the more recently developed varieties belong. The florets are ivory white, with a creamy tint at the base only, so that the variety is reckoned the best white Cactus Dahlia in cultivation, and is included in the twelve



FORBES' GRAND NEW BEGONIA
"CALEDONIA,"
A Pure White Variety of "Gloire de Lorraine."

best or distinct colours for exhibition by the National Dahlia Society. The accompanying illustration, for which we are obliged to Messrs. Dobbie & Co., Rothesay, N.B., shows the form and general appearance of the flower. Messrs. Dobbie & Co. grow

some acres of Dahlias, which we have examined on more than one occasion, so that they are in a position to test all the best of the new varieties as they are sent out. Keynes' White flowers profusely, the blooms being carried on long stalks, so that they are fit either for home decoration or the exhibition board.

READ THIS.

The prize last week was awarded to Mr. S. Jordan, Danesbury Gardens, Welwyn, Herts., for his article on "Coelogyne cristata."

QUESTIONS AND ANSWERS.

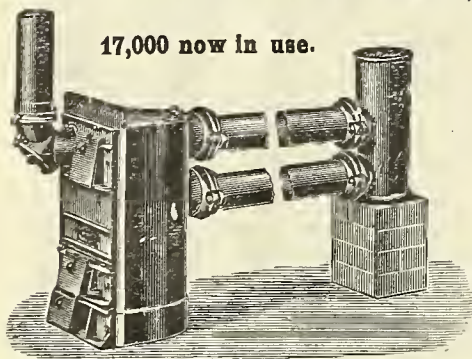
Scale on Pot Peach Trees.—*J. Macdonald*: The scales you sent us are those of the Vine Scale (*Pulvinaria Vitis*). In all probability they have got on the Peach trees accidentally, for they seem in no way particular as to what they cling, having become fixed to the paper in which they were wrapped as if they had grown there. On the Continent they live upon Vines in the open air. In this country they seldom get the chance to do so, but in vineries they become a terrible pest where they succeed in establishing themselves. They are in the breeding stage, as you say, for there appears to be thousands of pale red eggs lying amongst the woolly matter, and ready to hatch out immediately the temperature rises, whether by artificial means or by the aid of sunheat in spring. You cannot, therefore, begin too soon to clear them out. You may collect the scales into a close tray or something that will hold them, and take the first opportunity you have for burning them. The infested plants should be washed with strong soapy water, or a solution of Gishurst Compound. Examine all the trees and Vines you have in the houses, and see that the pest is thoroughly destroyed. You must bear in mind that, if the old scales and their thousands of eggs are destroyed before the latter hatch out, you will be saved a great deal of trouble later on, after the multitudes of eggs have given place to a similar number of young, which are active, and roam all over the plants in search of a suitable place to settle down.

Species of Scrophularia, &c.—*E.C.H.D.*: In the *Index Kewensis* 160 species of *Scrophularia* are recorded. Only a few of these are in cultivation in botanic gardens chiefly. Species occasionally cultivated are *S. chrysantha*, *S. sublyrata*, *S. vernalis*, *S. sambucifolia*, *S. alata*, *S. nodosa* and *S. aquatica*. The only species we have seen in private gardens, except as weeds, is *S. aquatica variegata*, often, but erroneously, named *S. nodosa variegata*. It is grown as a variegated plant in bedding designs to supply a bit of colour, the flowering stems being carefully cut away. *S. scorodonia* is said to occur in the extreme south-west of England, and that, we take it, would include Cornwall. *S. vernalis* might also occur there, but it is very irregular in its appearance. The *Heliotrope*, that is, the common one is *Heliotropium peruvianum*.

Names of Plants.—*H. J. Read*: 1, *Carex brunnea variegata*; 2, *Carex Morovii variegata*; 3, *Azalea amoena*; 4, *Coleonema album*; 5, *Daphne indica*; 6, *Polypodium aureum*.—*E. C. H. D.*: 1, *Euphorbia amygdaloides*; 2, *Euphorbia portlandica*.—*E. C. H. D.*: 1, *Ranunculus Flammula*; 2, *Ranunculus hederaceus*; 3, *Potamogeton natans* (will be in better form in June and July); 4, *Callitriche verna*; 5, *Arabis albidia* (a garden flower or escape); 6, *Tussilago Farfara*.

Communications Received.—*D. McGregor*.—*Oxygen*.—*C. Macquarie*.—*D. D.*.—*J. Mayne*.—*Allister Dhu*.—*London Scottish*.—*A. Hope*.—*H.*.—*G. M.*.—*W. M. W.*.—*T. B.*.—*J. MacI.*

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MARCH 17th, 1900.

THE SWEET PEA AFTER TWO HUNDRED YEARS.—In all probability the Sweet Pea was cultivated for some years in its native country, Sicily, before it reached our shores in 1700. It was first taken from its wild habitat by the Italian botanist, Francois Cupani, who lived between 1657 and 1711, and was no doubt charmed by the beauty and delightful odour of the wilding. Two hundred years seem a long time, but many other popular flowers have already been in our gardens for a much longer period than that. By the year 1759, on the authority of Philip Miller, gardener to the Worshipful Company of Gardeners, at their Botanic Gardens, in Chelsea, it already enjoyed several names, including that of the Sweet Scented Pea and Sweet Pease. The Botanical name he quoted for it was *Lathyrus distoplatyphyllös hirsutus*, mollis, magno et peramoeno flore odore, Hort. cantab. Thus we learn that Cambridge had something to say about the Sweet Pea as well as Chelsea. Philip

Miller described a variety with dark purple standards and light blue wings and keel, and said that it came from Ceylon, where, he affirmed, it grew naturally. He also described the variety known as Painted Lady, which is thus very old, and a pure white variety. The wild plant of Sicily was described by Linnaeus as *purpureus*, by which we are to suppose it had purple flowers. Other authorities describe the wild Sicilian plant as having white flowers, so that it must have begun to vary at an early period, this feature alone being sufficient to stimulate cultivators to improve it.

From those days till the present is a long stretch, and the varieties are now exceedingly numerous. When allowed to be fertilised in the natural way by their own pollen, the varieties are relatively very constant, but when cultivators commence cross-breeding them a great variety of colour may result, but reversion to older and well-known sorts is common; indeed, some of the old ones are so fixed and prepotent that the progeny may, to a large extent, consist of these old time sorts.

The above remarks were brought to mind by the appearance of the schedule of prizes for the forthcoming exhibition of Sweet Peas at the Crystal Palace, on the 20th and 21st July next. Accompanying the schedule is a circular also relating to the "International Celebration of the Bicentenary of the Introduction of the Sweet Pea into Great Britain in 1700." That the Sweet Pea enjoys a wide popularity is evidenced by the fact that the names of no less than thirty vice-presidents have given their countenance and support in favour of an exhibition and conference. By some curious irony no one has yet been found to give his consent to act as president on the occasion of the celebration. The general committee is also a strong body, including some forty-two names, all more or less well known in horticultural circles, as are the vice-presidents. Indeed, so well known are most of them that their support augurs well for the success of the celebration. Distinguished foreigners, Sweet Pea specialists, have also interested themselves in a practical manner by offering valuable prizes at the exhibition, and several of them are expected to put in a personal appearance at the exhibition. While the latter is being held a conference will also take place, at which the history, evolution, and properties of the flower will be discussed. The various types of flower will be classified into groups of colours having a close relation to one another, and selections of the best will be made for the future guidance of cultivators. In the time at disposal everything, as far as possible, and as is advisable, will be done to further the interest, improvement, and popularity of the flower. It is high time that something should be done to classify and reduce to something like order the vast number of varieties now in cultivation. New varieties continue to arise in considerable numbers, but they should be well tested and compared with existing varieties before they are admitted as decidedly distinct and worthy of cultivation, even to the displacement of older sorts. Size and substance and form may still be capable of considerable improvement, so that cultivators may keep these points before them in the raising of new varieties by cross-breeding and selection.

Prizes are offered in classes to suit growers in charge of gardens from the largest to the smallest, from the garden of the Queen to that of the cottager. The class for 100 bunches of Sweet Peas is restricted to the amateur as distinguished from the commercial side of horticulture, so that those who grow acres merely for the

production of seed will be unable to oust those who grow merely for garden and home decoration. By far the larger proportion of the classes are devoted solely to cut flowers, though prizes will be offered for dwarf Sweet Peas in pots. Some use is made of the tall varieties for basket work in conservatories, and if they could be managed so as to give a long display in pots under glass we have no doubt they would enjoy a considerable amount of popularity grown under such conditions. Possibly some of the more enterprising growers will show what can be done in this way at the forthcoming exhibition in July. It would be advantageous, after the first flush of bloom is over, if Sweet Peas in pots could be induced to throw out side shoots as they do in the open, and thus prolong the display. The classes for single bunches of named varieties should offer inducements to gardeners and amateurs to give their plants special treatment, so as to bring out the Sweet Pea to its greatest perfection.

Peas of the canning sort are short, and advancing in price.

M. Chas. Maron, the well-known Orchid amateur of Brunoy (Seine-et-Oise), France, has been decorated with the grade of Chevalier du Mérite Agricole.

Newcastle-upon-Tyne Flower Show.—The summer show of this society takes place in Leazes Park, on July 25th, 26th, and 27th, 1900. Entries must be in by the 18th July, 1900. The classes amount to sixty-seven, and good prizes are offered in most of them. Particulars can be obtained from the secretary, Mr. I. B. Reid, Mosley Chambers, 30, Mosley Street, Newcastle.

Senecio auriculatissimus.—On page 408 the writer of "Hints for Amateurs" made mention of a new plant at Kew whose name was given as *Cineraria kilmandscharica*. Upon closer study the Kew officials have relegated the plant to the genus *Senecio*, applying to this new member the specific name of *S. auriculatissimus* (very much ear-shaped) in reference to the foliage.

Death of a distinguished Scottish Gardener.—It is with deep regret that we have to record the death of a most successful and distinguished gardener, so well known in Scotland, and so much respected by all his compeers who had the privilege of being acquainted with him. Mr. William Hugh Gorrie, gardener to Sir W. Hozier, Mauldslee Castle, Lanarkshire, died on the 5th instant, at Mauldslee Gardens, aged sixty-five years, after a protracted and painful illness. The deceased was associated with gardening since his childhood, was trained under his father, who was head gardener at Polmaise, Stirlingshire, had capital experience during the early years of his career; was foreman at Luchie, and for some years under the late Mr. Lee, at Tynningham, as foreman. From there he went to Raith, as gardener to the late Colonel Ferguson, who was a great lover of horticulture, which was then so much in evidence in the fine gardens at that splendid seat. Under the management of the deceased horticulture at Raith attained an amount of fame seldom equalled in the north. Visitors went from far and near to see the remarkable display of decorative gardening, especially in the beautiful flower garden, where beauty and refinement was year by year exemplified in a most striking manner. Mr. Gorrie was always treated by his popular employer as a trusted friend. At the decease of the Colonel, Mr. Gorrie left Raith, after ten years' active service, and went to the beautiful place where he died after nearly thirty years (under an excellent employer) spent as a first-class gardener. The strongest evidence of this is to be seen in the work left behind him. The services of Mr. Gorrie were much in request as a judge at our leading shows, for by reason of his sound judgment and painstaking efforts as a censor, our friend commanded confidence and esteem. Mr. Gorrie has left a widow and grown up family to mourn his loss.—*M. Temple, Carron, N.B.*

Mr. E. J. Lowe, F.R.S., the distinguished pteridologist, died at his residence, Shirenewton Hall, Chepstow, on the 10th inst., at the age of seventy-five.

Falkirk Horticultural Society.—The Falkirk Horticultural Society has held sway since 1832, and seems to be vigorous, and yet more so as each year goes by. This year's show will be held on the 24th of August, the schedules for which are already issued. There is to be a spring show on the 30th of the present month. The treasurer has a balance of over two guineas.

English and Colonial Fruit.—*The Fruit Grower*, the other week, had a heavy lunge at "Truth." It appears that in this latter publication an article appeared which was entirely hostile to the grant or subsidy (£200,000) given by our Government as a bounty for West Indian fruit growers. The writer refers to the exhortations which the friends of the British agriculturist has made to induce him to turn his capital to fruit culture, and asks: "What will he (the agriculturist) now say to the granting of this bounty?" Evidently the writer of that critique dealing with fruits and grants to our colonial farmers forgot that we cannot grow Oranges and Bananas for market in our country. If we can aid a British domain, shall we stay the power?

Chiswick Gardeners' Mutual Improvement Association.—At a meeting of this society on the 1st inst., Mr. George Gordon, V.M.H., of the *Gardeners' Magazine*, read a paper entitled "Beautiful Flowering Trees and Shrubs." He contended that modern gardeners have not been educated in the subject of arboreal vegetation, at least not to the extent to which the subject deserves to be studied. Pruning was one of the phases of the art but little understood. There was no lack of material with which to beautify gardens and pleasure grounds; but the lecturer spoke strongly on the question of a selection of the best rather than a collection of everything. Quantities of a few of the best varieties and species should be procured so that a mass of them could be grown together in a group or bed rather than dotted about the grounds promiscuously. Near or distant effects were only to be secured by means of a mass of one colour or several closely allied shades of colour so as to blend harmoniously in one comprehensive whole. The leading or best subjects for the purpose were described or dealt with in more or less detail. A good discussion followed the reading of the paper.

National Dahlia Society.—The report for last year which accompanies this year's schedule was notified at the time of the annual general meeting of the National Dahlia Society. The drought of the past few seasons has had its effects as a natural consequence on the society's shows. Still all things considered the committee's report is as satisfactory as need be wished for. The treasurer has also a balance in hand of over £7. The annual exhibition for 1900 will be held at the Crystal Palace on Friday and Saturday, September 7th and 8th. A committee meeting will be held at the Drill Hall, Westminster, S.W., on September 25th, at 12 o'clock, for the purpose of awarding certificates to seedling varieties. It is to be noticed that members alone have the privilege of competing for prizes at the National Dahlia Society exhibitions. Referring to the official catalogue of the society, which was issued during the summer of 1898, to all who are interested in Dahlia growing and showing, it is necessary that they possess this official guide. It contains the bibliography of the Dahlia, selected lists of the varieties of each type, and other selections, notes, &c., of real need and importance to cultivators. A supplemental list has been prepared by a sub-committee during January 1900, and contains revised selected lists which are particularly necessary in the case of the rapidly developing Cactus varieties. There are one or two new classes in the Cactus section, these being Nos. 8, 10, 25, 26, 36 and 33, which latter is unique in that we are to see Cactus Dahlias in pots. The prizes for 9 plants in 10 in. pots, distinct varieties to be shown, are, 1st, a Silver Cup, value 3 guineas, presented by F. W. Fellowes, Esq.; a Silver Gilt Medal as a second prize, and a Silver Medal as a third award. The Duchess of Sutherland (Patroness) has offered £2 2s. for 18 fancy Dahlias, a special class thus having been formed since the schedule was printed. All communications should be addressed to Hon. Secretary, N.D.S., Gunnersbury House Acton, W.

Potash and Phosphoric Acid are specially required for the maturation of the fleshy part of the fruit and whatever tends to maturation.

John Russell's Sweet Pea Plate.—To be upside down with the best, Mr. John Russell, of Richmond, in sending out his seed catalogue this year, includes with it a well executed coloured plate of Sweet Peas. Such effort must do a great deal toward calling special attention to these pretty flowers, and no doubt greatly assists in guaranteeing success to the Sweet Pea Conference.

Honour to our Leading Entomologist.—One of the most diligent of our present-day investigators in the science of entomology is a woman, Miss E. A. Ormerod. For twenty-three years she has ardently pursued her chosen science, and with what results agriculturists and horticulturists should know well. In recognition of her services to science and to practical husbandry, the Senators of Edinburgh University have just conferred on her the degree of Doctor of Laws (LL.D.) This is the first instance of a woman having borne the title. We think it satisfactory.

Orchids in flower at Glasnevin.—The list of Orchids in bloom at present is not a long one, yet, in choice collections, as at Glasnevin Botanic Garden, their diversity is seen to be representative. The *Irish Gardener* prints the following list as being particularly noticeable in the gardens just noted:—*Dendrobium wardianum* Lowe, sixty flowers on some of the plants; *D. Fairfaxii*, *D. aureum*, *D. Cassiope*, *D. cymbidioides*, *Cattleya Trianaei*, *C. candida*, *Lycaste Skinnerii*, *L. lasioglossa*, *Vanda tricolor insignis*, *V. amesiana*, *Stanhopea madouxiana*, *Phalaenopsis schilleriana*, *Angraecum virens*, *A. chailluanum*, *Tainia penangiana*, *Eria bicolor*, *Pleurothallis pulverula*, *Amblostroma tri-dactylum*, *Platyclinis glumacea*, *Coelogyne cristata*, and an enormous amount of *Cypripediums*, including *Boxallii*, *punctatum*, *melanophthalmum*, *Thetis*, *Hartwegi*, *venustum*, *haynaldianum*, *Cleola*, *leanum*, &c.

Maidenhead Gardeners' Mutual Society.—On Tuesday evening, March 6th, the members of the above society listened to an interesting lecture on the "History of Kew Gardens, Past and Present," by Mr. C. H. Curtis, of the *Gardeners' Magazine*. Mr. Curtis commenced with the early history of Kew as a botanical institution from the year 1678 to the years 1752 to 1772, when the definite scientific character of Kew was evolved. When 1760 came Aiton assumed command under Haverfield until 1784, when Aiton had entire control, Lord Bute being director, who was succeeded by Sir Joseph Banks. Aiton died in 1793. Kew, however, remained a private establishment until the death of William II.; then some time was spent by a committee consisting of Sir J. Paxton, Dr. Lindley, and a Mr. Watson, to report to Parliament the desirability of making Kew a public garden, and this eventually was done on April 1st, 1840. William Townsend Aiton, who succeeded his father in the charge of the gardens, resigned his superintendence of the Botanic Gardens in 1840, but looked after the pleasure part of them until 1845. In April, 1841, Dr., afterwards Sir W. Hooker, took charge of the fifteen acres of Botanical Gardens in 1855. He took charge of the herbarium, and eventually the pleasure grounds. In 1865 Sir W. Hooker died, and was succeeded by his son, Sir Joseph Dalton Hooker, in 1886. Professor Thiselton Dyer was appointed in the same year. Dr. Morris was appointed assistant director, and from that date Kew has made great progress. The gardens cover now nearly 300 acres, contain about 20,000 species. Kew is also a great scientific establishment, benefiting not only our home but colonial industries, a training school for gardeners and botanists, who are sent to all parts of the world, the founding of botanical stations, and has the conducting of agricultural and horticultural experiments, &c. Mr. Curtis then, with the aid of a lantern, walked his listeners through the different houses:—No. 1, filled with Aroids, Tree Ferns; No. 3, Museum, the Cactus House, Tea Range, with the Begonia and Heaths, Stove, Victoria Houses, Orchid Houses, Nepenthes House, and the Economic Houses; then away to the Palm House and Pagoda; the Temperate House, a ninth of a mile long; then to the North Gallery and Museum; and lastly the rockery. A hearty vote of thanks was accorded Mr. Curtis for his lecture.—*J. H. S., Honorary Secretary.*

Weather in London.—After a few charming days toward the end of last week, cold weather has installed itself, cold but dry, however.

Death of Mrs. Napper.—We regret to announce on March 9th, at 28, Tetcott Road, Chelsea, Rose, the dearly loved wife of Mr. William Napper, formerly of the Exeter Nursery, aged 45.

Colour Photography.—At a recent meeting of the Linnean Society of London, on the 1st inst., Mr. W. Saville Kent, F.L.S., exhibited lantern-slides of several British flowering plants to show the remarkable advances which have been recently made in colour photography.

United Horticultural Benefit and Provident Society.—The annual general meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on the 12th inst., when Mr. Richard Dean took the chair in the unavoidable absence of Mr. S. T. Wright through illness. Mr. William Marshall, one of the founders of the society, was present, and referred in feeling terms to the loss the society had sustained through the lamented death of the late Mr. John Fraser, of South Woodford, another of the founders. We shall report the meeting more fully next week. The secretary and treasurer have been unanimously re-elected, and there is a proposition to increase the secretary's salary.

The Carter Commemorative Champion Cup.—At the forthcoming International Bi-centenary Celebration of the Sweet Pea in July, Messrs. James Carter & Co., The Royal Seed Establishment, High Holborn, London, offer a handsome Champion Cup for the most meritorious collection of Sweet Peas in classes 1, 2, 5, 26, 27, 28 and 29 of the Schedule now being issued to competitors, or the cup may be awarded to any non-competing exhibit. The competition in this case is open only to professional gardeners and amateurs; and in making their awards the judges will be actuated by quality of bloom rather than mere quantity in giving their decision. This is as it ought to be.

Dahlia Show at the Royal Aquarium.—An exhibition of Dahlias on much the lines of that held last summer, will take place at the Royal Aquarium, on September 18th and two following days. A sum of nearly £30 is offered in prizes, a portion of which has been subscribed by the directors of the Royal Aquarium, and the remainder by private subscription. Two main objects are sought by the establishment of this show—one is to provide an exhibition of Dahlias in central London; the other to afford a convenient opportunity for a further exhibition of seedling Dahlias. The Aquarium Show will be supplemental and not in any way antagonistic to the Exhibition of the National Dahlia Society at the Crystal Palace on the 7th of September, as all the donors to the prize fund are members of the N.D.S. Schedules can be obtained of the superintendent, Mr. Richard Dean, 42, Ranelagh Road, Ealing, W.

Bristol and District Gardeners' Mutual Improvement Association.—The usual fortnightly meeting of the society was held at St. John's Parish Room, Redland, on Thursday, 8th inst. A large attendance was presided over by Mr. Chas. Lock. Mr. R. Stewart, Snoyd Park, provided the paper, which was on the subject of "Peaches and Nectarines." He disclaimed at the outset any intention of dealing with the culture of the fruits in the open air, and confined his remarks to orchard house culture. Handling the subject in a masterly way he described the structure he thought most suitable, the method of preparing the borders for planting, the soil best suited to the plants, and the time and manner of planting. He also gave a good deal of information respecting the pruning and training of trees, root pruning, disbudding, and thinning of fruit; also, urging care in watering, that the tree may never get quite dry on the one hand or very wet on the other. Mr. Stewart concluded an able paper by enumerating the varieties he thought most useful, and the many pests, &c., to which Peaches were liable. A good discussion followed, and Mr. Stewart was accorded a hearty vote of thanks on the motion of the chairman. Prizes for three Hyacinths were awarded, Mr. Price, first; Mr. Pidgeon, second. Certificates of Merit went to Messrs. McCulloch and Quick (each for a fine specimen of *Coelogyne cristata*); Mr. White (*Cymbidium eburneum*); Mr. Curtis (*Dendrobium wardianum*); Mr. Price (*Dendrobium nobile* Cooksoni); and Mr. Quick (*Dendrobium nobile*).

Orchids at the Sale Rooms.—A fine variety of *Odontoglossum crispum* occasioned some lively bidding at the sale rooms of Messrs. Protheroe and Morris, Cbeapside, on the 2nd inst., and was knocked down to H. T. Pitt, Esq., Rosslyn, Stamford Hill, for £16. The flowers were of very large size, bold in appearance, and white, shaded with rose. On the same occasion, Messrs. J. McBean & Sons, Cooksbridge, Sussex, sold a small piece of a fine variety of *Dendrobium nobile* for £10.

Plants and their Food.—Mr. H. H. W. Pearson, M.A., continues his fascinating study of the domestic larder of plants, in *Knowledge* for March. "It was found during 1898 that in the air of the Royal Gardens, Kew, at a height of 4 ft. 6 in. from the ground there was from 2.7 to three parts of carbon dioxide in 10,000 parts of air. Thus, although the stock of carbon in the atmosphere taken in the aggregate is immeasurably large, it is in an extremely diluted condition, and we cannot easily form any idea of the vast amount of air which must be drained of its carbon in order to supply the needs of the world's green vegetation. It has been calculated that in attaining its full size, a single tree having a dry weight of 11,000 lbs. has abstracted all the carbon from over 15 million cubic yards of air. The carbon thus taken from the atmosphere is not, however, lost to it, but sooner or later finds its way back again in the form of carbon dioxide from the lungs of animals and from burning or decaying organic substances."

The Boy and the Board of Agriculture.—One small boy at a Northampton Board School has kept the Board of Agriculture busy, very much as Kipling's Indian civilian kept a department on the run for unnecessary information about pigs. He saw a notice in the correspondence columns of a boys' newspaper, that the board would willingly send pamphlets on insect pests to anyone who applied. He applied. The board sent a nice fat envelope, addressed to Henry Robinson, Esq., officially signed and with O.H.M.S. on the front. He was much pleased and, of course, told his envious schoolfellows how he obtained such a prize. Then it was only a question of getting a penny stamp, for all the school boys in Northampton to request information concerning insect pests. The Board of Agriculture, having strained its resources to the utmost in addressing and licking envelopes, finally sent down a special emissary to Northampton to investigate the curious plague that was devastating the district. Henry Robinson, Esq., has, at least, satisfied himself that the resources of the Empire are at the disposal of its bluntest members.—*Daily Chronicle*.

Utility Poultry Club.—On page 405 we printed the result of the laying competition which had been under trial during the sixteen weeks preceding February 13th, and herewith follows a further report of the competition just mentioned. The hens have been under the observation and care of Mr. J. Robinson, an expert in poultry management. He reports that the proceedings and results have been satisfactory. The competitions do not altogether determine which is the best breed, but points out the best strain of any breed. The site in which the pens were placed was open to the west, in a well-drained meadow of nice loamy soil, and sheltered around the north side by Thorn hedges. The morning food consisted chiefly of one-third sharps (or middlings), one-third barley meal, and one-third pea meal, which was cooked overnight. The afternoon meal had been about half wheat and half maize, given alternately, according to the weather. Oyster shell and flint grit had been supplied, while miller's dust was heavily used as a coating for the floors. The weekly expense per head, worked out to 1.6d., or just over three half pence. The weight of eight eggs taken as they were laid, and afterwards weighed, from each of the sixteen breeds in the competition, was never less than 15 oz., nor higher than 18 oz., the differences probably explainable by other circumstances. The total weight of sixty-four brown eggs was 129½ ozs., while in the aggregate, sixty-four white eggs weighed 133½ ozs. The average number of eggs laid per bird during sixteen weeks was 27.76, the heavy or sitting breeds averaging 31.09, whilst the light or non-sitting breeds have averaged 24.43. Any further particulars in reference to either the competitions or the objects of the club, can be obtained from Mr. B. W. Horne, Hon. Sec., 49, Gloucester Gardens, Hyde Park, London, W.

A Sad Idea.—A bad instance is recorded by *Nord-Horticole* of the mania for floral decorations. A cook conceived the singular idea of replacing the Chervil or Parsley, upon a plate of fish, by the flowers of Poinsettia. The unfortunate man never thought—and it is very excusable—that the laticiferous plant belongs to the Euphorbia family. All the guests were more or less seriously inconvenienced by the milky juice which spread over the fish.

Grass Lawns at Ootacamund.—One of the items mentioned by the Curator of the Government Botanic Gardens and Parks, Nilgiris, deals with the establishment of lawns. "Hurriali" grass (*Cynodon Dactylon*) had been tried, and succeeded for a time, but extreme drought for three months killed it out. A mixture, in equal parts, of English lawn grass and white Clover seed was next tried, and so far has been very successful. The combination of grass and clover is, therefore, thought to act suitably together in that warm region.

The care of Shade Trees.—So frequent are plantings of trees along our newly-erected streets that the proper care of the trees is a subject requiring some attention. The *Canadian Horticulturist*, in its issue for February, has an article upon the matter, in which it deals with complaints found regularly in the growth of these shade trees, and touches on remedies for certain of them. "In some cases the cause of the unhealthy condition is plainly due to insects, in other cases to fungi, but most frequently the cause is due to purely physiological conditions, such as unfavourable conditions of the soil or atmosphere." Many of the trees are found to have been starved. Like animals, trees require food. Every year the ground for a yard or more should be dug deeply, says the journal, and a dressing of well rotted manure or compost applied. This work would be rather impracticable. What might be done is to furnish a few conducting pipes, these being placed vertically into the ground to a depth of 3 ft. or so, for the purpose of sub-irrigation. The heads of the pipes could rest level with the street. A second necessity is free air circulation in the soil. Unless air can get down and about the roots they become asphyxiated—the roots rot. And to prevent too rapid evaporation or too great a drain from this cause, the branches must be kept to a due proportion with the roots. All decaying branches or patches should be attended to with pruning saw and tar brush.

Reading and District Gardeners.—The large attendance of members present at the fortnightly meeting of the Reading and District Gardeners' Mutual Improvement Association, on Monday last, testified to the increased interest which is now being taken in hardy flowers. The subject for the evening was "The formation and arrangement of a hardy border with a list of plants suitable for same" by Mr. D. Harris, gardener to Col. Jekyll, Munstead House, Godalming, and it is needless to say that the paper was of a very practical character. Mr. Harris in introducing his subject said that the field open to the outdoor flower garden was a very wide one, as the position in which the gardens were placed varied so much in character that it was nearly impossible to copy. Thus gardeners had each to work entirely according to circumstances. He acknowledged the great advantage he had derived of working under Miss Jekyll from whom he obtained great knowledge respecting hardy border plants. The lecturer then passed on to describe the best sites, formation of same, soil, suitable plants and their arrangement, time of planting, &c. A large number of questions were asked, and an interesting discussion followed in which Messrs. Stanton, Neve, Townsend, Lever, Burfitt, Hinton, E. J. Dore, Fry, Exter and Chamberlain took part. A feature of the evening was two splendid floral exhibits by Mr. F. Lever, The Gardens, Hillside, Reading, and Mr. W. Townsend, The Gardens, Sandhurst Lodge, the former staging *Azalea indica alba*, *A. Deutsche Perle* (grown from cuttings), *Doronicum caucasicum*, grown in pots, and a splendid flowered *Dendrobium nobile*; whilst the latter staged a beautiful group of *Begonia Gloire de Seaux*. The president (Mr. C. B. Stevens), in proposing a vote of thanks to Mr. Harris for his paper, said that the greatest charm was not so much the lecture as was the kind and ready way in which the numerous questions were answered. The exhibitors were included in the vote.

Report in Growing (Indian) "Famine-Carrot" Seed.—As an item in the annual administration report of the Government Botanical Gardens and Parks, Nilgiris, for the year 1898-99, there is detailed an account of trials in growing Carrots. Carrot seed had been supplied to the department the previous year. The Board of Revenue asked a number of questions relative to the culture and result of the crop, the curator giving answers. Two plots were cultivated, each receiving identical treatment, the seed in each case being sown at the same date. The final result was that No. 1 plot (a well tilled garden soil) gave no return from having been left unwatered, while No. 2 (a good friable loam), and which was watered, gave fair returns of passable roots, good for man but meant chiefly for horses. The results thus prove the Carrot as unfit for a famine crop.

ASPARAGUS SPRENGERII AS A BASKET PLANT.

Few gardeners need reminding as to the usefulness of the various species of Asparagus, their advantages are so well known. I should like to claim attention most particularly to Asparagus Sprengeri, a form which I do not think is quite so widely cultivated as it should be. Viewed from a decorative point of view, it is the most useful of all; and its splendid constitution renders it invaluable for all Lent purposes, its light, graceful trails being held in high esteem. But it is as a decorative plant that I wish to draw particular attention. Placed in wire baskets (which seem to suit it best) it grows remarkably freely; and a few good baskets hanging in the conservatory or greenhouse greatly enhance its natural beauty, and add a splendid effect to the house itself. It grows so freely, too, that plants put into baskets from 48-size pots make really large specimens the first season; and should the gardener have to decorate the ball-room or the dining-room at Xmas, or any other time, he would add a good leaf to his book if he had a few good baskets of Sprengeri suspended from the ceiling, or gas jets, where its beauty shows up to a remarkable degree. It grows best in an ordinary greenhouse temperature, and it matters little if shaded or not. Almost any kind of soil suits it; and when established, it can be fed with advantage to plant and grower.—H. A. C.

CELOSIAS

ARE most valuable flowering plants for the greenhouse during summer and quite late in autumn, as well as the decoration of the flower garden. In fact it is here the true character of the plant exhibits itself, especially under such tropical summers as 1898 and 1899, when they grew away freely, making a grand floral display towards July. I have only tried the crimson and scarlet kinds outside, edging with the white foliage of *Centaurea ragusina*, as well as an undergrowth of same. Seed should be sown at once in 5-in. pots filled with light sandy soil, and placed in a temperature of 60° to 70°. As soon as up place them near the glass with a view of keeping them dwarf as well as to prevent damping off, potting singly into "thimbles," returning them to the same position and guarding against a too free use of the water can, or they will collapse. Nip out the point at the second or third leaf, shifting into 4-in. pots when fit, and if for under glass 6-in. pots the next move; while for outside work they can be planted direct from the 4-in. After the second potting place in cooler quarters preparatory for greenhouse and outside work, plying the syringe well under them. Red spider and greenfly are their two chief enemies. They enjoy light, rich soil and should not be planted outdoors until the first week in June.—J. Mayne, Bicton.

COLEUS THYRSIFLORA.

THIS novelty has been an object of special attraction at the Royal Gardens, Kew, during the dullest part of the past winter. The fact that it can be had in winter is one point in its favour. Another is that its flower trusses are bright blue and conspicuous. In the latter respect it will thus be seen to differ from Coleuses whose merits lie in their pretty foliage. *C. thyrsoflora* seems to have made a new departure in having enlarged the flowering organs at the expense of leaf-colouring, it being almost like

our common Nettle in respect to foliage. There seems no reason against the suggestion that we might yet expect to see both beautiful foliage with enlarged and showy flowering trusses in our race of ornamental Coleuses. Patience and skill have done more wonderful things before now. More detailed description of this plant is scarcely necessary. It grows in bushy form in much the same manner as other cultivated species, and the name *thyrsoflora* simply means that the inflorescence is a thyrse, such as is seen in Lilacs, though not so broadly massive as in Lilac. Of course, the plant under cultivation may become yet more worthy of acquisition. It may be propagated as other Coleuses are. It succeeds in an intermediate temperature.

LABELLING.

IN nearly all well ordered gardens labelling forms one of the most interesting subjects. It is far more instructive and pleasing, both to the visitor and gardener alike, when walking round a garden to see neat and correctly spelt labels than to have plants without them. For annuals, such as Sweet Peas, I advise wooden labels, but for small shrubs and hardy perennials, zinc ones, written on with indelible ink and varnished over, answer the purpose far better, as when the writing becomes indistinct they can be cleaned and used again. These last for years in a good condition. Every year, when the majority of hardy plants are in a dormant state, the labels should be looked to, and any that require re-writing can be done on wet days and all placed in the ground firmly in an upright position. Labels must not be placed too near the edges of borders, as they are liable to get knocked out by the mowing machine, etc. For standard trees, as Apples and Pears, hanging labels should be used, made of zinc, and written on in the same way. These can be securely fastened on with wire, but not tightly so as to cut the wood which is most injurious if allowed to remain, and in the end will prove fatal. Over-crowded writing on labels should be avoided, and any needless words omitted.—A. Thatcher, Aldenham, Elstree.

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned below were made by the Royal Horticultural Society on the 27th ult.:—
Orchid Committee.

LAELIA EDISSA.—This bold and handsome hybrid was raised from *L. anceps* (female) crossed with the pollen of *L. purpurata*, the progeny being decidedly intermediate as far as the flowers are concerned. The sepals and petals are soft purple. The lip shows the effect of both parents in form and colour. The terminal and side lobes are deep purple, edged white, the former being kneed or decurved, owing to the influence of *L. anceps*. Immediately below the lamina is a transverse white band. The interior of the tube is deep purple, striated with crimson-purple lines, recalling the pollen parent. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

ODONTOGLOSSUM ADRIANE LORD ROBERTS.—The sepals are soft yellow, and adorned with two groups of chestnut blotches. The petals, on the contrary, have a central group of smaller blotches. A large blotch is situated in front of the crest upon the lip, and smaller ones are ranged round the sides. (Award of Merit.) W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs.

ODONTOGLOSSUM LOOCHRIENSE KIMBERLEY.—Here again the ground colour is yellow, though less clear than in the variety Lord Roberts. The sepals are lanceolate, with one large blotch on each of the lateral sepals, and several blotches on the upper one. The petals have one to three blotches, and many small spots scattered over them. The lip has a large blotch on the middle and many small ones round the sides of the crest. (Award of Merit.) W. Thompson, Esq.

ZYGOPETALUM BALLII, Rolfe.—This new species is both distinct and very handsome. The sepals are purple with white tip, base, and edges. The petals are similar, but the upper half is marbled with white. The roundly-cordate lip is white, with a large, violet-purple blotch towards the base. The half cup-shaped crest is ridged and lined with violet. (Award of Merit.) G. Shortland Ball, Esq. (gardener, Mr. J. Gibbons), Ashford, Wilmslow, Cheshire.

CATTLEYA TRIANAII WEST BANK HOUSE VAR.—The flowers of this variety are of great size, bold and handsome. The sepals and petals are of a warm rose. The lamina is rich crimson-purple, with a crisped and rosy margin, while the throat is dark orange, and the interior of the tube purple, striated with white lines. (Award of Merit.) J. Leemann, Esq. (gardener, Mr. Edge), West Bank House, Heaton Mersey.

DENDROBIUM PUNICEUM.—The flowers of this species are rosy-pink, and produced in dense racemes after the style of those of *D. secundum*, but several times as large. (Botanical Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

DENDROBIUM JERDONIANUM.—The flowers of this species are borne in clusters of two to four near the top of leafy stems, and have orange coloured, narrow and pointed segments that render the species strikingly distinct. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

RESTREPIA STRIATA.—This species takes its name from the fact that the united lateral sepals are lined with crimson on a yellow ground, and also more or less marked with spots arranged in lines. (Botanical Certificate.) R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), Cambridge Lodge, Flodden Road, Camberwell.

Floral Committee.

IRIS STENOPHYLLA.—The habit of this new species is similar to that of *I. Rosenbachii*. It is a bulbous species with short, channelled leaves and long-tubed flowers standing about 5 in. high. The falls are obovate-oblong, and violet on the upper half, the rest being pale blue, spotted with violet on either side of the white and yellow ridge or crest. The standards are small, spathulate, horizontal and blue. The petaloid stigmas are very large, and deeply bifid, with obovate, clear blue segments, forming one of the most conspicuous features of the flower. (First-class Certificate.) Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester.

AGAPETES BUXIFOLIA.—It is quite a pleasure to see such a magnificent plant of this New Holland plant as was shown by J. T. Bennett Poë, Esq. (gardener, Mr. J. Downes), Holmwood, Cheshunt. The tubular flowers are somewhat five-angled, drooping, bright orange-scarlet and very showy. The shrubby stems are densely clothed with leathery, deep green leaves about the size of those of Box; hence the specific name. It is an admirable plant for greenhouse culture. (Award of Merit.)

PRIMULA KEWENSIS.—In this we have an admitted hybrid between *P. floribunda* and *P. verticillata*, having the greater resemblance to the former in its yellow flowers, borne in three or four whorls, and in the green and toothed leaves. The strong habit of the plant recalls that of *P. verticillata*, being about a foot high, but there is only a small trace of the mealiness of the latter traceable upon the leaves, which are obovate and narrowed to a long stalk or petiole. The plant sent up from the Royal Gardens, Kew, was about 12 in. high and wide, two years old, and is a chance seedling, and being a hybrid is of rare occurrence in the genus. (First-class Certificate.)

CAMELLIA GENERAL HECTOR MACDONALD.—The flowers of this variety are of enormous size, very strongly recalling those of *C. reticulata*, except that the petals are smoother, not wavy. They are semi-double, the several rows of rosy-red petals showing off the central cluster of stamens to advantage. (Award of Merit.) Messrs. F. Sander & Co., St. Albans.

THE FLOWER GARDEN.

TULIPS, Narcissus, and some other of the larger flowered spring bulbs are now showing conspicuous shoots above the soil. In sheltered spots the Narcissi are even showing the flower spike, but the cold weather is keeping them at a standstill. The ground between them may be gone over and stirred occasionally. The carnation beds should especially receive this attention. All Pansies in the open air should likewise have such timely looking to. Gladioli may be planted, and the herbaceous borders require to be made up for the season. Pyrethrums, Delphiniums, and Paeonies, may be planted. Hardy annuals, may be sown. The borders or beds for their reception need only be raked over, the ground

having been dug some time beforehand. Sow the seeds on the surface and merely rake them in.

Lawns should be swept and rolled firmly to aid the grasses. A firm bottom is necessary to the making and maintenance of a sound and beautiful lawn, besides which it seems to deter the working of the worms. Shrubs and hardy border plants should so far as possible be all planted before March ends. From the fact of the increasing need for the men at other occupations, and also for the good of the plants and shrubs themselves, the above rule ought strictly to be carried out.

Levelling, relaying turf, and sowing lawn seed for lawns may be carried on. The past few days, though cold, have not been against us for sowing lawn seed. The subject of how to make a lawn from seeds or by turfing was well described in *THE GARDENING WORLD* some short time ago. As forced material goes out of use, harden it off in cool houses or frames for planting out later on. Spiraeas, forced bulbs, and hard-wooded plants should all be taken good care of. Leaf soil, road scrapings, and turf parings, which can be had in considerable quantity at this time of year, should be stacked for use at a later period. Such composts are always in demand, no matter what the soil be, where planting on any scale has to be done.

The summer bedding plants in frames and in warm houses should be day and daily attended. Propagation of soft-wooded dwarf plants and the sowing of half hardy annuals must be undertaken. The amounts of any one sort of plant to be used in the summer flower garden should be computed in good time. For this purpose it is necessary to have a mental plan of the arrangements and designs of the beds.—*J. H. D.*

Kitchen Garden Calendar.

THE SOIL having now got somewhat into a workable conditions, operations in this department will be somewhat brisk, as this is a very important time of the year both for sowing and planting. It is, however, well to be cautious in planting out these vegetables which have been raised under glass, for it was during the latter days of March that we suffered so much last season, and should we experience anything approaching such weather this year the plants will be far better under cover. Therefore, I would not advise being in too great a hurry, as changes are very sudden at this time of the year, it may be quite mild one day, and the next cold winds with snow falling.

PEAS.—Towards the end of the month, should the weather be favourable, those which have been brought forward under glass may be planted out. It is not advisable to plant tall Peas on Marrow borders, as they take up too much room, such varieties as Gradus, Exonian, Early Giant, Early Morn, and others that grow from 4 ft. to 5 ft. high should be planted on the open quarters, while Chelsea Gem, Excelsior, English Wonder, Carter's Forcing, and those that do not exceed 2 ft. should occupy the narrow borders. Sowings should also be made for succession of such varieties as Duke of Albany, Telephone, and Exhibition, while of the dwarfier kinds, Veitch's Main Crop, Invincible, Perfect Gem, Perfection, Danby Stratagem, Dwarf Defiance, and those of that class may be grown. Peas are such an important crop in all private gardens, that ample space must be allowed for successional sowings, as these ought to be continued once every fortnight till June. Between the rows of Peas such dwarf growing crops as Lettuce, Radishes, and Spinach may be grown, and in the case of the taller varieties, Cauliflower and Turnips, as all these crops will be ready for use by the time the Peas are gathered. Other plants that have been afforded the protection of frames will be hardened off ready for transferring to the open ground. These will include Leeks, Onions, Cauliflower, Lettuce, and Broad Beans.

SEAKALE.—Sets of these that were prepared some time ago, and placed beneath decayed leaves or manure to keep them plump, should now be planted. The distance usually allowed is from 9 in. to 10 in. in the row, and a distance of 2 ft. between the rows. There is nothing gained by planting closer, as the foliage has not sufficient room to develop, therefore the crowns do not attain to that size requisite to be of any value for forcing. Given plenty of room and

suitable ground it is astonishing how these plants will grow when once the roots have got hold of the soil.

CUCUMBERS growing in houses should now be making rapid progress, as the sun has sufficient power to run up the temperature to 90° or even 100°. These temperatures, however, must not be reached unless air is admitted at the same time, for though the Cucumber delights in a moist atmosphere and high temperature, there must be sufficient air to give strength to the foliage, otherwise the plants will flag, and will not set their fruit freely. Stop each growth at the first joint beyond the fruit, so as to induce the plants to make plenty of lateral growths, as it is from these that the fruit is produced. Some varieties, such as Telegraph, for example, will show from three to five fruits at a joint. Some of these should be removed, as it is not advisable to over-crop in the early stages, or the plants will soon become exhausted. Tie the growths down to the wires, and thin them out, so that the foliage may not be overcrowded.

TOMATOS.—Seeds of these should now be in a gentle heat to produce plants for planting either in frames or in the open. Unless the plants get well forward by the time it is safe to put them out of doors, the season is too far advanced before the fruit has time to ripen, in which case much of the crop is spoiled. By sowing now and getting the plants well forward they will commence to fruit soon after being put out. Those already up should be potted on before they get crowded in the seed pans, and be placed near the glass to keep them dwarf.

CELERY.—Prick out plants as soon as they are large enough to handle, and return them to a gentle heat. The plants should at no time receive a check, as this will cause them to bolt when transplanted into the trenches. If kept steadily growing from the time the seed is sown that is the way to ensure success. Sow now for a late batch either on a slight hot-bed or in a box, to be afterwards placed in a gentle heat. A pinch of Autumn Giant Cauliflower, Brussels Sprouts, and early Broccoli should also be sown on a warm border, and if there is sufficient space a few rows of Parsley seed should at the same time be got in to give a supply of plants for planting out in the open later on. Broccoli will now be turning in, therefore the plants should be looked over daily, and the outside leaves turned over any that are exposed to protect them from frost.—*F. W. J.*

FRUIT UNDER GLASS.

STRAWBERRIES.—Almost up to the period of their colouring up fruits the Strawberry plants should have weak manure water every other day. For the purpose of obtaining a ready supply, I advise a tank or a sunk barrel to be placed in some near-hand convenient corner. This tank or barrel can be kept full from the carting to it of the liquid from cowsheds, stables, &c. It even pays the cost and labour to make a very large covered-in concrete tank in a corner of the kitchen garden. Where there is a liberal supply of liquid obtainable, a lad with a hand water-cart can keep the amount always cleared away.

I always prefer, too, to see that absolutely cold water is not used for watering with. If even the chill is taken from the water (which should be soft if obtainable) it is much better for the onward growth of forced Strawberries. A position on a shelf of an actively working early Peach house is our present position for the Strawberries. Dead leaves should carefully be removed and the surface soil may be at times stirred up. The clusters of individual flowers and swelling fruits should be thinned to about ten per plant. The plants should constantly be syringed top and bottom after the fruit has set, and this is just the period the earliest batch is at now. The trusses must be staked or held up to a horizontal level. Unless they are so cared for the chances are that they will be injured in one of a few ways. To place the trusses up vertically is to detract from the vigorous swelling of the berries. A temperature suitable to the Peaches has, of course, to be suitable also to them. The temperature should not be lower than 58° at night, but may rise up to 75° and even 80° with sun heat throughout the day. Fresh batches should be brought into the warm house at intervals of a fortnight.

MELONS.—The newly potted off young seedlings have had very unpropitious weather to start with; and in a good start I reckon the complete success, or otherwise, of the Melons as fruit producers, lies. Keep the young plants, or the second sowing of them, near the glass, but free from draughts. The earliest plants are now becoming nicely established in their permanent quarters. A week of nice, mild weather without bright sunshine would do a world of good, and place the plants at a safer stage of their career. Quick growth and prompt returns, these are the rules to hold to, if canker and much unnecessary trouble would be avoided. Keep the pits well damped down. If a good thickness of fermenting leaves were placed below the soil, but over the surface of the stage, this will supply a steady rise of moisture. A very great deal depends on the hygrometric conditions. Keep the troughs filled with ammoniated water. The plants should be neatly but loosely tied to erect stakes as they grow. Be careful to guard against water lodgment around the neck or collar of the plants. Where growers wish to be very careful in this respect, I might suggest Mr. Pettigrew's plan of fixing a stout encircling collar around the base. This keeps off moisture. A night temperature of 70° should be maintained, rising higher than this, of course, during the day. A flimsy shading will be necessary on those occasions when bright sunshine bursts forth. By means of very small openings (only a brick hole), which are bunged up with a wood block, let the necessary supply of fresh air into and through the pits. As the air passes over the hot water pipes, no harm ever comes from draughts. I believe a constantly moving air, more especially where there is so much moisture and gaseous matter afloat, is a *sine qua non* to the highest success in Melon culture.

PEACHES AND NECTARINES.—It is necessary to go over the trees weekly because of their constant change in development. Where weakly twigs have been carrying perhaps a welcome flower which, unfortunately, has failed to set into fruit, it is often advisable to cut it out and lay in another branch from above or below. By so doing the whole strength of the branch will also be drafted to the shoot springing from its base. An early and constant thinning is necessary in the cases both of swelling young fruits and the growth of leafy shoots. Do not tie them in too firmly else this will check, rather than aid them.

CUCUMBERS.—Old worn-out shoots and bad leaves should be removed from the plants which have been in active bearing. Whenever the young fresh roots show through the soil, a topdressing should be given. Soot waterings and an occasional ½-oz. of sulphate of ammonia in the water will tend to keep up a brisk and clean growth. For the suppression of red spider, &c., paint the pipes with sulphur and lime and then heat them to boiling point, the foliage being dry. This excessive heat should only be continued for about two hours, and a dry still evening should be chosen. Young plants may be planted now in ridges, the soil being well warmed before finally putting them out.

VINES IN POTS.—The day temperature for these at present may run up to 70° before fresh air is allowed. A change of air, as in the case of Melons and all other forced subjects, is always to be recommended. The surface soil of the young Vines should receive dressings with some sort of helpful fertiliser such as Thomson's or Clay's manures, this to be only applied as light dustings and to be stirred into the soil. If allowed to remain exposed to the open air much of the goodness escapes. The laterals must be removed where there are too many to fully allow the foliage to become inured to light and air, and where bunches have set the shoot should be pinched at two leaves beyond the said bunch. It is always advisable to let the night temperature drop to about 50° as this firms up the growth and gives us short-jointed wood.

The midseason vinery should now be started. Merely close the house and syringe the rods, for the first ten days, after which raise the temperature 5°.

The early house must be attended to as before advised in regard to constant damping down, syringing, thinning, looking over the shoots with a brush and methylated spirits for mealy-bug, and very soon the bunches will require to have their berries thinned.—*J. H. D.*

HINTS FOR AMATEURS.

Hardy Annual Flowers.—Sometime ago a promise was made to a correspondent that hints would be furnished on what to grow in the section of flowering plants treated as annuals. Memory may recall the suggestions made some weeks ago to have the land deeply worked and otherwise prepared for the reception of vegetable seeds. The same thing applies, of course, to flower seeds. After one has prepared the bed or border, the other work which follows with the growth of the seedlings and plants is of a recreative and dainty nature, furnishing pleasurable occupation for the lady of the house. How "pally" and forlorn our summer gardens would be without the hardy flowers, and especially the annuals. Not all of them though, but the large majority. And who would forego his fragrant Mignonette or glowing blanket of Tropaeolums and the half hardy Phlox Drummondii? The work of tending the lowly plants from seed sowing to the flowering is briefly planned as follows:—Thinning the seedlings to a proper distance apart, usually but a few inches: staking, weeding, and watering, which is advisable in drouthy weather where time and the means are at one's disposal, and last, though of course, as usual, not least to be heeded, is the precaution to pluck off or otherwise remove withered blossoms. Only those who persistently attend to the removal of the ovaries or seed-containing organs of plants realise how much more prolonged are the flowering abilities of the annuals. The expense laid out in the first instance for a few seeds is surely a thousand times repaid to anyone by the healthy pleasure that is extracted by cultivating them throughout their growth. Most hobbies of a kindred nature demand a short while's chained application before a warm love, that inner charge of quaint and tender regard generates within one toward the object which we learn to understand and in which hides a hundred associated points not seen by the foreign vision, but only intimate to us because of trained acquaintance. It is so with the love for tending flowers. Most folks care in a way for flowers, for if they did not they would find their live's love a rather restricted quantity; but it is with a new and altered regard that the amateur cultivator views them. I am perhaps exhaustive to a wearisome extent on this item in "The Pleasures of Life," but those who love best and strongest are most persistent and anxious to entice all others to participate in that which they find is fraught with sweetness—and life is cankerous enough.

Open air sowings may be made in borders early next month, and successional sowings continued till its close. Some of these hardy annuals are Ageratum, in the varieties Imperial Dwarf Blue, Imperial Dwarf White, and Little Dorrit. Towards the close of the season some of the plants can be lifted and potted up for cuttings the following spring. The bushiest plants generally come from cuttings just as with Lobelia.

Amblyopsis setigera is a sweet-scented Composite, like a Helenium. Prickly Poppies (Argemone) are pretty annuals and easy to grow. Arnebia cornuta is fairly well known. A sunny position should be selected for it. The medium sized flowers are yellow, being spotted with black spots. The Swan River Daisy may be regarded as hardy if sown on a warm border after the middle of April. It is a pretty Daisy-like flower, though not really a Daisy. The varieties of Calliopsis, or Coreopsis, as you care to call them, are so pretty and withal easy to grow, that their use is strongly to be recommended. For window boxes or borders in all manner of positions they may be regarded as indispensable decorators. C. Burridgei, C. bicolor, C. coronata, and some others are very sweet flowering Composites. The annual Candytufts (Iberis) are commonest in cottagers' gardens, where they are used as edging lines around the little plots.

Collinsia bicolor is a very useful hardy annual which has flowers of purple and white, blooms very freely, and grows about 1 ft. or so high.

Cosmos, which resembles Calliopsis, is also a subject which anyone who is careful, can grow, and which furnishes pretty flowers for the border or for cutting. Chrysanthemum carinatum and its variations may either be sown in boxes and reared before being planted out in groups in the hardy plant

borders, or given the less preferable treatment of open air sowing. With such showy and rather handsome annuals it is worth the while to be at some pains with them. The same remarks apply to other subjects that I have noticed, only that some are more capable of the "despatch" treatment than others. And many growers who are otherwise anxious enough to do the plants justice, have not convenience at the time of year. We will run through a few more names of notably useful annuals. Of those that may not be so well known to the reader a smaller quantity may be ordered until a trial has been made. By so doing, some of the lesser known yet worthy subjects will be found out to be included among the favourites. It is all the more interesting, too, in having a batch of "new" plants to watch and rear.

The Cornflowers in their various colours are all sweet; so are the Californian Poppies (Eschscholtzia), among which new colours are being evolved. The former, of course, are 2 ft. in height, while the latter are useful and very bright edging plants. The various forms and colours of the Gaillardias should by no means be missing from the garden. In beds by themselves few things are finer. The Shirley Poppies, and Phlox Drummondii add other indispensables; Salpiglossis, Godetias, Impatiens, Roylei, a large and fast growing plant, found all over the land, and not very select, though it has some points of merit. The annual Larkspurs are suitable for sunny borders, and do not go more than 2 ft. in height.

Linum grandiflorum rubrum is pretty generally known. Whoever does not know it might make a trial sowing of it this spring, and if the little plant does not satisfy the grower, then blame me. The annual Lupins for the back of the border are reckoned as almost necessary. They are very fine indeed. Malope trifida grandiflora, Lavatera, white and red, Leptosiphon aureus, are plants the two former of which should be sown in the middle of the border, the latter towards the edge.

African, Scotch, and French Marigolds are regarded by some up-in-the-world folks as too common for their garden. Well, they are welcome to their opinions. But, to grow a real, good batch of French Marigolds demands some care. They are favourites with cottagers, by whom Marigold classes are made at the local shows. The Scotch Marigold is a sturdy plant, and one which will flourish wily-nilly. No plant, no hardy annual plant is more useful for sowing in the patchy front or back-gardens in our large cities and towns. It makes a wonderfully brave show in such places. The Night-scented Stock (Mathiola) is another very popular plant. The flowers are yellow, the plant attaining to a foot in height.

Mignonette, of course, it is needless to praise, the only point is that it is not largely enough grown. Various sowings should be made. Allow the seedlings plenty of room (9 ins. apart) in a rich, moist soil and an open position, so as to furnish specimen and lasting plants.

The Tom-Thumb Tropaeolums, otherwise, but erroneously, called Nasturtiums, are suitable for poor soil or rich soil, shade or sunshine alike. An open, sunny border gives them fullest justice to show off their gloriously bright scarlet, crimson, and yellow flowers. I strongly advise the sowing of large batches in open spaces by themselves. Only by so doing will their great beauty and soft fragrance be properly brought out. The leaves and flowers when eaten have slightly laxative powers.

Nemophila insignis, like Linum grandiflorum rubrum, is one of the first-water gems. Indeed, the Nemophila would form a brilliant blue front row, while the Linum could answer as a second border row to make an effective contrast with its rich ruby flowers.

The Giant Prince's Feather is well known, and rightly deserves to be favoured. Senecio elegans, as dwarf plants, and the annual miniature Sunflowers, with black disc and yellow petals, are likewise named for selection. The Sunflowers are sure of appreciation, for few hardy annuals are more useful or pretty.

The foregoing, then, is very representative of the hardy annuals at our command. By a judicious selection made to accord with the area of garden, the good and bad points of it, for the growth of this or that, and by taking reasonable care through the summer, every little garden could be made an Eden from June till November.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Plants after Forcing.—M. N.: Your Spiraeas and forced hard-wooded plants should be placed by gradual transitions from warm to cool houses. They should receive quite as much attention in after growth as during the period in which they are in use. In the summer time they should be placed in an open place out of doors, not, however, in a position where they will be scorched up. The bulbs should be placed out against a wall, to be planted out later on.

Easily grown outdoor Climbers.—S. S.: Sow outdoors, in May, an inch deep in the soil, Canary Creeper (Tropaeolum canariense), Tropaeolum majus, and seeds of Scarlet Runner Bean. Other very pretty perennials for your special purpose would be the Flame Flower (Tropaeolum speciosum), Convolvulus major, and Clematis Jackmannii.

Forced Bulbs for Stony Ground.—N. L.: Your best plan, if the land you wish to plant up is too stony to admit of digging, is to place a heavy dressing of soil, say one foot or more deep, over the surface. The bulbs may be planted as the layer of soil is placed on, and more bulbs and soil can be added as time and material admit.

Pointing up Shrubbery.—B. Johnson: Could we but guarantee the weather, the pruning and rearrangement of any part of our outdoor borders might well be done. At present the weather permits of the work you wish to undertake, and we would advise its being done. Prune out only enough from the Laurels, &c., to allow of light and air entering. The shrubbery borders should be pointed over, and certainly, if your soil is light, do not hesitate to mulch everything heavily.

"Vegetable Ivory."—W. Tullock: The trinkets and ornaments you saw, and which were made from the substance termed vegetable ivory, are commonly on sale. The "ivory" is obtained from the very hard kernel in the nuts of a Palm tree (Phytelephas macrocarpa), which grows abundantly in parts of Peru and New Grenada, South America.

Calceolaria Burbidgei.—Henry Jackson: Coming into bloom, as it does, at the present time, this tall growing, Salvia-leaved, yellow Calceolaria is a welcome greenhouse plant. It is easily raised from cuttings, which may be taken from firm young wood after the flowering period. Grow it on in a cool house, and pot as required. Keep the shoots as firm as possible. Its height is 3 ft. or more.

Protecting Carnations.—H. Osman: To prevent rabbits from doing harm, run fine meshed wire netting around the beds. Herring netting may be placed over the top to ward off the sparrows.

Removing Protective Material.—H. Osman: The handlights and panes of glass or other slight protectives previously placed over your rarer alpine should only be removed on clear, mild days. Foggy weather must still be guarded against.

Lilium Harrisii.—Jas. Gloag: We can suggest no remedy for the leaf disease. Keep the plants growing vigorously, and supply them liberally with water. Later on they may be fed with weak applications of manure water. Cut off the points which show the complaint. A brisk temperature will help the growth of the plants..

Arundinaria gracilis.—R. Patterson: Pieces of the old stem when inserted among warm, moist fibre, or in pots, soon take root, whence they can be potted up. Another means of increase is by division. The old plants can be cut back and started to growth by placing them in heat.

Propagating Selaginella.—B. M.: To renew an edging of Selaginella, take pieces of shoots 2 to 3 in. long, and after having loosened or renewed the

old soil, which should be porous and contain leaf-mould, dibble in the basal part of each of the shoot-cuttings. By carefully keeping the soil moist (but not wet), the plants will establish themselves in a short while.

Herb Beds.—*Sandy*: Whenever the ground is in workable condition renew the old worn-out beds. By puddling a slow running stream and inserting Cress cuttings (later on of course, say end of April), you may hope to succeed with this wholesome salad.

Arundinaria Fortunei.—*Ochiltree*: The shoot of the Grass which you send is that of *Arundinaria Fortunei*, better known in gardens as *Bambusa Fortunei variegata*. It prefers a deep, well drained, medium loam, although any good garden soil will answer. It is readily increased by division of the crown in April. It requires no staking. Old and dead leaves and shoots may be cut away just before the new season's shoots spring up. Allow the plants a sheltered position, yet free from shade. Mulch during drought until the plants become established. It attains, when well grown, to over 2 ft., and is quite hardy.

plants in March for planting out in June. There are a number of good varieties, chief of which are Carter's Outdoor, Laxton's Open-Air, The Trophy, Early Prolific, and Barr's Early Ruby. If confined to one variety for indoor culture the selection would be Jones' variety, The Cropper.

CHINESE PRIMULAS AT FOREST HILL.

THE past winter has been a long and a cold one, but the lack of sunshine has been a more telling factor in the cultivation of plants than the question of temperature. When the cultivator does his work thoroughly, however, it is surprising what can be done with Chinese Primulas, even in such a suburb as Forest Hill, where Messrs. J. Carter & Co., High Holborn, London, have an establishment devoted to the cultivation of various subjects, both in the open air and under glass.

At the present time the most interesting culture is the Chinese Primulas, because they are in full bloom, or were so at the beginning of the present month. Something like 8,000 plants make a display worthy of a long journey to see. Not for many years

distributed. A very fine one with large flowers is the result of crossing Elaine and Bouquet. The latter, which was described in *THE GARDENING WORLD* some years ago, is characterised by a leafy calyx surrounding the white flowers, thus suggesting the name "Bouquet." The product of the two varieties is a plant with large and pure white flowers, on much longer stalks than bouquet, and therefore superior to it for decorative purposes. Another seedling has silvery-pink flowers, deepening to rose as they develop, mottled with white, and having a silvery zone round the green eye. The finest of the novelties is a seedling with a gigantic, rosy-pink flower deepening to carmine when fully developed. A white zone round the greenish-yellow eye sets off the whole to advantage. The flowers measure from 2 in. to 2½ in. across, one of them being represented natural size, on p. 459. Something more of these fine forms will be heard of again.

The named and standard varieties are grown in large batches, often numbering hundreds, the effect of which is bold and striking in the mass. Very choice is Hercules, a large, rich rose flower with a yellow centre, the blooms deepening with age. The plant itself is of dwarf habit. Elaine is one of the



SOME OF MESSRS. CARTER & CO.'S PRIMULAS.

Dahlia Roots Mouldy.—*J. Williams*: It is often enough written of, that to keep Dahlias, Salvias, or Begonias in good condition through the winter, a dry cool shed is alone suitable. A steamy washing-house, is altogether wrong. Cut away all rotted tubers and brush off the mould. Plot the tubers for an instant in boiling hot water. Do this once or twice to kill the mycelium. Then place the tubers in the sunshine or have them well aired for a day. If you wish to raise cuttings from them place them in deep boxes and cover over with mould, placing boxes and contents in a warm house.

Forced Rhubarb.—*W. Telfer*: Do not suddenly place the Rhubarb plants from the forcing house out into the cold ground but place the stocks for a while into a frame or cool house. Then having prepared the ground plant out and mulch the crown. Should severe weather again return add further protection.

Tomatos for a warm corner.—*J. W.*: The angled corner formed by the walls of two houses and facing south-west, if it has other shelter near hand will prove first-rate for outdoor Tomatos. Raise

have they been in such excellent form. They are all grown in span-roofed houses, and are in consequence well exposed to all the benefits of light at command. This year's plants are practically in two large batches, one about two months in advance of the other, yet all are grown in 48-size pots. The object of growing them being for the production of seed, it follows that the cultivator will always pursue that method most conducive to the development of good pods of seed independently of the quantity of flowers. The latter soon begin to fade after they have been gone over with the fertilising brush. Plants with a few fine trusses of bloom are more serviceable than large plants in big pots and highly fed, such as gardeners require to brighten their conservatories. The more advanced batch here would be quite fit for such a purpose, and many a gardener would be proud of them. The accompanying illustration shows one of the early houses, and was prepared from a photograph taken by Mr. Bard, the manager of the Forest Hill establishment.

Besides the well-known named and standard varieties there are also some unnamed seedlings, which may be defined as novelties, that have to be increased, selected and fixed before they can be

oldest in the collection, and at present is bearing pyramidal masses of bloom in 48-size pots, the plants being about 1 ft. high. Elaine Improved has much larger pure white flowers, and red petioles, and is altogether finer than the original. The well-known Holborn Blue has large and richly coloured flowers, marked in their earlier stages by a bronzy eye. Another choice light variety is Rose (Fern-leaved), an early variety, bearing pyramidal masses of bloom, and already well set with seed pods. Being a standard variety, it is grown in quantity. Holborn Queen is a Fern-leaved variety, with pale green petioles, and bearing pyramidal masses of bloom of a pearly tint of white, the most delicate of all the shades of colour here. A remarkably free variety is Carmine, the flowers of which are rose at first but deepen to a rich carmine when fully developed. Ruby (Fern-leaved) has darker flowers than Carmine, with a few small white spots scattered over the ground colour. Rose Queen has plain foliage, with light green petioles, and the rosy-pink flowers, being very early, are now past their best, and well set with seed pods.

The variety named Scarlet is very bright and free; and half a houseful of it elsewhere is sufficient indi-

cation of the estimation in which it is held. New Scarlet is a novelty, a great improvement upon the original, and hound to displace it when a sufficient stock of it has been raised. Magenta is another standard variety; and here again a selection has been made that excels it. Prince of Wales is a double variety, of dwarf habit, with flowers of a pleasing salmon colour. Here also may be seen a small batch of a variegated variety of Carmine, having leaves splashed with a creamy hue.

Double scarlet is well named, for the flowers are very rich indeed, and more lasting in the cut state than the single varieties of that name. Aurora is also double and very useful for making bouquets, the silvery-pink flowers being both durable and chaste in colour. The light green foliage is also a character of the variety. The crimson carmine flowers of Vivid are also double and freely produced, while the plants are very dwarf. A fine display is produced by Lilac Queen, a bushy and very free flowering variety, with pleasing lilac flowers that get darker with age. Another standard variety in fine form is Vermillion, of which a large quantity of bushy plants is grown, each carrying two or three fine trusses of bloom, the brilliant colour of which is very telling in the mass. Venus is white, striped and mottled with purple like a Carnation. Venus (fern-leaved) differs only in the foliage from the previous one. Both are grown in considerable quantity which may be taken as an indication of their being favourably received by the public.

Besides Elaine and Elaine Improved as mentioned above, there is also a Fern-leaved Elaine with beautifully crisped and fimbriated, pure white flowers, contrasting strikingly with the dark petioles of the foliage. Princess May has very large, silvery-pink flowers of good substance, with light green foliage, and is a favorite with gardeners. A very pretty variety, especially in its early stages, is Imogene, a Fern-leaved type, with silvery pink flowers, very freely produced. The plant is of dwarf habit and sets off the flowers beautifully. The double white flowers of Princess of Wales are flaked with purple like a Carnation. The pearly white flowers of Snowflake become pure white when fully developed. They last a long time on the plant, and if regularly cut for use as they reach perfection, the plants keep on throwing up a fresh supply of trusses. The light green foliage conforms to the hue of the flowers. The variety is thus well adapted for conservatory work, as well as for cutting.

One long house and part of another are devoted to several strains of Cinerarias, now in a well advanced state and just commencing to open their first flowers. The plants are well furnished with healthy foliage covering the pots. Double Cinerarias are grown from seed, and so raised are much healthier than those produced from cuttings or suckers in the old-fashioned way. Altogether there are between 1,000 and 2,000 plants in 24 and 32-sized pots. The Calceolarias were being shifted from 32 into 24-sized pots, and are clean and healthy. *Primula obconica* in a variety of light and pleasing colours may be seen in the same house.

SAP FLOW.

THERE is a possibility that this subject may develop to distinctiveness. It certainly is worthy the consideration and the opinion of all who are observant cultivators or students of botany. There is a great amount of data, argument, and interesting cases which might be recorded for the forming of some definite agreement, reasonable to all parties, upon the subject of how sap flows and to which parts of the tree it is confined. As writer of the paragraph which caught "A.D.'s" attention, I explained my case pretty fully on page 410. In his article last week, p. 427, "P. L." wrote a sentence which I should like to have his explanation upon. He wrote "To say that it (sap) ascends from the roots through the wood to the leaves, and then back again by the inner bark and cambium layer to the roots, is mere theory, and has long ago been exploded." With the other circumstances of the case I fail to see what he implies. To save possible repetition I hope my previous article on the subject may be perused. I may say that it was an omission on my part not to note that a large part of the sap is pure water, and only employed functionally to act as a porter, a carrier, to take the salts up to the leaves. Once there, the superfluous water is sent about its business, sent through

the stomata into the air. Neither do I like "P. L.'s" expression that the roots "pump" up sap. It is apt to propagate a wrong idea of their method of supplying the sap. "P. L." pretty well explains the citation made by "C. Yeomans."—H.

CHEMISTRY FOR THE GARDEN.

VII.—MINERAL FOODS.

WE have hitherto given no more than a mere hint of the presence of the mineral or inorganic food of plants. This important part of supply, though comprising a very insignificant proportion compared with that of the organic, is nevertheless equally essential for the vigorous growth and health of the plant. Roughly calculating the plant contains only about five per centum of mineral matter in its structure. Of course this quantity varies not only in different plants, but in different parts of the plant. It appears to be more abundant in the softer parts of the plant, such as the leaves, shoots, and bark, than in the more solid parts, such as the stems and heartwood. The ash of plants is a fair representation of the amount of mineral a plant contains. The several minerals found in plants, and consequently forming part of their food and structure, are, with a few exceptions, very much the same as found in the soil. In some cases one constituent prevails to such a degree in a plant that the plant in common parlance partakes of its name. Thus we have potash plants, silica plants, lime plants, soda plants, &c., the special mineral being each one's favourite mineral food. Experience has proved that such plants will thrive best when liberally supplied with their favourite mineral.

All gardeners are alive to the fact of the valuable results in a good dressing of lime to the Peas plot. The same may be said with respect to the Cabbage family, when additions of wood-ashes or any other form of potash is made. It will be understood, however, that these claimed results will not occur without the corporation of some nitrogenous manure. From this fact we learn that the influence of the one is entirely dependent on the presence of the other, as Liebig at one time had stated. We also learn from facts such as continued cropping by the same plants, on the same land, year after year, how important the mineral constituents they assimilate, though small, are to the profitable production.

Though a soil generally, if at all worthy of the name, contains in its virgin state, all or most of the minerals requisite for plants, it may with cropping become very deficient in mineral matter. There is therefore a greater necessity, than is perhaps appreciated, for, when adding organic matter, adding inorganic matter as well in an available form. It is commonly believed that farmyard manure contains all the essentials needed for plant food. This may or may not be the case; at the same time farmyard manure of all natural productions is that which is most likely to be nearest perfection in that respect. One very important thing to be remembered in connection with the mineral food of plants, is that it is not so much of the disposal or convenience of the plant as its organic food.

When the mineral food within the radius of the roots is taken up, the soil may be termed exhausted as far as that specific food is concerned. It is not so with the organic food, the greater part of which is derived from the atmosphere. Speaking generally, it may be said that the organic food supply is interminable, and that the inorganic is a relatively scant product. Of course, if all the plants which grow on a soil were again dug into that soil, no better substitute for loss of mineral could be made. This doubtless explains the cases of forests which luxuriate for years without any artificial attention in the way of mineral matter being added, except that which is contained in the fallen leaves.

The drain made on mineral food in highly cultivated gardens must be very great. Of course, much of this food is, year by year, again returned in the form of good farmyard manure, but it is very probable that the quantity therein is often too little. There is some reason for supposing that failure of certain crops, such as Carrots, Onions, and Parsley, has some connection with defective mineral food.

It is worthy of note that at one time chemists were inclined to overlook the mineral constituents of plants, and considered them as merely accidental visitors which found their way into the plant's structure. There are those at the present time who

hold much the same opinion, making potash an exception. Were it only from a purely logical point of view such an opinion is examined, we are inclined to think the reasoning would prove abortive.—*Oxygen*.

(To be continued.)

GRADUS PEA.

THE claims of this grand Pea have been so freely and fully discussed, and its undoubted merits so well stated by your correspondents, such as Mr. Mayne and others, that to say more is to attempt gilding refined gold. I think Mr. Carmichael may have, like many others, got hold of a bad stock of *Gradus*—hence his anathema. In the spring of 1895 I grew a row of it from a much-mixed stock, which was then sent out to the seed trade, and while two-thirds of it was the true *Gradus*, the remaining third was a different Pea altogether—taller and later. How this came about was never explained, but it seems probable that from that mixed stock much of the mischief originated.

When true, *Gradus* is one of the best of early Peas, and has many distinctive merits to recommend it. It comes in about a week after *Exonian*, and with *William I.*, and others of that class; but it is so much longer in pod, finer in quality, and larger in the Pea, as to at once show its superiority. Another, and one of its best features is that it remains in bearing longer than other early sorts. It is a thousand pities such a really good all-round early Marrow-fat should have been discredited by anyone in its early career, for it is bound to become a standard variety, if, indeed, it has not already done so.—*A. Hope, Exeter*.

STRAWBERRY CULTURE FOR THE MARKET.

THAT the physiological justification for rotation of crops is due to the selective power of the roots is a morsel of information which rarely disturbs the equanimity of the "Strawberry farmer," when he can obtain a field which has never previously embraced the genus, *Fragaria*. Deterioration of produce, from some of our long established farms and gardens, where frequent cropping has been indulged in, necessitates the procuring of fresh sites. Thus, deterioration, from the previously-mentioned cause, is especially marked in Blairgowrie, at one time one of the largest Strawberry producing districts in Scotland. Given such a site—a rare commodity in the environment of towns—consisting of a nice hazel loam, well drained, and rich in soluble phosphates and lime, the grower commences cultivation operations ensured of a goodly return.

Manure is applied at a rate of not less than forty tons per acre, and speedily ploughed in. When procurable this manure is applied in a fresh state, as few of them believe in storing, as a miser might his filthy lucre.

The soil is now ameliorated by the action of plough, harrows, and roller, and in a fit state for planting. The form of plough most frequently used is one with a reversible mould. By its use no deep unsightly furrow is left where this operation ceases. Frequently the land is drilled, afterwards rolled, and the rows marked off with a Turnip barrow. This drilling is advantageous where the soil is damp and adhesive, but where the conditions are *vice versa*, the rows are marked off after rolling without the intervention of a drill plough.

Runners are secured on or after the second week in August and detached by means of a spade from the parent plants. When severed from the old plants, these runners are forked up, trimmed, placed in baskets and removed to the prepared plot, where they are speedily planted in rows with a dibble. The distance between the rows varies from 28 in. to 36 in. by 15 in., 30 in. being a very common distance. If a good distance be not allowed, it frequently occurs, that the pickers—who get tired stooping and adopt a kneeling or other posture—damage more fruit at the first picking than they pick all the season. When planted in autumn, the rows are frequently at a distance of, say, 15 in. apart, every alternate row being removed after the first year's fruit is secured.

It frequently happens that Strawberries succeed Potatoes, and when such is the case, planting has to be deferred till April. To obtain young plants in a fit and forward condition for this planting, the

grower resorts to a somewhat ingenious method of obtaining the same. That the lifting and "heeling in" of runners in autumn entail both a loss of time and means is clearly apparent; but instead, he runs between the rows a drill grubber, which loosens them, causing them to produce an abundance of root fibre. By this method many runners are lost, but there always remain more than are desired. His plants now firmly established, little remains to be done, beyond keeping them clear of weeds, and mulching with stable litter during May. Peat moss litter is never used; as in its presence slugs usually abound; strong wheat straw is what is desired; which by the agency of rain will have become sweet and clean, before the advent of ripe fruit. The fruit being ripe, the largest berries are packed in punnets and sent to the market; whilst the smaller ones are packed in barrels and consigned to the jam factories. With the removal of all runners and weeds, the growers' work terminates, as no digging between the rows is allowed.

Where an abundant supply of soft water is obtainable, irrigation is freely indulged in and highly recommended. It is the favourite remedial and preventive method employed against "blight," an appellation inaccurately given to all insect and fungoid attacks.—*McGregor, D.G.*

NURSERY VISITS.

RYECROFT NURSERIES, LEWISHAM.

AFTER the recent meeting of the R.H.S., held at the Drill Hall, Westminster, I was tempted to take a visit to the above nurseries to learn how plants thrived in the surroundings of chimney pots and smoke. I was well satisfied with the pleasing two hours spent in the company of the proprietor, who was an excellent guide, and very instructive, explaining as we went on, the why and wherefore so and so was done.

The large house on entering the nursery was well filled with stove and greenhouse plants, including a few Orchids. Of the decorative foliage plants, Crotons were largely in evidence, and included some very pretty varieties, such as gracile, Reedii, interruptum, etc.; many varieties of Dracaenas; while the slender foliage of the Aralias gave light and harmony to their many congeners. Acalypha Sanderi here figures in noble plants, which later on will be a show in themselves, with their reddish-maroon, tail-like inflorescence. Pancratium fragrans flowered, my guide tells me, continually for the past three months; also Eucharis amazonica with many spikes of their waxy-white flowers, and deliciously scented. Palms, Bamboos, Asparagus plumosus, and the beautiful A. Sprengeri were pictures in themselves.

Having finished we passed through long houses filled with Chrysanthemums, and were told that many thousands of rooted cuttings had been posted since the frost had disappeared to all parts of the British Isles and the Continent. The bulbous portion of Mr. Jones' nursery I was delighted with, for here in a long range of houses were growing all kinds of bulbs, a department so recently commenced as last year, and by the display of bloom in one of these he has proved a master. The Hyacinths, as arranged, were infinitely finer than what were exhibited at Westminster, and in much greater variety. These were potted in November, plunged outdoors in the usual way, and taken out about the first week in February. I will mention a few only that I noted, and most suitable varieties for exhibitor or amateur, viz.—Roses and crimsons, Cosmos Cavaignac, Koh-i-noor, General Pelissier, Orange Brilliant, Solfaterre, and Vuurbaak. Of pale blues and dark blues were Czar Peter, Grand Lilas, Grand Maître, Lord Derby, King of Blues, and a new seedling variety named Mrs. H. J. Jones, which is one that will be sought for when better known, having large, handsome bells, and immense spikes of pale lavender blue flowers, of strong, compact habit. Masterpiece and King of Blacks were the best of the very dark or almost black varieties. In whites L'Innocence and La Grandesse were most beautiful, as also were Mont Blanc and Alba Maxima. The best yellows were Yellow Hammer and King of Yellows.

For Daffodils Mr. Jones seems to have as much enthusiasm as for his older favourites, the Chrysanthemum and Begonia, and if one may judge by the varieties he has in flower (3rd March) one must wish

him all success in his new enterprise. A few varieties I saw in flower were N. obvallaris, Golden Spur, Henry Irving, Bicolor Empress, B. Horsfieldi, N. incomparabilis Sir Watkin, Barrii conspicuus, Leedsii amabilis, poeticus ornatus, and two diminutive kinds, viz., N. cyclamineus, with reflexed sepals, and N. minimus, a perfect pigmy by the side of N. Golden Spur.

Lachenalias were also in evidence, and carrying many spikes of bloom. Tulips were showing well, and may be expected in the near future to adorn the the hall at Westminster, when Mr. Jones hopes to show some new and rare varieties. The Azaleas, Cannas, Ivy-leaved and zonal Pelargoniums concluded my rounds, and after a most enjoyable couple of hours, and an invite to call and see his 'Mums when in bloom, I wished my guide a polite good-day.—*A Visitor.*

AMARYLLIS BELLADONNA.

THE culture of this is simple enough, providing you have a suitable place, which should be as near south as possible, the foot of a front wall of a forcing or greenhouse affording an ideal position. If it is intended to give them a trial the soil should be taken out quite a foot deep, and nearly as wide, replacing it with fibrous loam, coarse sand, and a fair sprinkling of old mortar refuse, planting the bulbs within a few inches of the wall, 4 in. to 6 in. deep. The best time to plant is in July, before the flower spikes begin to appear and root action is over active (it is never idle). There is one drawback with these lovely autumn flowers, that is, if planted in any prominent position, on account of the foliage dying off early in summer, and looking very untidy during a couple of months, and it is not wise to remove it until thoroughly ripe.

The narrow borders where ours are growing are 18 in. wide, and 90 yds. in length, four in all. One is south-east and one south-west, and they do just as well as those due south, though I should not like to say the bulbs would flower as freely further up country, especially in the north, as ours is such a beautiful climate in Devon. We sometimes gather early in August, and the different positions give us grand spikes of a pale pink or flesh colour, quite to the end of October. We have tried several things to grow in front of these, nothing succeeding so well as Anemones, especially fulgens, which have been giving us bloom ever since the New Year. We keep back the foliage of the Amaryllis with a few twigs as well as we can, so that the Anemones shall have all the sun possible in early summer to assist in ripening their foliage. After once planted they go on for a number of years, especially if a little new soil is replaced in lieu of old once in four years.—*J. Mayne, Bicton.*

THE FURZE DEBATE.

MAIR WANTED.

E'en tho' Furze blether blaws by I sincerely houp that oor guid freend "Geordie Tam" winna gie owre, writin' noo he's opened oot into journaleesm. It dis ma hert guid tae see the auld mither tongue in print; it's as rafreshin' as a "stirrup-cup" efter a mornin's hard wurk. Lots o' fouk doon this wye (Lundin) wad like tae lauch at the braid Scotch an' thae imagine we shud lauch tae. But for me I say, hardly yet, an' it's jist for mair o' "Geordie Tam's" claver that I noo write. Let's ken what's gaun on, and hoo's a' wi' ye. Best respects tae "G. T." an the missus in their cauld surroondin's, frae *London Scottish.*

FUNN BUSSES.

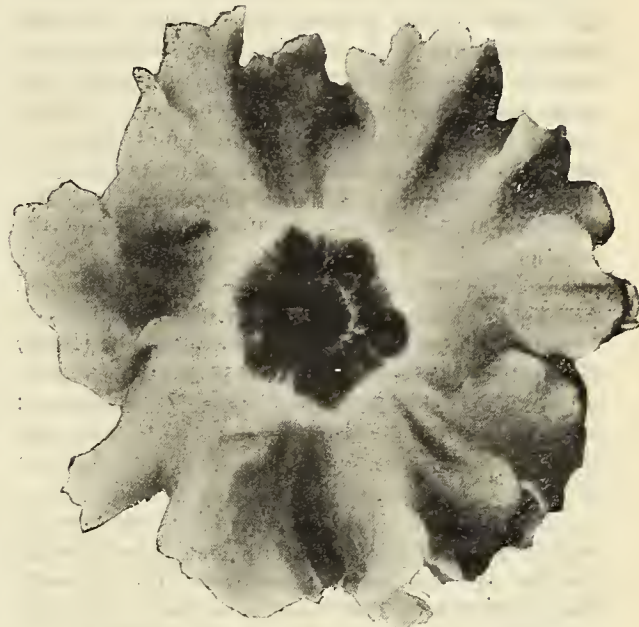
It's nae a collieshangie "Alec Vricht" an' "Geordie Tam" are haein' aboot Funn busses bit a lach toot moot. Tak aff baith their breeks an doup them intil twa Funn busses an ye wunna be dieved wi' ony mair argle barglin.—*Allister Dhu, Norfolk.*

In relation to the above subject, Mr. J. Mayne, Bicton, sends us a box of shoots of the Furze in full bloom. The rich, golden-yellow of the flowers was very attractive, but the ill tempered Furze was armed to the teeth, so that it would require no ordinary courage on the part of the flower gatherer to make much impression on a bush. In any case the shoots served to show that the Furze was in full bloom in Devon on the 2nd inst., however much earlier. The lower blossoms would appear to have been open previous to the recent snowstorm. He sends them as a buttonhole for Sigma.

ASPARAGUS CULTURE.

THE following is the method pursued by Messrs. George Bunyard & Co., Maldstone, who grow Asparagus extensively and successfully:—

"This esteemed vegetable does not require that care and labour which is often bestowed upon it, in order to get first-class heads. The raised beds so frequently seen are unnecessary, except in heavy soils and damp places; it can be, and is as well grown on the level. It is too often the fact, that constant heavy dressings of manure, with heaping up of raised beds leads to a growth of thin wiry grass, the roots being too deeply set to gain advantage from the warmth of the sun. We might suggest when preparing new beds that the ground be first heavily manured (say 6 inches thick) and then be dug all over 18 inches deep, the manure being well



A NEW SEEDLING CHINESE PRIMULA, NATURAL SIZE, DESCRIBED ON P. 457.

mixed in the soil, and if possible this work should be completed in January or February, in order that the frost may mellow the surface. About the middle of March, the plants being purchased, choose dry weather and set out the rows 2 or even 3 ft. apart; remove the soil 4 inches deep and about 1 foot wide, throwing it right and left as the work proceeds; then make this trench even and lay the plants out carefully in the trench so that they may be flat on the surface at a distance of 2 feet apart if the rows are 2 feet between, or 3 feet if 3 feet apart, as the latter where space permits will give the finest heads; but even if space is limited, the 2 x 2 feet is a much better plant than the old-fashioned raised beds at 1 foot apart, because in the wider plant, all the shoots are strong and vigorous, and except for soup, sprue (or wiry shoots) are little esteemed; and the beds at wider distance last longer in good condition; while until the rows give offshoots and the beds get thick, Lettuces and Radishes can be grown between the rows, so that there is not much loss of space. As the roots are placed, some soil should be lightly shaken over them to keep them moist, and the rest of the soil may then be raked over to complete the work; stumps should be placed at each end of the rows in order to mark the lines, so that when further manure or digging is needed the work can be done without any disturbance of the main roots.

"It is not advisable to cut Asparagus the first year, as this weakens the crowns, but the shoots should be tied up to a stick in August to prevent their breaking off at the base; and when the stools get stronger the shoots can be gathered and tied together so that stakes are not required. At the same time all small weakly shoots can be pulled out, and the stools thinned, as that will strengthen the main roots. When the shoots turn quite yellow they should be cut off and the beds be cleared of weeds for the winter; and at all times they should be regularly weeded so that no strong weeds have to be pulled to disturb the main roots.

"In January a 2-inch dressing of short well-rotted dung should be spread over the rows as a mulch, and as the heads begin to appear some nitrate of soda, say 2 oz. to a gallon of water, can be used to water the beds if the spring be dry, or it can be sprinkled on the surface, to be washed in by the rain.

"Where available there is no better manure than sea-weed or wrack, rotted down and spread on the beds in January, while for stimulant Ichthemic Guano 4 ozs. to the yard, Rape Dust (crushed rape cake), Thomson's or Clay's Horticultural manures are all useful.

"As to sorts, many hold that there are but two kinds, but from many years' experience we have adopted four, and can offer them in good plants at the prices named, and we feel that by following these simple directions, customers can ensure success. The four sorts are Harwood's Pedigree Giant, Connover's Colossal, or Early Purple Argenteuil, American Giant Palmetto, and Monster Dutch or Battersea.

"Raised beds are usually made 4 feet wide and planted in 3 rows 1 foot apart, and the sets 1 foot from each other, so that a 50-foot bed requires 150 plants.

CUTTING ASPARAGUS FOR TABLE.

"It has become a custom to cut when the heads are 3 inches above the soil, but as some 6 inches of the stalk is then bitter and uneatable, we beg to suggest a far better plan, viz., to allow the stems to rise 6 or 8 inches above the soil and then cut obliquely level with the surface. The whole of the stems are then fit for eating, and possesses a superior delicate flavour, which they cannot obtain under the soil.

"A WORD AS TO COOKING.—The cook should stand the bundle loosely on the head, and then tie them up, as per illustration, cutting the base level; they should be set in the saucepan upright, and the water should reach about half-way up the stems; the more tender tips then become steamed, are less liable to be broken, and retain their full flavour; always cook Asparagus quite fresh.

"CUTTING SHOULD CEASE in August, as it must be remembered that the crowns have then to lay up strength for the following year, and for the same reason 2-year beds should not be closely cut."

STORIES CONCERNING PLANTS.

PROF. GEO. HENSLAW, M.A., V.M.H., &c., at the meeting of the R.H.S. held in the Drill Hall, on February 27th, gave yet another of his Floral Demonstrations, which are always interesting. The *Iris reticulata* had its parts described. Such a flower is often a puzzle to beginners in botany from its peculiar arrangement of pistil and stamens. The environments of the native habitats of the Cape Ericaceae, and the Australian Epacrideae were responsible for the hard, dwarf, twiggy growth and reduced size of foliage in these two orders. As an instance of the sensibility of the protoplasm a twisted and winding tendril of the *Clematis indivisa* was shown. The young tendrils when growing outward had come into contact with some support, the powers of feeling being exhibited in the response made by its twining round and round. Prof. Henslow pointed out that *Clematises* have coloured sepals but are devoid of petals. In alluding to the pretty little *Gaultheria procumbens* the lecturer said that this was used as a tea plant by many of the inhabitants along the western skirts of North America. Mountain tea is its common name. Partridges are also partial to its berries, hence also the name of Partridge berry.

Certain inhabitants of the Black Forest, we were told, employ the leaves of a species of Holly to brew tea from, they being ignorant of the true African and Indian tea plants. How "The Student" Parsnip, with the hollow crown, evolved from the pains taken by Prof. Buckman of Oxford, who sowed and selected from our native species of Parsnip and gave the first of a new type of vegetable to the Messrs. Sutton & Sons about 1852, was also related. Whether it was his connection with a college, or from the fact of the hollow crown being comparable with some of his students' heads, that caused Prof. Buckman to give his novelty the name it bears, was more than Prof. Henslow cared to express! The whitish incrustation to be seen on *Saxifraga longifolia* and other species, is an excrescence of chloride of magnesia or other salt put out by the plant to attract moisture. The plants are exposed on very arid positions and adopt the means of obtaining moisture to their leaves, the excrescence having hygrometric susceptibilities.

The flavour of the Vanilla, a bunch of the fruits of which was shown by Mr. G. Wythes, Prof. Hen-

slow explained as being due to hair-like protuberances in the interior of the fruits. These swell up and secrete an elaborated, very tasty juice. The ovaries of all the Orchideae had a similar peculiarity, its general purpose being to stimulate the embryos for fertilisation.

CYCLAMEN: HARDY AND GREENHOUSE.

At the Chiswick Gardeners' "Mutual," on Tuesday the 8th inst., there was a paper, by Mr. C. Harding, on "Cyclamen," and the discussion following it was of an interesting and useful character. To step over details and pick up the essential or prominent points will be the purpose of this report.

SEED SOWING.—In speaking of the varieties of *C. latifolium* (syn. *C. persicum*), Mr. Harding advised his audience to sow the seeds 1 in. or more apart either way over the surface soil of the pans. Such a measure certainly meant an increase in the number of the pots or pans and the consequent utilisation of available space, but it had this advantage, that the young seedlings could be left undisturbed in the seed pans until three or four seed leaves had developed. They could then be pricked or potted off, having a tidy ball of roots to start with. Almost everything in *Cyclamen* growing depends on the manner in which the young plants start away, so that where space and material are not in strict need of consideration, we would strongly commend Mr. Harding's method of sowing to the consideration of our readers.

WATERING AND SHADE.—At all times the greatest care should be exerted in the watering of *Cyclamen*. The temperature of the water, its quality, and consistence, and the methods to ascertain the hygrometry of the soil, such as feeling the surface with the fingers, knuckle ringing, or even hand weighing the pots, were points each commended for consideration. When the plants are in the pits or frames during summer they must not be submitted to a dry condition of the atmosphere. They should have adequate ventilation and shade from the sunshine. A light shading of tiffany (recommended to be kept damp) put on during the morning of bright days and removed late in the afternoon will answer the needs in this direction. Some successful growers practice the removal of the sashes during the evening till 10 o'clock, so that the evening dews and coolness may play upon the then expanding foliage. Growth is greatest at night, and by having a cool and moist atmosphere freely encircling their parts the *Cyclamen* fill out sturdily and stont.

BIENNIALS OR OLD PLANTS.—Upon the point as to whether *Cyclamen latifolium* varieties should be treated as biennials or as perennials, opinions were as varied almost as the numbers of growers. Well grown biennials, that is, plants from seeds sown in August of the previous year, can produce superb plants, but the prevailing opinion is that to produce those immense specimens which carry from 140 to 170 or more blooms, two or three year old plants are necessary. The corms should be slightly rested after the first season of flowering, but should not be dried off. They are early started for the next season's display, still being confined to about 6-in. pots and fed with manure. Large and very firm corms then result, and from these a record of bloom is produced.

The Chairman, in his remarks, answered a number of questions which had been put by other speakers present. He gave a resumé upon the hardy species of the genus, speaking strongly in favour of *C. neapolitanum* because of its merits in fragrance, in flowers, and in foliage. The *C. Coum*, *C. hederacifolium*, and *C. europaeum*, &c., were described. The position in sheltered spots under deciduous trees in a chalk containing soil had been cited by the lecturer. Mr. Fraser mentioned *Otiobrychus sulcatus*, the black Vine weevil, as being a pest of the *Cyclamen*. The etymology of *Cyclamen* was described as coming from the Greek kuklos, a circle, the name referring to the coils of the fruit stalk by which the ovary is twisted down to the soil. The native habitat of *Cyclamens* is spread over most of the countries in Europe, Asia, and Africa which border on the Mediterranean. *C. latifolium* was brought from Cyprus to Britain in 1731.

Better be ten minutes too soon than two minutes too late.

A NEW DEPARTURE IN SEED CATALOGUES.

I HAVE been edified as well as instructed recently by perusing a long pseudo scientific "screed" in a local paper anent the most interesting fact that the writer has found out that hybridisation of sexes in the floral world is possible! Seems to me I had heard something like it before, somehow. Anyway, he goes on to dilate on the possibilities opened up by such a discovery, and mentions that a seedsman recently in issuing a catalogue, listed a new Bean of most transcendental merits and novelty, with the gratifying result of an exceedingly large influx of orders. Then he proceeded to evolve the Bean out of his inner consciousness, where as yet only had it existence. The orders were duly filled "true to name," and faithful to published description in every detail.

What "gets" me is how he got his stock ready in time. But no matter. Just think of the glowing possibilities opened up to us plodders, who are wont to laboriously build up a catalogue every little while, haunted with the consciousness that except for the date, we might as well have reprinted last year's edition!

Fancy throwing oneself back in an office chair, and languidly calling down a speaking tube, "Smith!!" "Yessir." "Oh, Smith, I think I'll have a—a blue Rose with—let me see—pink and white stripes. "Yessir." "And—change that Allamanda to the new shade of flamingo. Lady Haunton has just been here, and assures me it is to be the leading colour in society this year. You might as well throw in some electric-blue *Lapagerias* also." Why, a seedsman would need no training, unless, indeed, with a wall-paper firm of the impressionist school, provided he had a savant on hand such as his astute Yankee fellow-craftsman had.

Seriously, some of the catalogues here are as good as a comic annual. The engaging manner in which they list as novelties old-fashioned plants we have nearly forgotten, and the ingenious way in which they offer large sums for a name for a novelty, provided you buy seed of it "merely as an assurance of good faith," not necessarily for anything else, is simply great.—C. Macquarie, Chicago.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Coelogyne dayana.—The time is fast approaching for the annual flowering of this beautiful *Coelogyne* which seems to do best when grown in pots in this country; at least the best plants which have appeared in public were in pots. A well executed and coloured plate of it appears in *Lindenia*, Pl. 687. The species is related to *C. tomentosa* and *C. massangeana*. It came originally from the north of Borneo, where it grows upon the branches of trees, in the low and warm districts bordering the sea coast, and upon the banks of water courses under the same conditions as *C. asperata* and *C. pandurata*. The sepals and petals are of a pale Nankin yellow. The triangular, anterior lobe of the lip (one of the characters that separate it from its allies) is of a rich brown, edged with white, and having six white ribs on the disc; the side lobes are of a tobacco-brown colour, striated with white lines in the interior. The contour and build of the flowers are pretty, and their graceful elegance is greatly heightened by their two-ranked arrangement upon long, slender and strictly pendent flower stalks or scapes. The leaves are erect, so that the plant appears to best advantage when in flower, by being suspended or supported on a pedestal.

Cattleya dowiana moortebeekiensis.—The sepals and petals of this splendid variety are of a more lively yellow than the type, the petals being also furnished with a few pale red spots towards the apex. The lip is of great size, the lamina being rounded, waved and crisped; the outer area is of an intense crimson-purple, while the larger basal half is closely lined with intense red upon a yellow ground. On either side of the throat the areas forming the eye spots, so conspicuous in *C. hardyana*, are white, closely marked all over with red, in lines radiating from the centre. The features of the variety are well portrayed in the *Lindenia*, Pl. 688. Something fine should be obtained by its employment as a

parent for the purpose of getting fine new forms by artificial hybridisation.

Dendrobium primulinum.—The primrose-yellow Dendrobe is not without its admirers in this country, though the species has never attained the popularity of such fine things as *D. nobile*, *D. wardianum* and *D. crassinode*. Its cultivation is easier, however, than that of the two latter, for amateurs have succeeded in maintaining it in vigorous condition year after year, and in flowering it. The question is not very clear as to whether the specific name was given in allusion to the Primrose-yellow of the lip, or to the scent of the flowers, which might be compared to that of a Primrose. The flowers usually make their appearance about the present time, earlier or later, according to treatment, and weather conditions. A very good form of the species is represented in the *Lindenia*, Pl. 686. The stout pseudobulbs are of medium length, decurved in the usual way, and furnished with flowers almost throughout their length. The sepals, petals and base of the lip externally are purple, shaded with white towards the base. The variety *D. p. giganteum* is a much rarer plant, and is characterised by the greater size of its flowers, the lip alone measuring $1\frac{3}{4}$ in. across, whereas the whole flower of *D. primulinum* is only a little over $2\frac{1}{2}$ in. in diameter.

GARDENING MISCELLANY.

CYPERUS ELEGANS.

IN all respects except in the point of size *C. elegans* duplicates *C. alternifolius*. I do not know how huge it might grow, having always confined it to small pots for use in the stove. But merely accepting it as it is, as a handy little warm-house plant, I have a capital word of praise for it. We want such plants as this. It costs no worry to propagate or to grow, and for use in cool rooms it can be safely recommended. By-the-bye, I find the *Cyperus* emits both roots and shoots from cuttings of the flower-head. Cut off the tassel-like flower head and trim the little stalk sharp up to the base of the cluster of flowers. Prepare shallow saucers of pure sand, and after making this wet, dibble in the little flower head-cuttings very neatly. Keep the saucer supplied with water, and the propagating case nicely warm, and very soon a break appears from the centre of the flower truss.

JACARANDA MIMOSAEFOLIA.

ONLY one or two species of *Jacarandas* are in cultivation. The above is a fine sample of an ornamental stove plant. In appearance it takes after the pattern of *Acacia lophantha*, only it is finer. Or again it is well described in being called *mimosaefolia*, for its leaves are in many respects identical with those of the Sensitive Plant. Nice plants should not be allowed to go higher than 2 ft., a height suitable for the stage. Cuttings may be taken as soon from now as one can get them, though early summer is none too late. Under a bell glass or in a close case they root freely. Plants grown as single stems are most frequently seen, but as a bush plant there is no reason to doubt but that it would be successful.—P.

ASPARAGUS CRISPUS.

IT is possible that many readers of THE GARDENING WORLD are unacquainted with this finest of all the *Asparaguses* cultivated in our gardens. If a natural sized figure of *A. Sprengeri* was shown upon a screen through a lantern, and then reduced in size, we should have *A. crispus* before us. It grows close, that is, the shoots are numerous. As an additional member to a collection of decorative *Aparaguses* it would be all very well, but to those who wish their space for other purposes this species may very well be omitted.

COLOCASIA ANTIQUORUM.

WHAT the exact difference between the *Colocasias* and *Caladiums* is not apparent on the surface. The above plant is entirely green, a deep, bright green, and the leaves are altogether like those of a *Caladium*. To see good plants with their large leaves now just being thrown up, especially those which are planted out in an indoor border, is a fine sight indeed.

ORNAMENTED BUTCHER'S BROOM.

IN Covent Garden may be seen shoots of the neat growing Butcher's Broom, variously glistening with the dyed seeds or perhaps grains of coarse sand—at least some such-like matter, which has been heavily sprinkled over both the leaves and the stems. The dyes used have been a tint of red, and a verdigris colour. Each colour is confined to certain parts, as the red to the tips, and the verdigris hue to the stems and axes. The effect is pretty in its way, and branches so treated are suitable for mantel-shelf vases. In what way the coloured grains are made to stick I do not know.—M.

SOCIETIES.

NEARLY all the available space in the Drill Hall was occupied with exhibits, consisting of spring flowering subjects and forced stuff. *Azalea mollis* was present in great quantity and variety. There were also groups of *Cinerarias*, collections of Orchids, Chinese Primulas, stove and greenhouse plants, Daffodils, Ferns, ornamental Cherries, &c.

A group of Orchids was exhibited by J. Bradshaw, Esq. (gardener, Mr. H. Whiffen), The Grange, Southgate. *Cattleya Trianaei*, *C. T. alba*, *C. T. amesiana*, *C. T. amoena*, *Odontoglossum Mrs. J. Bradshaw*, *O. Hallii leucoglossum*, and *Coelogyne cristata alba*, were the more important features of his exhibit.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, set up a pleasing group of Orchids, including well-flowered pieces of *Dendrobium brymerianum*, *D. wardianum* Lowii, *D. barbatulum*, *D. Ainsworthii* intertextum, *D. Madonna*, also several varieties of *Odontoglossum crispum*, in variety, and the pretty *Colax jugosus*. The two first named *Dendrobes* were notable for the great size of the plants.

R. G. Thwaites, Esq. (gardener, Mr. J. M. Black), Chessington, Christchurch Road, Streatham, staged a small group of Orchids, consisting of *Dendrobium nobile*, *D. n. amesiana*, *D. n. nobilius*, *D. n. burfordiense*, *Odontoglossum crispum*, *O. andersonianum*, and others.

T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, set up a group of splendidly grown and flowered *Dendrobiums*, mostly hybrids. Very handsome were *D. Homer schneiderianum*, *D. splendidissimum giganteum*, *D. s. grandiflorum* (covered with flowers of large size), *D. Virgil*, *D. picturatum*, *D. splendidissimum purpureum*, *D. s. albo-roseum*, and various others. One plant of *D. Virgil* was notable for its size, and the great profusion of flowers covering four of the stems. Altogether this was the finest lot of Orchids at the meeting. (Silver Flora Medal)

Mr. James Cypher, Cheltenham, staged a group of Orchids, consisting chiefly of *Dendrobiums*. Very fine were *D. nobile nobilius*, *D. Wiganiae*, *D. nobile Cooksonii*, *D. Cybele grandiflorum*, some very pretty seedlings of hybrids, a richly coloured variety of *D. splendidissimum* and several others. *Masdevallia Veltchi grandiflora* was also fine.

A. H. Wingfield, Esq. (gardener, Mr. A. J. Empson) Amptill House, Amptill, showed several hybrid *Cypripediums*. Major Joicey (gardener, Mr. F. J. Thorne), Sunningdale Park, Sunningdale, was awarded a Cultural Commendation for a splendid piece of *Dendrobium atrovioleaceum* on a raft, and bearing ninety-three flowers, with other spikes still to come. He also had a fine piece of *Lycaete linguella*, and *Laelia jongheana*. Baron Schroder (gardener, Mr. H. Ballantyne), The Dell, Egham, showed the handsome *Odontoglossum elegans* Eastwood Park var. *Odontoglossum elegantius* variety was exhibited by Walter Cob, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells.

Messrs. J. Veitch & Sons, Ltd., Chelsea, had some splendid hybrids in *Laeliocattleya dominiana langleyensis*, *Lc. Antimachus Caenea*, *Lc. Pisandra*, and *Dendrobium Imogene*. *Cattleya Trianaei regalis* was staged by J. Bradshaw, Esq. Norman C. Cookson, Esq. (gardener, Mr. Murray), Oakwood, Wylam-on-Tyne, exhibited *Phalus Norman grandis*, and *P. N. pulcherrimus* in fine form. N. G. Fletcher, Esq. (gardener, Mr. H. Garnett), Mount Harry, Brighton, had *Odontoglossum crispum* Fay Fletcher, and *O. wilckeanum albens*, both fine vars. Thos. Baxter, Esq. (gardener, Mr. R. Roberts), Oakfield, More-

cambe, staged the striking peloria form of *Odontoglossum* named *O. crispum* Oakfield Sunrise.

Messrs. Barr & Sons, King Street, Covent Garden, were strong in Daffodils and all kinds of hardy plants. The colouring of the Daffodils was much deeper than on a previous occasion, and the forms of them are likewise more perfect, the result of the advancement of the season. Some five vases of *N. poeticus ornatus* were shown; Golden Spur, Sir Watkin, Henry Irving, &c., were likewise strong and good. The hardy *Cyclamen Coum* or *rubrum*, in pots; a numerous collection of Crocuses, *Iris reticulata*, Glory of the Snow, Snowdrops, Scillas and a collection of species of Christmas Roses were also shown. (Silver Banksian Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, exhibited sixteen plants of the so-called double Cherry *Cerasus-Pseudo-Cerasus Watereri*, some as tall standards, others more or less in bush form, but all laden with pink flower trusses. They also exhibited two baskets of a new variety or species of Chinese Primula of the pyramidalis type. The footstalks are strong and the verticells of pure white flowers are well disposed and very showy. The lobes of the corolla are rounded and smooth. Mrs. Harry Veitch is the name of the new variety. A showy basket was that of theirs containing *Rhododendron indicum* var. *Kaempferi*, a deep rosy-pink bloomer and very graceful. They arranged a collection of Chinese Primulas showing the various strains and kinds at present under development. The quality of the plants was of the first water and in variety very varied. Gigantic Rose and Veitch's Gigantic Blue are varieties of much beauty. (Silver Gilt Banksian Medal.)

Messrs. R. & G. Cuthbert, Southgate, showed *Azalea mollis* var. Brilliant, a very showy orange-red variety. *A. leucanthemum alba*, a dwarf pure white semi-double, is a most charming little plant. They also set up a large collection of *Azaleas* of the mollis, sinensis and hybrid strains. The most brilliant and strongest flowered varieties were *A. m. x S. Anthony Koster*, a deep rich yellow touched with orange; *A. m. Mdme. G. Legrelle d'Havis*, a soft tone of pink with an orange throat; *A. m. Alphonse Levallee*, deep rosy-pink with orange throat and close clusters of rather small flowers. Numerous of their seedlings were of much merit. (Silver Banksian Medal.)

The Church Road Nursery Co., Hanwell, W. (Messrs. G. Bowles), set up a collection of *Cyclamen latifolium*, well flowered young plants of some excellence. Particularly good were the white flowered varieties, better samples than some of those included in this lot never having been seen at the Drill Hall. (Silver Gilt Banksian.)

Messrs. J. Hill & Son, Barrowfield Nursery, Lower Edmonton, arranged a very fine collection of Ferns, mostly stove species. The pretty long-tailed *Asplenium caudatum* was prominent, *Cibotium Schiedii*, *Lomaria*, and other taller Ferns were used in the back ground. *Adiantum scutum roseum*, *A. Faulkneri*, *Nothochlaena sinuata*, *Pteris internata*, a very pretty little thing, *Actinopteris australis*, *Athyrium goringianum pictum*, *Gymnogramme argyrophylla*, *Doodia aspera multifida*, &c., &c., may all be named as among the finest ornamental Ferns we possess; and were exhibited. (Silver Gilt Banksian Medal.)

Messrs. John Peed & Son, Roupell Park Nurseries, Norwood Road, London, S.E., exhibited a miscellaneous collection of greenhouse spring flowering plants, such as *Cytisus racemosus*, *Ericas* in variety, *Cyclamen*, *Cinerarias*, *Mignonette*, and the beautiful yellow *Abutilon*. (Silver Gilt Banksian Medal.)

Messrs. J. James & Son, Woodside, Farnham, Slough, had greenhouse *Cinerarias*, whose particular merit lay in the enormous size of the individual blooms. The plants were very dwarf and floriferous, exhibiting a great range of colour.

Mr. Geo. Mount, of Canterbury, was again strong in cut Roses; Mrs. John Laing, Capt. Hayward, and Catherine Mermet, all strong and deeply coloured, were present.

Messrs. Wm. Cutbush, Highgate, London, N., showed forced spring flowering shrubs, *Ericas* and *Epacris*, *Staphylea colchica*, *Spiraea prunifolia*, one of the prettiest of spring shrubs for forcing, *Acacia Drummondii*, *Amygdalus communis fl. pl.*, *Pyrus Malus floribunda*, and other plants were shown in extensive numbers. (Silver Banksian Medal.)

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, arranged a fine selection of Clematis Jackmanni in many superb varieties. Nothing is finer than these plants when grown in pots for greenhouse decoration at this time. Dwarf plants of Begonia Gloire de Lorraine, Ferns and Astilbe's were also included.

Mr. J. H. Jones, Ryecroft Nursery, Lewisham, S.E., made a strong show with Hyacinths in pots, cut blooms of Narcissus, together with a goodly quantity of these also in pots. N. bicolor Horsfieldii, N. Sir Watkin, N. Mrs. Thomson and Leedsii amabilis were shown, both fresh and in good form. The Hyacinths were even better than on the last occasion of exhibiting. Mr. Jones is shaping well in the bulb venture. (Silver Banksian Medal.)

Mr. John Russell, Richmond Nurseries, Richmond, arranged an extensive display of Azaleas, fine bushy, well flowered plants in 6 and 7 in. pots. The hybrid varieties were conspicuous, while the older types of Mollis and Sinensis, and the hose-in-hose species were also very fine. Prunus triloba rosea fl. pl. as a standard was very showy. (Silver Banksian Medal.)

Messrs. Wm. Paul & Son, Waltham Cross, Herts., brought together a select collection of forced flowering shrubs, consisting of Amygdalus, Prunus, Cerasus, Staphylea colchica, Pyrus in variety, Forsythia viridissima, Azaleas, and other things. (Silver Gilt Banksian Medal.)

Messrs. John Laing & Sons, Forest Hill, S.E., arranged a mixed collection of flowering and foliage plants. Orange plants in fruit, Codaeiums and Dracaenas, Indian Azaleas, Calla eliotiana, Ericas, Clivias, &c., were shown in quantity. The plants were all serviceable and well grown. (Silver Gilt Banksian Medal.)

Messrs. Sutton & Sons, Reading, exhibited specimens of their Light Blue and New Pink Cinerarias. The large brilliant heads of bloom, and the convenient sized dark green foliage beneath the spreading heads was an additional point of merit to these fine plants.

Messrs. Geo. Paul & Son, Cheshunt, Herts., showed a collection of alpine plants in flower. A seedling Lachenalia was on view. (Bronze Banksian Medal.)

The Duke of Richmond and Gordon (gardener, Mr. R. Parker), Goodwood, received a cultural commendation for an exhibit of splendid "Goodwood" Pippin and other Apples.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. C. Turner for his article on "Deciduous Calanthes," p. 433.

QUESTIONS AND ANSWERS.

Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

What is Herb Patience.—A.L.: This old-fashioned and much-neglected herb is a species of Dock, to wit, Patience Dock (Rumex Patientia), a native of Italy from whence it was introduced to this country in 1573. In early times it seems to have been much used in the same way as Spinach, but the taste for it in this country has very much declined for many years past, and it has suffered neglect in consequence. Occasionally we meet with it amongst collections of herbs, but as far as we have noticed very little use is ever made of it now. It was also used in several Continental countries perhaps more extensively than ever it was here. In Germany it was known as Winter Spinach. Its cultivation is of the easiest in any fairly good garden soil. To procure a stock of it, seeds may be sown. Plantations may, however, be renewed afterwards by division of the crown or rootstock.

Blue Gum Tree for Bedding.—S.R.M.: The best method of getting plants for this purpose is to sow seeds in a warm or intermediate house, and pot them on as they increase in size, till bedding out time arrives, when they may be hardened off and inured to the conditions they are likely to meet with during June in the open air. If you want plants of good size, the best plan would be to sow seeds sometime during summer, and keep them growing on in pots till the following spring. When once they have made a good stocky growth, they make rapid growth during a single season, owing to the freedom for root development in the open ground. Seedlings raised even now could be kept in pots till the following season and encouraged to grow by shifting them on for the sake of getting strong plants. Those planted in the open ground may be lifted in autumn, before the advent of frost, and wintered in a greenhouse after having been encouraged to make fresh root growth.

Making a Water Cress Bed.—T. West: There is no necessity for sowing the seeds in water in order to raise a stock. All that is necessary is to select a moist part of the garden, and if necessary to save watering to some extent, you may sow the seeds on a north aspect border where the seedlings will be under the shadow of the wall, only till the seedlings get sufficiently strong to be transferred to their permanent quarters. If you can command clean, running water, spring water for preference, all the other operations will be simplified. If you cannot make the bed in the stream itself all you have to do is to tap the stream or rill of water at a higher level than the site for the bed. Make a drain and lay pipes of sufficient size to give you sufficient water to ensure a gentle movement of water at all times over the surface of the bed. Running water keeps itself and everything else clean. If the bottom of the bed is porous it would be necessary to puddle it with clay and then cover it with a layer of sandy soil in which to plant the Cresses. An outlet for the water, by which it may rejoin the stream at a lower level should also be provided.

Names of Plants.—J. W.: 1, Saxifraga sancta; 2, Saxifraga ligulata; 3, Vinca major; 4, Daphne fioniane.—P. M.: 1, Dendrobium crassinode; 2, Phalaenopsis stuartiana; 3, Cyrtopodium villosum Boxallii.—A. R. M.: 1, Danae Laurus or Alexandrian Laurel; 2, Viburnum Tinus; 3, Ruscus aculeatus or Butcher's Broom; 4, Berberis Wallichii; 5, Berberis Aquifolium.—D. H. L.: 1, Acacia dealbata; 2, Acacia armata; 3, Begonia semperflorens.—W. M.: 1, Scilla bifolia; 2, Chionodoxa sardensis; 3, Saxifraga sancta; 4, Alchemilla alpina; 5, Arabis albidula.—G. B.: 1, Dendrobium Pierardi; 2, Cattleya Trianaei; 3, Odontoglossum andersonianum; 4, Prunus triloba; 5, Spigelia prunifolia; 6, Gaultheria procumbens.—A. B. S.: 1, Adiantum Capillus-Veneris imbricatum; 2, Sparmannia africana; 3, Eupatorium ianthinum.—E. C. H. D.: 1, Galium palustre; 2, Erodium maritimum; 3, Sedum reflexum; 4, Phlomis fruticosa (Jerusalem Sage), native of the Mediterranean Region.—A. C. K.: 1, Dendrobium Parishii; 2, Dendrobium devonianum.

Communications Received.—W. M. W.—S. C.—A. C. K. (your other question next week)—J. Mayne (many thanks, pleased to hear).—John Peed & Son.—David May (next week).—A. M.—R. B.—R. M.

TRADE CATALOGUES RECEIVED.

CLUCAS & BODDINGTON Co., 342, West 14th Street, New York City.—Wholesale Catalogue of Seeds, Bulbs, and Plants.

R. H. BATH, LTD., The Floral Farms, Wisbech.—Bath's Select Plants and Seeds, Carnations, Roses, Paeonies, Dahlias, &c.

E. H. KRELAGE & SON, Royal Bloemhof Nurseries, Haarlem, Holland.—General Catalogue, First Part—Novelties, Bulbs, and Roots, Herbaceous Plants.

W. ATLEE BURPEE & Co., Philadelphia, Pa., U.S.A.—Burpee's Unique List for 1900. A few of the Best Seeds that Grow.

WM. WATSON & SONS, Clontarf Nurseries, Dublin.—Catalogue of Florists' Flowers, Herbaceous and Greenhouse Plants, &c.

RICHARD DEAN, Ranelagh Road, Ealing, W.—A Handbook of Delightful Specialities in Plants and Choice Vegetable and Flower Seeds.

JOHN PEED & SON, Roupell Park Nurseries, West Norwood, London, S.E.—List of Cannas, Carnations, Dahlias, Perennial Plants, &c.

JOSEPH FISON & Co., LTD, Ipswich—Fertilisers.

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As come it will for a' that,
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It's coming yet for a' that."—BURNS.

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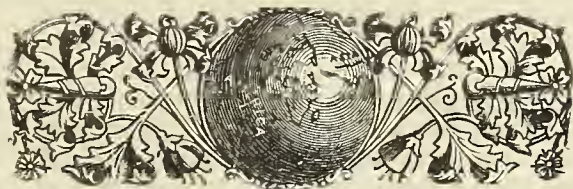
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MARCH 24th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, March 27th.—R.H.S. Meeting at Drill Hall, Westminster, S.W.

THE WEARING OF THE GREEN.—These words are the refrain of an old Irish song of the date 1798, and referred to the prohibition to wear the Shamrock. There have been disturbances over the matter quite recently, though of minor importance. That ought now to be forgotten as the Queen gave orders that all Irishmen, whether serving in Irish regiments or not, should be allowed to wear the Shamrock on St. Patrick's Day, which, of course, occurred last Saturday. The Shamrock is now a popular emblem and honoured from the highest in the land to the poorest, in recognition of the bravery of our Irish troops in South Africa. From early morning till midnight in London, it was worn everywhere. For some days or weeks previous to the 17th inst. the salesmen of Covent Garden had been making preparations to

supply "the green" in immense quantities, but they were quite unable to distinguish the substitute for the true article. It is a point upon which Irishmen themselves are unable to agree; for we have had White Clover (*Trifolium repens*) from Cork, and Black Medick (*Medicago lupulina*) from Dublin on previous occasions; and have seen plenty of the former in Covent Garden on St. Patrick's Day. The bulk of that worn on Saturday last was evidently *Trifolium minus*, very similar to the Black Medick above mentioned, but less hairy and of a darker green. During the week an Irishman declared that the true Shamrock should have a small leaf and a black spot upon it. This might refer to *Trifolium repens* (White Clover), though pale green or nearly white markings are also characteristic of that leaf, or to *Medicago maculata*. What was said to be the real Shamrock was sent to the Queen from the neighbourhood of St. Patrick's grave at Downpatrick, though it does not seem to have been subjected to botanical discrimination. All of the above are found wild in England, Scotland and Ireland, so that the Sister Isle has no monopoly of the Shamrock, whatever it may be, though sentiment will favour "the green" from the Emerald Isle in the eyes of her countrymen. Some even go so far as to say that the Shamrock does not succeed away from its native soil, that the leaf grows about three times its natural size. From a cultivator's point of view, the above evidence would indicate that the Shamrock grows better on this side of St. George's Channel than the other.

Even in the Irish language itself the name Shamrock is attributed to more than one species of Clover and to the Wood-sorrel (*Oxalis acetosella*). The White or Dutch Clover is known as *seamar bhàn*. The first part of this name is also written *sameir*, *sionrag*, *seamrag*, and *seamrog*. The Hop Trefoil (*Trifolium procumbens*) is known as *samhrag bhuidhe*, or yellow Clover; but in *samhrag* we really get a sixth spelling of the same word, and a seventh occurs in *seamar chapuill*, the Mare's Clover (*Trifolium pratense*). There is a strong inclination on the part of many to consider the Wood-sorrel the true Shamrock, the words *seamrag* and *seamrog* being applied to it, with the meaning "little gentle one," from *seam*, mild and gentle. The beautiful outline of the leaf, and more particularly the delicate colouring of the flower of the Wood-sorrel would seem to make the application of the name appropriate. The flower is, indeed, small, dainty, and white, beautifully marked with purple or rosy veins. The word trefoil (three-leaved) is quite another name, *tri-bilean* in Irish, and in Welsh another modern representative of the Celtic race, it is *tairdalen*. It is surprising that more stress has not been placed upon the three-leaved character of Shamrock in giving it names; but as there are many Irish plants possessed of that form, the application of *seamrag* to the Wood-sorrel seems very appropriate. One must not forget, however, that the Celtic language is rich in names for the same thing; and this in itself would seem to indicate great antiquity, or a gathering together of many names from more or less widely separated districts or countries, and which might have arisen independently of one another when intercommunication was much less frequent than it is at the end of the nineteenth century.

Most of the above species of plants are mentioned under the name Shamrock by Britten and Holland, together with *Trifolium filiforme*, the least of all British Clovers, and a dainty little thing to boot. A correspondent spoke of wearing the leaves of *Oxalis bowieana*, in lieu of the Shamrock as appropriate to the occasion, because the

species is a native of South Africa. The conventional representation of the Shamrock on coins, in pictures and sketches of various sorts is rather a wooden thing, for the three leaflets of the leaf, which in reality are perfectly separate, are made to appear merely three lobed by the artist. The *Daily Mail* artist was quite exceptional in this respect, for the leaflets of his trefoils were represented quite separate. In many parts of the country the finding of a four-bladed Clover was considered lucky and held in high esteem, at least by an earlier generation. In our experience the four-bladed leaf occurs most frequently in *Trifolium repens*. A blackish or purple-leaved variety of the latter used to be grown in cottage and country gardens generally, in the north, and looked upon as the Shamrock. In all these cases there are considerable differences of opinion; but the plants have the reputation of being native to British soil; whereas the Scotch Thistle is often represented by a foreigner, and the heraldic device of it is an unknown species.

Budding Wax.—To every pound of beeswax, add a lump of resin the size of an egg and one and a half tablespoonfuls of raw linseed oil. Boiling is then required.

Gardening appointment.—Sir Ralph Cusack, Furry Park, Raheny, has just lost a good gardener in Mr. W. McClatchie, who has been appointed head-gardener to the Right Hon. Sir David Harrel, Under Secretary's Lodge, Phoenix Park, Dublin.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, March 27th, in the Drill Hall, James Street, Westminster, at 1-5 p.m. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Prof. G. Henslow, M.A., at 3 o'clock.

The Early Bee.—Bees are at all times particularly interesting but never more so than in the early days of spring. We watch the "bumptious bump" of the four winged hairy aeronaut as he bump, bump, bumps himself against the panes of the warm conservatory and wonder all manners of things as to how he knew March had come and how it fared with him all the winter. I saw a humble bee in a greenhouse on the 20th inst.—*B.*

Proposed Centenary of the R.H.S.—On behalf of the Council of the Royal Horticultural Society, and in order to allay any anxiety that may be felt by the Fellows, I shall be obliged if you will publish the following statement:—The general meeting of the society held on February 13th, having unanimously adopted the proposal of the Council to celebrate the Centenary of the society by the removal of the society's gardens from Chiswick to some spot where the atmosphere is less charged with smoke, the Council have inspected several proposed sites and have at least one still left to investigate. The business is not one which can be hurriedly done. As soon as all the suggested sites have been properly considered by the Council, a definite proposal will be duly submitted to the Fellows.—*W. Wilks, Sec.*

Pure Seeds and Proper Seed Beds.—The *Farmers' Gazette* says:—"All respectable members of the seed trade pride themselves on the superiority of their seeds, and, as a rule, justly so. They rest their fame upon their products with such confidence that most of the large firms now call their goods after their own names. This practice of naming varieties after firms, while it has its drawbacks to cultivators, offers this decided advantage, that it is a pledge of quality, and a guarantee of purity. No firm with a character to lose will sell worthless or spurious seeds under its own name. The practice of sending out varieties in sealed packets, too, is another guarantee of quality. In fact, notwithstanding all the grumbling about inferior seeds, we believe we are correct in saying that at no period of the history of horticulture have seeds been so good or pure as now. Adulteration does not pay. If the seeds do not grow as they ought the fault is with the grower, not the seller. The conditions for successful plant raising are then detailed.

Roll the Lawns.—After so much rain and with the mild weather which we lately have had, the grass of our lawns has commenced growth. Where the soil is light and loose, a heavy rolling at this time would very much improve the surface condition of the lawn.

Agricultural Education in Great Britain.—A very able and valuable paper, embracing the salient points of interest and opinions with citations of the present condition of British and British Colonial agriculture, was given by Mr. R. Hedger Wallace on Tuesday, February 27th, before the members of the Society of Arts. Sir W. T. Thiselton-Dyer, K.C.M.G., &c., Director Royal Gardens, Kew, occupied the chair. The paper appears verbatim in the Society's Journal for March 9th.

Bud Variations.—Professor Powell, Delaware, speaking before the American Pomological Society, said that the individual characters of the various buds could be taken advantage of by propagators in developing earlier and otherwise improved types of plants. He exhibited a series of photographs of Crandall Currant, showing great difference in time of the bursting of the buds. All these individuals had been propagated from one plant, and the divergence in time had been constant for a term of years.—*American Gardening.*

Botany for the many.—Professor Miall, in a recent lecture, has been "beating the drum" for the further advance of the science of botany. Hitherto we have had our teaching from the printed page, the teacher's diagrams, and skilled orations. Prof. Miall would have us all go out into the fields, the parks, and the woods, and there, from the book of "Nature," study, or rather re-create our jaded selves by draughts from the freshness and fund of interest which the Nature book possesses. It is very curious that our present-day conventionalism should regard the artificial and fictitious as more engrossing than the great fount of all knowledge, Nature—and botany embraces a large part of this domain.

The voices of the teachers.—On Wednesday evening, 28th February, at the Education Department, Sir John Gorst received a deputation from the National Federation of Rural Teachers, on the subject of the proposed teaching of agriculture in rural schools. The deputation urged, that having regard to the number of subjects already in the code, the rural schools were comparatively badly staffed, and also that they were insufficiently provided with funds to undertake this new subject. They also urged that the non-agricultural children in those schools should be considered as well. In their opinion teaching facts about flowers and trees would be much more interesting and useful to children than teaching them about soils and manures.—*The Chester Courant.*

The late Edward Joseph Lowe.—The brief allusion we made to the death of this gentleman in last week's issue indicated that he died at his residence, Shirenewton Hall, near Chepstow, on the 10th inst., in the seventy-fifth year of his age. Under the signature of E. J. Lowe he was most familiar to those who knew him from his publications: *Ferns; British and Exotic, British Grasses, British Ferns* (pub. 1867), and his little book containing the remarkable lists of garden forms and wild finds of British Ferns. His splendid exhibit of rare, choice and valuable varieties of British Ferns at the Fern Conference held at Chiswick, July 23, 1890, is still fresh in the minds of those who were present on that occasion. Mr. Lowe read a paper entitled "Hybrid Ferns and Crossed Varieties." He had many theories on hybrid Ferns and multiple parentage, but unhappily for the science of cryptogams it is impossible as yet to prove the truth of much that must remain uncertain owing to the difficulty of observation on the part of the would-be hybridist or cross-breeder amongst Ferns. He carried on a great number of biological experiments at Shirenewton Hall, and his garden and glasshouses were stocked with all sorts of curious and interesting things, but particularly Ferns which were practically everywhere, hundreds of them being grown in the open garden for which the moist climate of the west and the neighbourhood of the Bristol Channel were very suitable. He was a founder of the Meteorological, a Fellow of the Royal and of many other learned societies.

Helianthus cucumerifolius grandiflorus Giant Star.—The illustration of this new Sunflower which appeared on p. 444 was lent us by Messrs. H. Cannel & Sons, Swanley, Kent. This fact was inadvertently omitted in the note describing the variety.

Labelling.—Just a word concerning the article on "Labelling," p. 454. In planting specimen trees and shrubs be sure and put the date of planting on the label, as in after years with changes that take place, the age of the specimen is often a matter of guess work.—*A. H.*

Weather in London.—Even though the weather has been keenly cold, the force of growth does not seem to be greatly restrained. On Sunday evening, the 18th inst., sleet fell for a considerable time, making paths and roads very disagreeable. Sharp frosts have also been registered in the mornings.

"Waste not, want not."—A French cultivator has adopted a very novel method of fertilising his Chrysanthemums. He collects all the old remains of his plants, dries them, and then makes a tea or extract by boiling them in water. The tea is made use of as a liquid fertiliser. All of this, we suppose, is on the principle that the hair of a dog is good for his bile.

R.H.S. of Ireland.—The usual monthly meeting of the council of the above was held last week at the society's offices, 61, Dawson Street, Dublin. Mr. J. Lawson, J.P., was in the chair. The council decided to proffer an address of welcome to Her Majesty on her visit to the Irish capital next month, and steps will be taken to ascertain whether Her Majesty will be pleased to receive such.

Bottled and Canned Fruits.—Of the fruits obtainable in this line from France, there are Apricots, Peaches, Greengages and Raspberries, these being bottled or canned in syrup. They are a great dainty and said to be most saleable amongst the respectable classes of consumers. German fruits which come in the same way are Strawberries, Raspberries, Walnuts, Red Currants, Apricots and Pears. The *Fruit-Grower* points out that the trade in these canned fruits is at present entirely in the hands of grocers and that when customers go, forced to go, to such traders for canned fruit they are open to the enterprise of these salesmen who may easily secure the trade in fresh fruits, Grapes, Pears, Apples, &c. The suggestion is also put forward that fruiterers and florists, who combine the two trades, should stock these canned fruits. Some of them do, but many do not, and it seems a wise idea and one worth the advocating that of forming this section of trade as part of a fruiterer's business.

The Science of Horticulture.—Recently the governors of the Norwood Technical Institute, which is worked in connection with the London Technical Education Board, arranged for a course of six lectures on horticulture. Upwards of forty gardeners were among those who attended. The success of the undertaking has led to a second one being started on Wednesday, the 14th inst. While the first series of lectures dealt particularly with points of importance in the cultivation of kitchen garden plants, the present pays attention to flowers. Gardeners have only too little opportunity given them of acquiring technical instruction and the theoretical side of their education is the one which at present suffers most. Possibly, the London Technical Education Board may in the future be able to do more for horticulturists than to assist the Practical Gardening School at Regent's Park, and to award scholarships, which can at least only benefit a few. We should add that the lecturer at Norwood is Mr. Wilfred Mark Webb, F.L.S., who was associated with the successful Essex School of Horticulture that arose out of the action of the Biological Department of the County Council's Technical Laboratories at its commencement and for several years after. Among the special features of his methods are the use of rough models and written practical instructions and notes which latter are manifolded and distributed to all the students. These notes are practical lessons for the students to work out at their own leisure, and deal with leaves, roots, stems, seeds, soils, plant food, and other subjects relating to scientific horticulture. The Norwood Technical Institute is situated in Knight's Hill Road, West Norwood, S.E.

International Congress of Horticulture.—M. Viger has been appointed president of the International Congress of Horticulture, to be held in Paris this year, in connection with the Exhibition. His appointment fills the vacancy caused by M. Henry de Vilmorin. M. Viger is president of the French National Horticultural Society.

Barr's Hardy Perennials, Alpines and Aquatics. To the lover and cultivator of alpine and hardy plants Barr's catalogue forms a constant companion. Their issue for 1900 is now to hand. In the opening pages of the publication the newer and rarer plants are arranged. Some of the finer of these are *Aster Novae-Angliae* Mrs. J. F. Rayner, *A. Porteri*, *Campnula mirabilis*, *Incarvillea Delavayi*, *Lupinus arhoreus* Snow Queen, *Ostrowskia magnifica*, *Polygonum haldschuanicum*, and others which ought to be searched for in the lists given in the catalogue.

Devon and Exeter Gardeners' Association.—On March 14th, Mr. T. Slade, gardener to Lord Poltmore, of Poltmore, Exeter, read a paper on "The Treatment of *Amaryllis*" before the members of the Devon and Exeter Gardeners' Association. He referred to Dean Herbert having tried to hybridise the African and American species without success, when the American species, formerly called *Amaryllis*, were then more fully considered, with the result they were distinguished from the African *Amaryllis* *Belladonna*, and designated with the generic title of *Hippeastrum*. Numerous fine hybrids and crosses have come from the *Hippeastrums* since florists gave them attention. Messrs. Veitch and Sons, of Chelsea, have done great service in this respect. In 1867, having introduced the species *Leopoldi* and others from Peru, they commenced hybridising, the results of which are so manifest to-day. Referring to their culture, Mr. Slade uses $\frac{2}{3}$ fibrous loam, $\frac{1}{3}$ cow manure, and a liberal portion of silver sand. Old Mushroom bed manure was usually employed. January is the best time to pot up. Coming to the after flowering period, Mr. Slade advised the plants to be placed in a warmer house with a slight shading overhead. When growth is finishing water should be gradually withheld and shade lessened by degrees. They should be kept dry till they grow again. A Peach house from which the fruits have been gathered is a suitable place to ripen them.

Orchids at the Sale Rooms.—There was a large assemblage of buyers and others interested in the sales of Orchids at the rooms of Messrs. Protheroe & Morris, Cheapside, on the 16th inst., when in addition to the ordinary consignments there were Orchids from the collections of M. Ch. Maron, France, and T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate. The large consignment of hybrid *Dendrobiums* from the latter place had been well grown by Mr. Salter, the stems being 2 ft. to 2½ ft. high. They were chiefly hybrids between *D. nobile* and *D. aureum* and varieties of them, and far excelled the original *D. Ainsworthii*. *D. Virgil* (*D. nobile* roseum × *Ainsworthii*) was put up in some quantity, and fetched from 30s. to 4½ gs. apiece, most of them fetching much more than the lower price mentioned. Then came a number of choice and valuable varieties, including *D. schneiderianum*, which brought 3½ gs.; *D. nobile* *Amesiae*, 8 gs.; *D. n. nobilius*, £2 12s. 6d. and 4½ gs.; *D. n. sanderianum*, £3 5s.; *D. ballianum*, in bud, brought 7 gs. and 7½ gs., and *Laeliocattleya* *Haywoodi*, £2 10s. A fine piece of *D. nobile* *virginale*, with white flowers, was run up to 75 gs., but was not sold. Later on it was rumoured that it changed hands. A large number of hybrids between *D. nobile*, *D. Ainsworthii*, and others of that breed were then placed on the table, and found buyers at prices ranging from 10s. to £3 15s., according to the size and beauty of the flowers. The appearance of these garden-raised plants was very fine indeed. A large piece of *D. nobile* only fetched 6s., while two large pieces of the original *D. Ainsworthii* only commanded 9s. and 12s. The Woodhatch variety of *D. Ainsworthii*, that received an Award of Merit from the R.H.S. some time ago, brought 35s. Another fine variety, but a very small piece, brought 4 gs. This should indicate the vast improvement that has been made upon the original *D. Ainsworthii*. *D. Venns* brought from 15s. to £2 4s. each. The beautiful *D. Cooksoni* went for 5s.

Scotch Potatoes for Connaught.—The Congested Districts' Board for Ireland has taken for trial from Mr. A. Findlay, of Markinch, Fife, one ton each of his new Potatoes, "Scotia" and "Hiherlna," besides half a ton of "Findlay's Gifts."

St. James's Park, London.—In the earliest days of the opening spring, St. James' Park is perhaps as pretty and as refreshing to the Londoner as at any other part of spring, summer, or autumn. The water-fowls on the tree-margined lake splutter and squeak out their flat notes when an occasional bright hour adorns the circle of the daytime twelve; and the bright green grass below the weeping Birches, the flame-like Poplars, or the pinky starred Almond trees, one and all seem more truly beautiful; and in their singleness are more perfectly appreciable than when the whole wealth of a summer richness is on view.

Gardeners' Charity Guild Concert, March 14th.—This excellent Guild has the satisfaction of adding another to the past annual concerts whose outcome has been highly successful, and from whose source money has been gathered and handed over to one or other of the deserving gardening charities. Last year a sum of over £32 accrued from the G.C.G. concert; what resulted this year will be heard later on. The meeting, under the chairmanship of N. N. Sherwood, Esq., V.M.H. (Hurst & Son), was attended by about 700 persons, including all the prominent horticulturists or others connected with its ramifications and institutions around London. The Great Hall at Cannon Street Hotel, E.C., had been chartered, and this was comfortably filled. A very long and varied programme was gone through, the artists one and all conducting their items to the highest satisfaction of the listeners. With very few hitches, and those of a minor character, the entire stage arrangements were ably managed by Mr. F. A. Cobbold and Mr. William Logan. Mr. W. Amies King deserves sincerest thanks for his able services as accompanist, and it is not saying too much to add that no finer accompaniments could have been desired. The Misses Beard in their business-like dispersion of confectionery, with the attention paid to visitors in the supply of programmes, &c., by Miss Cobbold and Miss Howe, were agents by which much money was collected, and which they have the satisfaction of knowing has gone to swell the fund of the Gardeners' Royal Benevolent Institution, toward which the proceeds go. Mr. Sherwood, in a neat and summary speech upon the aims of the Charity Guild and the gardening charities in common, expressed the hope that many would be induced before another year passed to become members of the Guild, and otherwise to support it. The work which the committee had done, under the leadership of Mr. Jones, of Lewisham, and Mr. Cobbold, of THE GARDENING WORLD, was highly to be praised. Mr. Thomas Swales, the hon. sec., was specially mentioned as having had an enormous amount of work in connection with the concert, work which he had carried through to such a successful issue as was obvious to all. The Hall was beautifully decorated with plants and flowers, which were kindly supplied by Messrs. J. Veitch & Sons, Ltd., Messrs. W. Cutbush & Son, Mr. H. J. Jones, Mr. D. A. Ingamells, and Mr. Geo. Tiffen. "Ariston" gold-tipped cigarettes were generously supplied by Messrs. B. Muratti, Sons & Co., Ltd.; the confectionery presented by Messrs. Callard & Bowser.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Dendrobium wardianum Lowii.—Some fine trusses of this beautiful Dendrobe have reached us from Mr. David May, gardener to A. Cochrane, Esq., Abhotshill, Galashiels, N.B. They were taken from an imported piece that was added to the fine collection at Abhotshill last year, and which made two growths, one of which is over a yard in length. It is evidently a piece of the Burmese type of the species, which bears larger flowers on longer stems than the original importation from Assam. The flowers are of large size, the sepals being white, slightly shaded with purple on the back, and tipped with rich purple. The petals, on the contrary, are pure white, with a large area of purple at the

apex, of a deeper hue than that of the sepals. The lip is of the usual arrangement of colours. The variety does not appear to differ from that known in gardens as *D. w. Lowii*, which is characterised by the rich colouring at the tips of the segments, being, therefore, richer in the markings than the original importations from Burmah possessed.

CUCUMBERS.

Now that most gardeners are thinking about a crop of Cucumbers for the summer, a few words will not be out of place. If, instead of sowing the seeds all together in pots, or shallow boxes, as is most often the case, and then potting on, they are sown *singly* in 48-size pots, half filled with soil, and then top-dressed when in the first rough leaf, much better plants can be obtained. It is a safer and quicker method, as the roots are never once disturbed, a point most essential to the Cucumber plant. I wonder how many gardeners there are who know how to make the most of a crop of Cucumbers, or have any idea of a system of stopping, and training them? By far the majority just let the plants grow on, stopping the points, or laterals occasionally, as they happen to get out of bounds. Result, plenty of growth, leaves in abundance, fruit scarce, or at least, nothing like what ought to be. A much better result is obtained simply by stopping the leading shoot when about 3 ft. or 4 ft. long, then all the first laterals at the second leaf, and all sub-laterals at the first leaf afterwards. The plant then is well under control, and experience would prove it much the better way than rambling at will, or even stopping the first leaf beyond the fruit. Another point is to keep all fruit off the main stem.—H. A. Coleman, 3, Meadow View, Newbridge, Wolverhampton.

ACACIA DEALBATA.

EVEN in the beautiful climate of Devon the above is not often seen as a hush standing in the open; but at Budleigh Salterton, which has so recently been opened up by the South Western Company as a select seaside resort at all seasons, is to be found a bush of the above fully 15 ft. high and 10 ft. through, one mass of flower. I had often heard of this tree, though I had not been that way much, but happened accidentally, too, to be near on the 10th ult., so had the pleasure of witnessing a sight that I had never before met with outdoors. I learnt that it has stood there a number of years quite unprotected. We have one that has been out two years, but as yet shows no signs of flower. Last autumn I planted one against a south wall, which I hope will be a success, and as a companion the *Plumhago capensis*, whose colours would blend most harmoniously, if only they could be got to flower together; but I fear the former will be long passed out of flower ere the latter has made much growth. The hush first spoken of stands about 20 ft. away from the cottage, and the position faces east, and would be about 100 ft. above sea level, I should say. Does any reader know of another plant thriving as this one?—J. M. B.

SENECIO AURICULATISSIMUS.

THOUGH a straggling grower and by some critics denoted as weedy in appearance, this newly introduced plant has two points of merit worthy of attention. The first is that the flowers (which resemble the *Star Cinerarias*) are bright canary-yellow. The plant was at first named *Cineraria kilimandscharica* by the Kew authorities to whom seeds were sent by an ex-Kewite from Mount Kilimanjaro, B.C.A. Upon closer inspection of the plant and its flowers, it is now classified as a *Senecio*, though between the genus *Senecio* and the genus *Cineraria* the differences are slight. It may be the means of introducing a new colour or section of colours among our types of greenhouse *Cineraria*. The stems of *S. auriculatissimus* (ear-shaped, in reference to the foliage) become woody, so that it may be described as a shrubby greenhouse perennial. It can be raised from seeds, but so far it has not flowered within the year. Cuttings will probably be another means of increase. The second point of merit is in the manner the inflorescence branches to form large spreading cymes. A plant in an 8-in. pot, when trained around a number of stakes and kept tied-in, produces a massive surface of flowers. The foliage is deep green, smooth, pliable, varies greatly

in size from small bract-like growths to leaves 3 in. long by $1\frac{1}{2}$ in. broad, and in form they are ear-shaped. A greenhouse with a temperature ranging from 55° to 60° suits it.—*J.*

BEGONIA MANICATA.

THIS Begonia seems to have gone out of favour, as it is more frequently met in a neglected condition than otherwise. Doubtless the Begonias of a more recent date, such as Begonia Gloire de Lorraine and Gloire de Sceaux may account for this; but when well grown, as it fully deserves to be, it is hard to beat for decorative purposes. While the two Begonias above mentioned require a stove treatment to grow them successfully, *B. manicata* will thrive in a warm greenhouse or vinery through the winter months. One of the best plans of growing this plant is to secure the strongest growths as cuttings and insert three round the sides of a 48-pot, retaining as much foliage as possible, using as a compost three parts turfy loam, one leaf mould, and sufficient charcoal and sand to render it porous. The middle of April is a good time to put in cuttings. They will strike readily in a night temperature of 55° , shading from hot sun, care being taken not to keep them too close and moist, as being of a succulent nature they are liable to decay. When the cuttings are well rooted pot them without disturbance into 7-in. pots, using the same compost; and when established a weak solution of soot water is very beneficial. We have several plants grown as described, one in full bloom carrying fifty developed spikes of small pink flowers. The tallest spikes are 2 ft. 4 in. in height.—*W. D. C., Somerset.*

CELSIA ARCTURUS.

THIS makes a charming plant in small pots of—say 5 in. in diameter, flowering from April to November according to treatment. For late summer and autumn display, make a sowing at once, using finely sifted loam and leaf soil, making the surface quite even as the seed is very small. Water the soil an hour or so before, and the merest covering, rather a sprinkling, of fine sand will suffice, placing same in a temperature of 60° . Shade until germination takes place, when stand near the glass, pricking off the seedlings, when large enough to handle, in pots or pans two inches apart. A vinery at work will do for them now, potting into $2\frac{1}{2}$ -in. pots before they get crowded, finally into the size first mentioned, using a little peat with the loam and leaf soil, not omitting the necessary sand. Towards June a cold frame for a month will suffice, closing early in the afternoon with a syringing. Harden gradually for placing outside on an ash bottom where they can enjoy the full sunshine with an overhead dew from the syringe after hot days, and well cared for as regards watering. Pinching out the points after each potting will give the grower nice little decorative plants for the front row of the show house or conservatory by the early part of September. The flowers are very pretty, of a bright yellow, borne on tall stems which continue to expand for some time. They can be grown from cuttings.—*J. Mayne.*

VANDA CAERULEA.

THE above is unquestionably one of the most beautiful of the Vandas; but it is a variety rather difficult to cultivate, a fact admitted even by men with good Orchid growing experience. Now, if there is one reason more than another attributable to this difficulty, I believe, it is from placing the plant in too high and moist a temperature. As is well known most of the Vandas require a fair amount of heat and moisture, but *V. caerulea* will thrive much better by being placed where more air and light are obtainable. A more suitable place can scarcely be found than suspended from the roof at the cool end of the Cattleya house. Should any plants require attention in the way of repotting, the present month is generally found most suitable to carry it out. Whatever receptacle is used to grow them in—whether pot, pan, or basket—let it be three parts filled with drainage, and then use sphagnum with a few bits of charcoal as potting material. For some time after this operation no real watering will be needed, but only a slight dewing of the moss and outside roots with the syringe or a fine rosed watering can. This Vanda blooms in early autumn, the flowers being of a beautiful sky-blue colour and pro-

duced on upright spikes springing from the axils of the leaves. It is a native of the Khasia Hills.—*C. Turner.*

TIDINESS IN THE GARDEN.

How truly does the old saying a place for everything, and everything in its place, apply to the garden. Tidiness is the principal feature, and untidiness the worst defect in a garden, which is always first noticed by the master and visitor alike. Tidiness completes a garden as much as a frame finishes a picture. On Saturdays, especially, aim at having the drives and walks brushed up, leaving no rubbish of any kind about. In summer, for instance, if the mowing machine has been used, take care to have it put away in a shed reserved for its use, and clear all the grass away to the rubbish heap. Have all the sheds, potting shed, tool shed, &c., thoroughly cleaned out, and if scrubbed with water will be much more satisfactory. Do not let any labels in the borders or pot plants kick about, but have them placed firmly in an upright position. On walks, have the weeds eradicated—a very suitable job for a young beginner, as tidiness is his first study, and if thoroughly learnt will prove very useful. A crop of vegetables will look much more pleasing if the dead leaves and refuse are taken away and buried. This will prove useful for trenching purposes; also the drive and lawn sweepings. Any staking that is done should be upright, and the plants tied neatly with bass or string to prevent breakage by storms such as we have experienced this year.—*A. Thatcher, Aldenham, Elstree.*

SNOWDROPS AND POLYPODY FERN.

A PRETTY sight due to the happy combination of two familiar things, and the circumstances under which they were seen, recently excited admiration. The common Polypody Fern and Snowdrops are known to everybody, but methinks not often in such harmonious alliance. The great blizzard and snowstorm which levelled telegraph wires and blocked trains about the middle of February had spent its fury, and a welcome thaw had set in, though snow still lingered in secluded nooks, when the co-partnership was observed in a rocky dell with a placid lake in its midst. The sides of the rock were lavishly bedecked by Nature with the Fern, but artistic hands had introduced quantities of Snowdrops on the irregular ledges, and other coigns of vantage dominating the glen, whose appearance immediately after the terrible wintry weather was charming in the extreme, and suggestive of many similar places being beautified and enriched. In the summer season, when the Rhododendrons, Azaleas, Spiraeas, and Foxgloves fringing the lake are in bloom, this place is a veritable fairyland. Rocky dells of the magnitude of the one alluded to, and flushed with such summer garniture, cannot, of course, be made to order, but the salient features of this February scene can be reproduced in many quarters, otherwise barren and devoid of interest. Polypody Fern, a shelving rock or two, however small, and Snowdrops blooming ere the first breath of returning spring has banished the last vestiges of winter are the essentials of the scheme.—*J. McAra, Kingsburgh, Prestonkirk, March 19th, 1900.*

SAP FLOW.

IN a former note I indicated that the popular notion of the flow of sap from the roots to the leaves of plants and back again to the roots by the inner bark and cambium, had been exploded. At p. 458 "H" says he fails to see what the sentence implies, "with the other circumstances of the case." He admits that the superfluous water is sent about its business through the stomata after it reaches the leaves. The superfluous water must be a very large proportion seeing that the food of plants is taken up by the roots in very dilute solutions. Since it is sent off by the leaves it cannot return to the roots; hence there is no circulation of the sap comparable to the blood in animals.

He does not like the idea that the roots "pump" up sap. Well, it is only a common-place expression of the phenomena of absorption of water by root-hairs and the younger portion of roots, and likewise the root-pressure set up as a result of their absorbent activity. The bleeding of Vines in spring when a stem or rod has been cut is good evidence of this root-pressure. Some scientific men have found

that the root-pressure in Vines is equivalent to the weight of a column of mercury 30 in. to $32\frac{1}{2}$ in. high. The difficulty of stopping the bleeding of Vines is another object lesson in evidence of root-pressure. During the night the leaves of Vines and other plants cease to give off water by the stomata. The roots continue their work of absorption until the tissues get gorged with water. The latter then filters into the cavities of the vessels and rises till it reaches water pores at the edges of the leaves where it oozes out, and has often been noted by gardeners in the form of drops at the edges of the leaves in the morning. If a shoot is then cut off the portion below the cut will bleed; but if the cut shoot is placed in water and its top cut off it will not bleed, because the root-pressure has been removed by severing it from connection with the roots.—*P. L.*

STOVE FLOWERING PLANTS.

(Continued from p. 395)

LINUM TRIGYNUM supplies us during autumn and early winter with a colour conspicuous among other plants I have already treated on, especially when arranged with the lovely blue *Eranthemum pulchellum*; and the two should be grown by all who wish their stove or intermediate house to look gay during the dull months of winter, as a good yellow flower is none too plentiful at this season. The one under notice is very free. Cuttings can be inserted for the next six weeks or so with every prospect of success if the routine given here be followed out. Place any old plants in a warm moist house when young shoots will soon be ready to handle, putting several in a 4-in. pot filled with sandy loam and leaf soil. Keep the same close in a warm case with a slight bottom heat. The same after treatment will grow them well as that which has been recorded for *Eranthemum* and *Plumbago*. Pinch the points several times so as to get the plants bushy, thoroughly inuring them to plenty of sun and air towards the end of August, so that the young growths become well ripened for flowering during October and succeeding three months. It is more often met with under the name of *Reinwardtia trigyna*, but whatever name is given, makes it none the less useful, and it is not so often found in our collections as its merits deserve. Fight against red spider its most destructive enemy.—*Grower.*

KEW NOTES.

LONICERA SEMPERVIRENS.—Though this famous Honeysuckle is frequently to be seen in outdoor gardens, it is but rarely seen as a greenhouse climber. It only requires to be seen in perfection as at Kew to impress one with its quality and usefulness in this respect. A system of hard pruning induces an abundance of small side growths, each of which bears verticells of the orange-red tubular flowers. The plant can be grown in a greenhouse border and forms a pretty subject for early spring flowering.

SPARMANNIA AFRICANA, which is the old name of a well-known greenhouse plant, is incidentally referred to because of the perfection of the flowers for buttonhole making. A change of blooms for such use is often trying enough to uphold, but is always striven for and appreciated. *S. africana* bears beautiful white flowers with petals reflexed, while a blaze of bicoloured stamens shoot straight out in an opposite direction, the effect of the yellow-brown stamens and white petals being extremely beautiful. The plant is shrubby in its nature and easily grown in a greenhouse.

BOMAREA PATACOCENSIS.—In the Cactus house, growing from a shallow root hold of soil is a large and healthy specimen of the above. One shoot of about 12 ft. in length terminates in a lovely pendent corymb of tubular flowers. The colour of these beautiful flowers is rich and deep, a mixture of orange and crimson—producing a colour better imagined than described. Each tubular flower is about 4 in. long and from twelve to twenty are borne in a corymb. The Bomareas do not obtain half enough of attention.

COPTIS BRACHYPETALA.—Here we have a little hardy alpine. It flowers before the leaves appear, the flowers only being 4 in. from the ground, borne at the end of brown stalks, three heads on each, and are dull white with small petals and prominent stamens. The plant may be of interest to the lover of alpinists.

STERNBERGIA FISCHERIANA.—*S. fischeriana* is probably a variety of *S. lutea* though it has been described and figured without the specific name of *lutea*. This also is a pretty yellow flowered alpine of some interest. Coming from the rather mild regions of the Mediterranean coast it prefers a sheltered corner when grown in our rock gardens here. The yellow flowers are tubular with a long neck, and droop forward nearly to touch the ground. The appearance when seen from below reminds one of an *Odontoglossum citrosmum*. The foliage is light green and linear or grass-like, and stands erect. The above is a welcome little plant for our gardens at the present time.

The Orchid Growers' Calendar.

WARM DIVISION.—As the *Phalaenopses*, after being relieved of their flower spikes, have begun to start making fresh growth they should now be attended to, picking out all the old sphagnum moss and as many of the crocks as is possible without damaging the roots. Syringe the remaining crocks well with tepid water, allowing them time to dry before filling up with clean ones and live moss, always being careful though that the materials be placed in the house the day before they are wanted for use, so as to be at the same temperature.

Should there be any plants that have become unhealthy through overflowering or other causes, the best plan would be to take them out of their pans or baskets. Wash them well, cutting away all the decayed roots at the same time; this being done, put them into as small a receptacle as possible with as little moss as you can. Keep them shaded and place them at the warmest end of the house. If well supplied with moisture they will soon make fresh roots and improve in their general condition. A night temperature of 65° should be maintained; and in giving air let it be through the bottom ventilators, as these plants cannot stand draughts.

DENDROBIUMS.—These plants, too, enjoy a high temperature, but not quite so much shade as do the *Phalaenopses*, so that though this is a good place to start them in, and to keep them for a few weeks after being repotted, they should be so placed that they receive as much light as possible. You can generally manage to work it so that each species gets nearly what is wanted. I often think we starve our *Dendrobes* by giving them too light a compost, and by elevating them too high. We shake out what little good there is in the peat, which is, I feel sure, a mistake. Use it lumpy, with plenty of crocks mixed with it to keep it porous, and the results are much better growths and much larger flowers.

CALANTHES.—Most people know all there is to be told about these winter-flowering Orchids, so that I shall only just point out that if you want to keep them free from spot do not water them direct until the growths are a good height and rooting freely. A high temperature, of course, is necessary, such as a stove house would afford. They like a little shade, and are gross feeders.

SHADING.—A cheap and easily applied shading for the ends of houses and spaces where the blinds do not meet is made up of 7 lbs. whiting, two quarts of milk, and half pint of turps. This applied on bright days will adhere to the glass, and is not easily washed off.—*S. C.*

Gleanings from the World of Science.

THE undermentioned subjects were discussed at the Scientific Committee meeting of the Royal Horticultural Society on the 27th ult.

The Lucombe Oak.—Specimens of foliage and acorns were received from Rev. J. H. Ward, of Silverton Rectory, Exeter, from a tree growing in the churchyard, requesting for information as to their identity. Dr. Masters has supplied the following details:—"I believe the leaf and acorns exhibited to be those of the Lucombe Oak, or from one of its descendants. The Lucombe Oak was a hybrid between the Turkey Oak (*Q. Cerris*) and the Cork Oak (*Q. Suber*). The leaves are all but evergreen; indeed, in some of the varieties, quite so. As is the case generally with hybrids, the descendants

from the first cross vary extremely, consequently there are many forms and varieties of the Lucombe Oak in existence. As the specimens came from Exeter there is additional ground for presuming it to be descended from the Lucombe, as the original tree was raised in the nursery of Lucombe, Pince & Co., of Exeter. The Fulham Oak, raised in the Fulham Nurseries, had a similar origin, and now I believe it to be impossible to distinguish its descendants from those of the Lucombe Oak. A full account of these Oaks will be found in Loudon's 'Arboretum,' vol. iii."

Large Yew Tree.—Mr. Ward also mentions the fact of a Yew tree in the same churchyard being 25 ft. in circumference at a height of 4 ft. from the ground, and asks if it is a reasonable conjecture that the tree was planted before the Norman Conquest.

Data as to the rate of growth of Yew trees have been supplied from trees planted in Basildon churchyard in 1726. They have been measured in 1780, 1796, 1834, and 1889. They were found, after a commencing period of more rapid growth, to be pretty regularly increased by one line (one-twelfth of an inch) per annum. (See "Nature," October 17th, 1889).

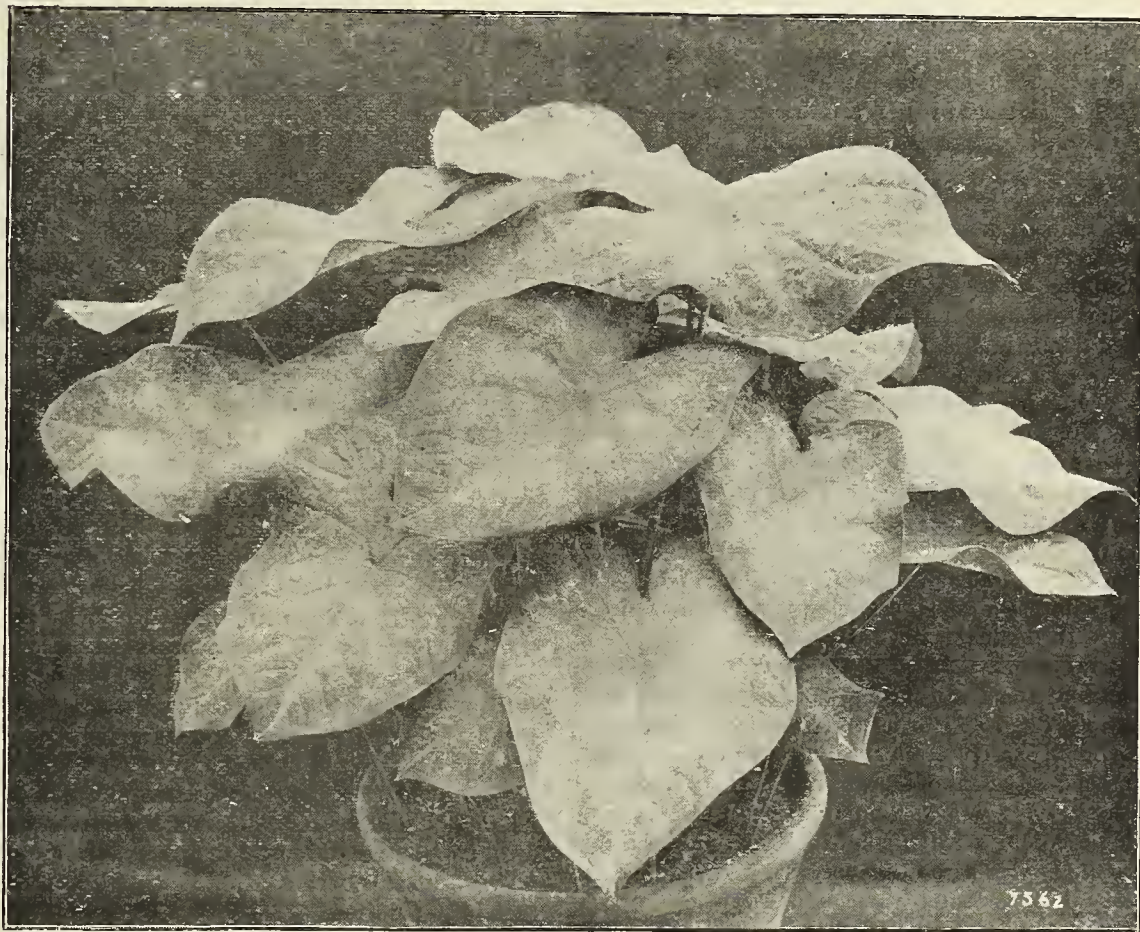
Bulbiferous Scilla.—A plant of *Scilla nutans*

Lancaster Rose. The objection to Dr. Bonavia's ingenious theory lies in the fact that the paler coloured stripe did not correspond with a single carpel, but covered the half of one and the half of the adjacent carpel, so it would represent two halves of different capillary leaves. Secondly, striped flowers are probably the result of crossing two whole-coloured flowers. This is obviously the case with *Petunias*, a purple and white flowered species having been the parents of all our garden forms. So that it would seem more probable that the Orange had received the pollen of a smooth-skinned variety, and the tubes penetrating one placenta, common to two adjacent carpels, had influenced the surface on both sides of the division. Similar stripes have been known to occur on the fruit of one variety of *Theobroma* (Cocoa) when pollinated by a second variety. Dr. Bonavia's report will appear in full in the *Journal of the Royal Horticultural Society*.

Scientific Committee, March 13th.

Grapes diseased.—Mr. Hudson brought some specimens which appeared to be attacked with the fungus *Glaeosporium*. Dr. Masters undertook to examine it further.

Douglas Fir disease.—Branches were received



CALADIUM MARIA DUBIL.

was received from Mr. Alex. Mortimer, 1, Paper Buildings, Temple, in which the outer hull scale had become greatly elongated upwards, forming a closed tube. It bore two small hulls on the inner surface, and was greatly thickened at the summit, as if attempting to form a larger hull; but no other than the above two were developed. They both possessed small rolled-up green leaves.

Orange malformed.—Dr. Masters showed an Orange having a band of paler and smoother rind than the rest of the skin. It was referred to Dr. Bonavia for examination, who writes as follows:—"It somewhat resembles the Bigaradier tricolor Orange, which has a yellow skin, with orange stripes when ripe. Again, the Bigaradier bazarrie has smooth parts of an orange colour and warty parts yellow. These parti-coloured Oranges are normal." Dr. Bonavia would theoretically explain this peculiarity by referring to the "fingered" Orange, which he regards as a whorl of modified leaves, coalescing to form a covering to the inner portion of the fruit. To apply this theory to the case in question, he would compare the paler portion to, say, a *Euonymus*, which may have green leaves with an occasional yellow one, or again he would compare it with striped petals, as of the York and

from Mr. Rogers, of Penallowe, Cornwall. They were from young trees, planted in an old plantation. In some cases the whole tree was unhealthy; but in others the trees grow vigorously, and only the top dies. They were referred to Dr. W. G. Smith for examination.

Pear stem constricted.—Mr. Rogers also sent a specimen remarkably constricted by a staple. The diameter of the stem being two inches, this was reduced to half-an-inch at the constriction. It had borne good crops of fruit up to last year.

Abies amabilis attacked by Chermes.—Dr. Masters showed specimens of this tree, also called *A. lowiana*, with gouty branches. The bark was badly infested by an aphid much resembling that which attacks Beeches. The same remedy of syringing with petroleum emulsion is to be adopted if the trees be slightly infested; otherwise the only means of destroying the pest is to destroy the tree by burning.

Hydnora africana.—He also showed a specimen of this remarkable parasite. It is a fleshy, leafless plant, parasitic upon plants of the genera *Cotyledon* and *Euphorbia* in tropical and South Africa. There are about eight species. The specimen was received from Grahamstown.

PRINTS FOR AMATEURS.

Hardy Plants.

THE hardy herbaceous biennials, perennials, bulbous, or shrubby plants may well receive a notice at this time. Gardening is extending; the class (a widely increasing one) of flower and plant lovers who are not in a position to erect high glass ranges ought to know that among what are called "common" garden plants, which often means any plant found outside a glasshouse, there are subjects of extreme beauty and merit. The Lilliums, Irises, Carnations, Delphiniums, Daffodils, Pyrethrums, Aquilegias, Paeonies, Asters, and Gladioli, are but a few names of plants which are hardy and with which any amateur should succeed. Then among the plants less suitable for cutting purposes than some of those just mentioned we have Saxifraga umbrosa, the London Pride, than which nothing is finer for massing beneath trees. The Erigerons, Doronicums, Oenotheras, Monardas, Anthericums, Hemerocallis, Incarvillea, the long list of Sunflowers, Pansies, Geums, Potentillas, Antirrhinums, or Pentstemons, are only a few selections from a great army. But to be more precise a few classes will be slightly described below. It will be made a point only to include plants of universal adaptability and first-rate worth.

Iris family.—There you see we have at once a genus whose very varied sub-divisions almost seem enough of themselves to satisfy us for our summer gardens. A little classification will be necessary.

Xiphions or bulbous Irises include the Spanish Irises, the English Irises, and such well-known species as *I. Danfordiae*, *I. Histrio*, *I. persica*, *I. reticulata*, and *I. bakeriana*. These all agree in requiring a light rich soil, deeply worked if possible. Then there are the broad-leaved species with creeping rhizomes, known as German Irises. *Iris germanica* possesses some extremely handsome varieties, the following being among those best known:—*Flavescens*, Primrose coloured; *neglecta*, pale lilac, with darker falls; *pallida dalmatica*, large pale blue flowers; *violacea*, dark violet; *Iris iberica*, comes from the Caucasus; and *I. sibirica*, from central and southern Europe, known as the Siberian Flag Iris, extends northwards to Siberia. They have both numerous varieties, and agree in having appreciation for plenty of sunshine. The Irises do not last very long in flower; but this refers to the sections individually. It is not impossible to have Irises in flower throughout the greater part of the year. The dwarf little bulbous *Iris reticulata* has received the euphonious panegyric of "companion to the Crocus." *I. stylosa* and *I. Histrio* follow on, and before these and their varieties have done flowering the earliest of the German, Siberian, and other sections have begun to enliven the garden. The soil for the broad-leaved Irises should be a thoroughly good loam, porous and deep. An open position is also very essential to success. They should be left very much alone when once planted, especially if seen to be doing well. Disturbance they resent. The Xiphions may be raised from seeds or by plantings of young bulbils. The rhizomatous section are most easily increased by division.

Primrose Family.—Between our common *Primula vulgaris*, which grows almost in every glen and wood in the British Isles and is a universal favourite, to the tall growing *P. sikkimensis* with drooping umbels of lemon flowers, there is a vast amount of intermediate forms and colours. Some of these are not hardy and, of course, will not be treated of in this paper. One of the earliest species to flower, other than *P. vulgaris*, is *P. denticulata*, which throws up straight stalks bearing lilac coloured flowers. *P. capitata*, also of a blue shade, begins to flower in April, by which time the varieties of *P. vulgaris* *Sibthorpii* are to be seen in more or less amount. These latter varieties only differ from the common specific form in their individual, numerous colours. Their shades of hue are being added to every season. We are indebted to Mr. G. F. Wilson for a section of blue Primroses. Once these become better known and commonly grown regard for them will wane, and the rich maroon and crimson colours will continue as first favourites by lovers of the single stemmed and richly coloured Primroses. The Polyanthus or bunch-flowered Primroses are now very widely dis-

persed. Sufficient has been said about these on a past occasion, so that they will be omitted now. By the Polyanthus Primroses I mean those varietles which are supposed to have come from the common Primrose alone or by crossing with the Oxlip. Of the *P. officinalis* or Cowslip varietles some charmingly sweet yellow and orange flowered forms have been evolved by that ardent florist and gardener, Miss G. Jekyll.

Reference was made just now to *P. cortusoides*. This is another of the hardy Primrose gems. It is a very distinct species bearing clusters of deep rosy flowers on stalks of from $\frac{1}{2}$ ft. to $\frac{3}{4}$ ft. high. The leaves are large and pliable, cordate at the base, crenately margined and wavy. It also has varieties, the most of which are well worth a place in the garden. Others which are certainly equal with any which we have mentioned are the sweet little rosy Himalayan Primrose, *P. rosea*, which is so adaptable for the rockery, the flowers being borne in heads like the Polyanthus. *Primula viscosa* and *P. Stuartii*, the former purplish, the latter larger in growth and bright yellow, conclude the list of first-rate Primroses suitable for any ordinary garden soil where a fairly open space can be allowed to them. The half shady ground beneath lines of fruit trees is a position I have before advocated as being very suitable. *P. sikkimensis* is one of the finest plants for a water edge (not in boggy soil, however) that I know of.

Trollius or Globe Flowers are all of them yellow or orange. For rockery pockets they are extremely useful, their culture being simple. *T. asiaticus*, *T. europaeus*, *T. e. Orange Globe*, and others may be included in a selection. They can be raised from seeds.

Lupinus.—The Lupines are rather a wide class, consisting of annuals, herbaceous perennials, or subshrubs. All of them agree, however, in being of easy cultivation, and the return of floral beauty which they give is more than commensurate with the space they occupy. The perennials may at this time be divided or raised, as is the case with the annuals, from seeds. The Tree Lupine (of which the variety Snow Queen was figured in THE GARDENING WORLD the other week), *L. arboreus* itself has fragrant, pale yellow flowers which are borne freely in summer. *L. Cruikshankii* is a tall growing form, which is possibly a hybrid, and is at the same time one of the very finest of the Lupines, which also means one of the best hardy border flowering plants. The upper petal or vexillum and a beautiful blue and white ornament, having a yellow mark in the centre. The wings are white, the keel also white with some blue.

L. nootkatensis should on no account be omitted, the combinations of blue, purple, white, and yellow being exquisitely chaste. There are other species and nursery forms of good standing, such as *L. platyphyllus albus*, *L. p. Purple King*, and *L. p. Foxli*.

Hemerocallis.—The Day Lilies being graceful in foliage as well as beautiful in flower, are popular hardy plants. *H. aurantiaca major* is the best of the newer varieties, having received a F.C.C. from the R.H.S. a few years ago. The older *Hemerocallis flava* or yellow flowering species, and the brick-red *H. fulva* are always to be found in gardens. They are remarkably well adapted for good borders, or for a position between widely planted shrubs, such as Rhododendrons and dwarf Conifers. A deep soil is what they like. The old plants increase and establish themselves readily by division.

Hesperis matronalis, the Rocket or Dame's Violet, is a fine old-fashioned flowering plant, having pale lilac or pure white flowers. The double white variety develops into conspicuous specimens in good garden soil. It is also sweetly fragrant at evening time. The type is readily raised from seeds.

The Heucherias form a varied class of border herbaceous perennials, although some of them are more curious than pretty. *H. Richardsonii* is most meritorious in spring, from the fact of its having rich, bronzy foliage. The flowers are very dull. *H. sanguinea* does not succeed well on all soils, and requires careful treatment. A deep, moist, firm soil in a sheltered position seems to suit it well. A little shade is no deterrent, but this can easily be overdone. The plant when seen in really good form with its coral-red racemes of bloom is one of the finest sights in any garden. The plant increases and spreads by means of rhizomatous stems, and

if these are properly divided and re-planted young plants for new clumps are readily obtained. *H. s. splendens* is supposed to be an improved form. *H. ribifolia* or *pubescens* (it having two names like many other plants just for the sake of confusion), though not at all a brilliant subject, is, nevertheless, very useful for providing something out of the common in colour selection. The flowers are greenish-buff, borne on long stalks, which are adaptable for decoration by use in vases.

Present Work.—Outdoors pruning of ornamental wall plants may be done. Paths should be mended. Turfing and tree planting, though still continuing, must soon be brought to a close. The rock garden should be looked over and cleaned. Vegetable seeds may be put in, such as Onions, Cabbages, and Leeks. Celery in boxes should be pricked off. Cuttings must be watched and seeds of various annuals should be sown.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Bulbocodium, Merendera and Colchicum.—Quiz: As you say the differences between these three genera are seemingly so scrump as to be entirely puzzling to a novice. Season of flowering has little to do with the classification, and trifling differences in foliage is sometimes made too much of. The three plants and their species all belong to one order, the Liliaceae. They are all very nearly allied, the Bulbocodium and the Colchicum being grouped in a sub-order or tribe—the Colchiceae—the latter having larger and broader leaves than the Bulbocodium. Compared with Colchicum, the chief difference between them and Merenderas is that the latter have contracted and clawed petals, whereas in Colchicum they are broad and flat. The systematists may ultimately have to re-arrange their present classification of these plants. True Crocuses are distinct in having only three stamens and an inferior ovary, compared with six stamens and a superior ovary in Liliaceae.

The Crinoline Narcissus.—F.A.C.: Narcissus Bulbocodium monophyllum bears the popular name of Crinoline Narcissus. The latter refers to the hooped or crinoline-shaped pure white corona. This is a pretty little plant which flowers at the present time. It is best when treated to pot culture.

Blechnum braziliense.—F.L.: The demands of this serviceable stove Fern are few. Moderate warmth and moisture it should always have, a peat loam and sand compost being given for rootage. It may be kept to a single stem or used as a corner plant to a stage, the main stem being taken up the back, the younger offshoots which duly appear being allowed to spread out at the base. In appearance it resembles *Lomaria gibba*, but is larger.

Salt for Soils.—Sodium: On heavy land top-dressings are beneficial and sometimes on light dry land in summer it is used probably to attract moisture. The following crops favour it in minute quantities:—Beets, Turnips, Seakale, Asparagus, Carrots and Cabbages.

Blood as a Manure for Celery.—Sodium: Blood is a poor fertiliser, used in the fresh state. What you should do is to pour it over the refuse heap and cover it up with old potting soil and some lime. It will then dry, leaving the best and most valuable elements or compounds as phosphates of potash, sulphate of lime, nitrogen, &c. This refuse matter can be dug into the trench before planting the Celery.

Worms in Lawns.—M.C.: Cures are often given. Go over the lawns with a long and supple besom made of hazel or birch. Then nothing would be better for the surface of the lawn than that it should get a good sound rolling at this time. The rolling and persistent sweeping are practices which will trouble and possibly aid toward the final eradication of the worms. All lawns should be rolled now. Watering with lime-water also acts as an eradicator.

Lawn Mowers.—S. T. W.: Some of the American lawn mowers are quite suitable enough, but for long service and really good work we advise you to consult such firms as Messrs. A. Shanks & Son, Ltd., Arbroath and London, or Messrs. Ransome, Sims, and Jefferies, Ltd., Ipswich, the former of course is your nearest. Both firms send out lawn mowers of diverse patterns, the quality of which we can in both cases amply testify for.

Worm Burrows Plugged.—M. C.: Darwin gave his opinion on this question. He thought it was (1) partly for protection, for worms like to lie at the mouths of their burrows, (2) to prevent the inrush of cold air as they are rather sensitive to cold. These are the principal reasons. See Darwin's book on "Vegetable Mould and Earth Worms."

Azara microphylla.—S. Salter: Yes, this very beautiful evergreen shrub (which is like some of the Berberis in foliage) is quite hardy in Midlothian. It does well as a wall plant or as a bush in the open.

CALADIUMS.

No other class of plants, perhaps, even including Coleus and Codiaea, presents such a vast range of

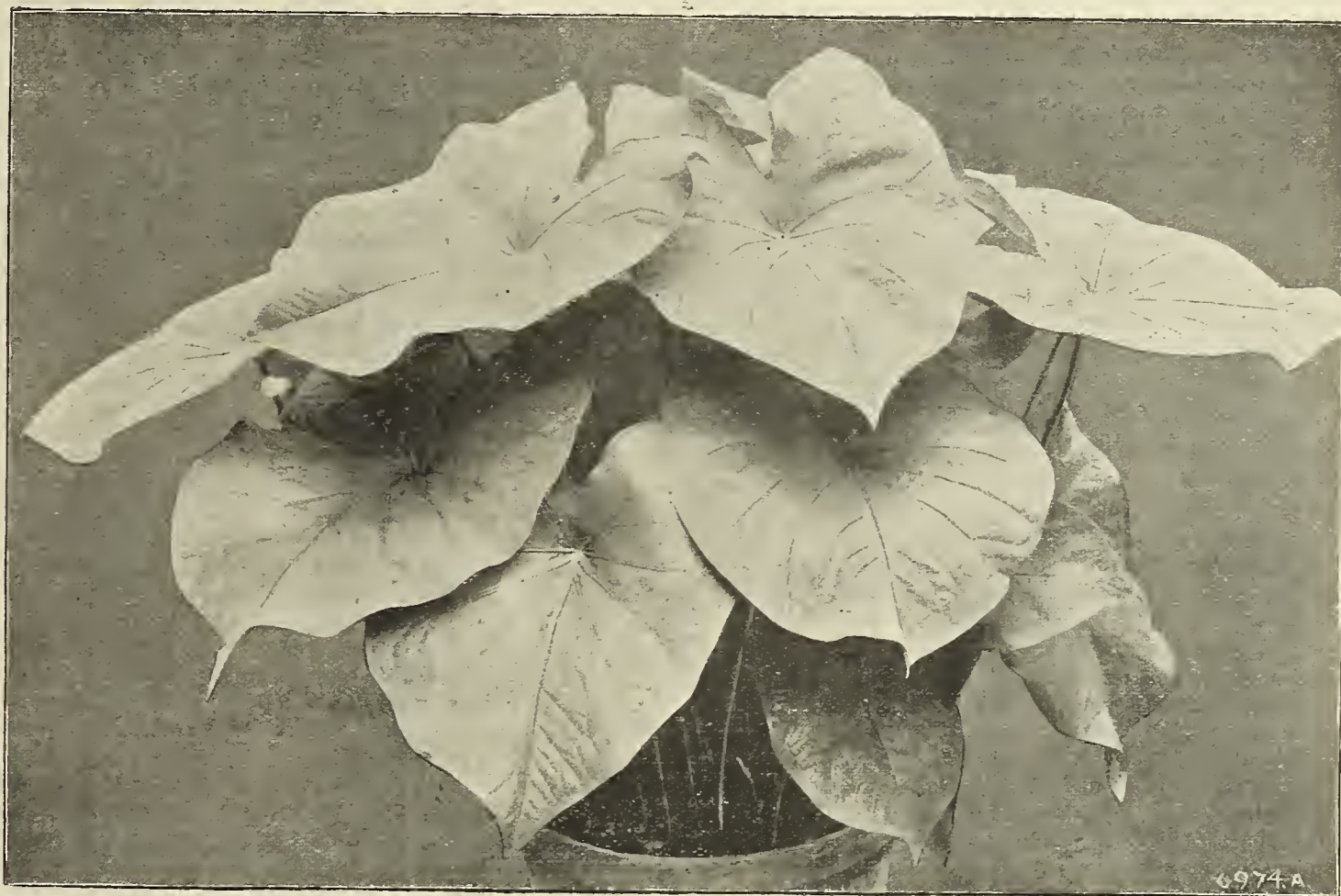
The leaves of *Caladium Maria Dubil* (see p. 471) have a bright crimson centre surrounded by a border of pale or Pea-green, the contrast of colour giving this new variety a subdued and refined appearance. Many of the *Caladiums* are notable for their translucent or sub-transparent appearance. This is due to a thinning out of the colour as well as of the substance of the leaf, but more particularly the former. *Caladium John Peed* (see illustration) would come into this category, though the dark red colour is about uniformly distributed over the surface, except at the margin, which is of a pale green. The habit of the plant is vigorous, and the foliage both ample and abundant making it suitable for exhibition purposes. A third variety may also be noted here, namely, *Caladium Mdme. Fritz Koechlin* (see p. 475) the ground colour of whose leaves is white, and the slender veins of a dark green, giving the whole a chaste and delicate appearance. The stronger ribs are violet-rose, and in bold relief to the green veins. We are indebted to Messrs. John Peed & Son, Roupell Park Nurseries, West Norwood, London, for this opportunity of figuring the above three beautiful varieties. The Messrs. Peed have a very extensive collection which they cultivate very successfully.

texture in *Salvia argentea*; very large in *Heracleum giganteum*, *Gunnera manicata*, *Rheum officinale*, and *R. corallinum*. Such types as these which occur are fitting for the back row of herbaceous borders or as isolated specimens.

Leaves again may present a metallic appearance of steel blue, as in *Eryngium oliverianum*; ivory-like in *E. giganteum*. They are Fern-like in *Thalictrum adiantifolium*; of a glaucous green in *Rudbeckia maxima*; of a Cabbage-like appearance in *Ligularia macrophylla*; and presenting a lace-like formation in *Ferula gigantea* and *Oreocome Candollii*.

The shapes of leaves may be either hand-shaped, heart-shaped, foot-shaped, or spoon-shaped to those of needle-like proportions.

In the dwarfier perennials and rock plants we have more mixture of tint and contrast of colour; and leaves are smaller and generally attached to stems of trailing habit. Others take the form of dense green tufts, as in *Saxifraga adscendens*, and others of a gray and crusted appearance and rosette-shaped as in *Saxifraga longifolia crustata* and *Androsace Chumbyi*, *A. sarmentosa*, &c. Leaves of a thick and fleshy character and of bronze and metallic hue occur in *Sedums* and *Sempervivum*.



CALADIUM JOHN PEED.

colour and combinations of colour as the *Caladiums*, represented amongst British plants by the spotted *Arum maculatum*, or Lords and Ladies of our hedgerows. The quaint flower spathes and spadices, and later on, the clusters of red berries give interest to the *Arums*, but their tropical representatives, the *Caladiums*, are admired solely for their gorgeous foliage. Within the last decade a great fillip has been given to the cultivation of *Caladiums* in this country, and the many handsome forms that have been introduced during that time have furnished every hue and form that the most ardent decorator could desire.

Their cultivation is of the easiest when their likings are attended to. Fibrous loam, peat, leaf mould and plenty of sharp sand supply the staple of a suitable compost. The tubers should be potted by February or early in March. Little water is required until the plants have made some growth and permeated the compost with roots; and with increasing foliage so must the water be increased. Plenty of atmospheric moisture must be maintained; and a temperature ranging between 60° and 70° kept up. Before introducing the plants to the conservatory or drawing room they must be hardened off in a cool house.

AN OUTLINE OF CHARACTER AND CULTURE OF THE HERBACEOUS AND ALPINE FLORA.

(Continued from p. 427.)

SWEET-SCENTED FLOWERS.

AMONG this class of plants scented flowers are somewhat limited in number, especially among alpinists, but appear rich in fragrance in those perennials of medium and tall growth, such as *Lily of the Valley* and the *Violet*, the two which take premier honours; also *Sweet Alyssum*, *Rockets*, the *Paeony*, *Phlox*, and *Hemerocallis*. But this, as in many of the foregoing instances, is one of a diverse character, many of the flowers possessing odours which are not by any means pleasant; and in one instance a species surrounds its flowers with a volatile atmosphere, which is said to be of an explosive nature as in *Dictamnus alba* and *D. rubra*.

FOLIAGE: ITS STRUCTURE AND COLOUR.—Foliage or leaves in many perennials are attached to erect growing stems, generally green, sometimes a darker tint as in *Acanthus mollis*, and of great length. They are woolly and very long in *Verbascum pannosum* and *V. olympicum*; of a silvery, cottony or woolly

The best silver foliage is in the possession of *Artemisia stelleriana* and in the *Antennarias*. *Androsaces* have coverings of long silk-like hairs, also *Eritrichium nanum*. These, I think, will suffice to show us outlines of character in brief of flower colour and leaf found in those which are more or less fitted for culture; and enable us to choose a few out of the many which would prove to possess a pleasing effect in the many positions in the

ROCK GARDEN.

This may consist of limestone boulders, so arranged as to form, naturally, hillocks, ledges, crevices, pockets, miniature valleys of loam and peat soils. The rockery may be small in size or of larger proportions, according to the ground space available. The larger the space, of course, it adds to effect both in scenery and in quantity of plants which can be grown, especially if we can introduce water taking the form of cascade, mountain torrent, streamlet, and pond. This, in some instances, can be arranged to run through the alpine garden; in others, it may surround the rockery, thus acting to keep out slugs and snails coming in from adjoining lands, which play such havoc among the smaller and choice plants.

Having chosen our site, which should be due north and south, we will proceed to put in their places those which will occupy a warm sunny aspect. Our soil should consist of good fibrous loam, peat, or leaf mould, and in the majority of cases should be added sharp grit or gravel; sometimes limestone chippings are needed. This helps to keep the soil porous for those which suit slanting fissures or projecting ledges, viz., *Androsace Chumbyi*, *A. sarmen-tosa*, *A. villosa*, *A. helvetica*, *A. pyrenaica*, *A. lanuginosa*, and the variety *Leichtlini*. These last two, being of a trailing nature, should not be planted too near the first named sorts, which in shape are in compact rosettes with woolly leaves; and in others they have silky hair-like coverings attached. Pockets filled with damped loam and of considerable depth are suitable to those *Androsaces* and other Alpines which may be of erect growth, such as *Androsace carnea*, which requires granite or sand-stone added to its soil. Alongside of it we can plant the species *A. Chamaejasme*, *A. lactea*, *A. coronopi-folia*, *A. Lageri*, and *A. vitaliana*. We will now vary the flora to the tiny Star worts of the Rockies of Colorado, such as *Erigeron trimorpheus* and *E. leiomeris*. Next we should plant a colony of *Dianthus* possessing gray or green foliage, pink or red flowers, which are either fringed or entire. Such kinds as the following are pleasing:—*Dianthus alpestris*, *D. caesius*, *D. neglectus*, *D. alpinus*, and *D. Atkinsoni*; also *D. integer*, a pretty white species. We will next have a change in colour to that of yellow in *Sedum bridgmanii*, *S. kamtschaticum*, *S. elegans*, and *S. middendorffianum*, to pink in *Sedum Anacampseros*, *S. Ewersi*, *S. turkestanicum*, to white in *Anemone palmata*, and *Alyssum spinosum*, which also possesses white foliage.

OVERHANGING LEDGES, which are best for trailing plants, may be furnished with the red variety of *Saponaria ocymoides*; white in *Gypsophila repens* and *Arenaria grandiflora*; pink in *Polygonum vac-ciniaefolium*; *Glossocoma clematidea*, a charming rock plant, with bell-shaped flowers, and dark and yellow rings inside.

CREVICES AND FISSURES may be made to contain such plants as *Edraianthus serpyllifolius*, *E. dalmaticus*, and *E. pumilus*. These are a pretty class of rock plants with more or less bell-shaped flowers, and bluish purple in colour. The last named has gray foliage. *Phyteuma comosum* is an interesting little subject to be in company with the gray spined foliage of *Acantholimon venustum* having flowers of a bright pink. *Silene acaulis*, *Alsine Rosan* and *Saponaria lutea caespitosa* do well to colonise together with the dwarf white flowering *Achilleas*, and silver leaved *Anthemis Aizoon*.

We do not get much in these drier positions in the way of blue. We have to make up soil of a moister nature which should be of peat and leaf mould, and a little sand added for those of very bright blue colouring, and of course the position must be lower down and more valley like in character where we will place *Gentiana verna*, *G. bavarica*, *G. acaulis*, *G. septemfida*, *G. cruciata*, *G. Kesselringi*, and *G. asclepiadea*, changing in size and colour in *Gentiana lutea*, *G. thibetica*, and *G. asclepiadea alba*. We may also add *Lithospermum prostratum* and *Omphalodes verna*, besides dwarf forms of *Pulmonaria*, *Cynoglossums*, &c.

Rising hillocks, with flat summits, may be furnished with plants somewhat of medium height, which will tend to break the monotony of dwarf and stunted kinds. They may include such forms as *Geum coccineum*, *G. aureum*, *G. miniatum*, *Campanula Hostii*, *C. H. alba*, *C. rhomboidea*, *C. r. alba*, *Linum narbonense*, *L. monogynum*, *Anacampseros Borderi*, *Hieracium villosum*, *Linaria dalmatica*, *Scutellaria alpina*, and *Centaurea alpina*.

Many forms of dwarf Conifers can be made use of, with advantage, as well as the numerous alpine shrubs such as *Senecio Greyi*, *Teucrium purpureum*, *Hypericum olympicum*, *Rhododendron Chamaecistus*, and others, not omitting a nice partly shaded nook for the smallest of all the Azaleas, *Azalea procumbens*.

FOR WINDING ROCKY STEPS and stones which otherwise would be bare, we may have *Sedums*, *Thymuses*, *Sempervivums*, *Acaenas*, &c., *Aubrietias* in variety. For long chains of crevices, running between rocks of great height, we may furnish to colour with the scarlet *Zauschneria californica*, and the interchanging of colour from white to pink in the trailing form of *Vittadenia triloba*.

FOR LEDGES AND RAVINES on the northern and eastern sides we can colonise, in groups, *Saxifraga longifolia*, *Ramondia pyrenaica* and *alba*, *Haberlea rhodopensis*. In the moister or lower ground we can fill up with a variety of mossy *Saxifragas*, *Dryas octopetala*, *Primula sikkimensis*, *P. denticulata*, *P. cashmiriana*, and *P. capitata*. In the ground of a bog nature we can use *Spiraea gigantea* and *S. filpendula*, *Primula japonica*, *P. sieboldi*, interspersed with *Osmundas*, *Ferns*, *Juncuses*, *Carexes*, &c.

FOR THE POND OR LAKE we can give colour to it with the red, white and blue *Nymphaeas marliacea*, *N. carnea*, *N. rosea*, *N. albida*, *N. Laydekeri rosea*, and the blue form *N. stellata*, filling up the intervening spaces with smaller Aquatics such as the *Aponogeton*, *Villarsia*, *Menyanthes*, as well as many hardy *Cypripediums*, *Myrsiphyllums*, and others.

FOR THE MARGINS OF WATER we shall require different flora, as *Caltha palustris*, *Sagittarias*, *Iris Kaempferi* and *Lythrum roseum*. This I think will lend some idea as to outline of character in grouping and colonising plants on rocks, and in ground in the Alpine garden.

(To be continued.)

COUNTRY CHILDREN AND NATURE KNOWLEDGE.

HERE in England we have fallen, or perhaps one should say drifted, into a great educational mistake. As a matter of fact we have been giving a training to country children which to all intents and purposes is the same as that to be gained in the schools of towns. From this it follows that the ability of the boys is not judged from the proper standpoint. Even the lads supposed to be the cleverest will be no better fitted than their fellows for a rural life, where powers of accurate observation and a knowledge of plant and animal requirements may lead to their ultimate success as men. On the contrary the training they have received, if they use their most ready qualifications for earning their living, will throw them into competition with a host of clerks, who, if town bred, may have had greater advantages, and they will soon find their own level.

Under such circumstances it is of paramount importance that parents and children alike should appreciate that in many cases it may pay "better to wear a fustian jacket or the smock frock than it does to wear the black coat." Furthermore, success or comfort in life is not alone to be determined by the number of shillings a week which are received. A clerk in the city may earn three times as much as a farm-hand, but he may also have to pay four times as much for rent, his clothes will cost more money, and as a rule fares to and from his place of business will have to be deducted from his income. In the end the worker with the pen may be decidedly the worse off of the two, and find himself unable even to indulge in those amusements which go some way to make a town life supportable.

Writers have dwelt upon the added pleasure which a knowledge of what Nature is doing around us gives to existence, and everybody knows what a difference in the character of work is manifest when the operator has an intelligent interest in it, and does not merely consider it a piece of routine. Small wonder is it that from every side we hear demands that proper "rural education" shall be arranged for in this country. Other countries have felt bound to insist on some knowledge of Nature being imparted by means of object lessons, which shall lead on towards the mastering of the elements of horticulture and agriculture, and render intelligible at least the simpler operations in these subjects. Not only on the Continents of Europe and America, but throughout the English Colonial Empire such instruction is either compulsory or energetically encouraged.

The English Education Department has admitted the necessity of a change, and such subjects as we have indicated can even now be taken at the option of the teacher in rural schools. The results, in spite of a number of marked successes achieved by enthusiasts, do not make the present system desirable, but what has been done will save us from the necessity of going to France or Germany, or even the United States with its splendid arrangements for agricultural education, for an example of what and how to teach. The outward and visible sign of the movement to effect the change may be found in the recently constituted Agricultural Education Committee and its

work. At the invitation of the authorities this body has already suggested a syllabus of the work desirable, but much in the way of details is properly left to the individuality of the teacher. Those who are privileged to read this draft through cannot fail to be struck with the advantage that must accrue to the cultivator who from a practical examination of actual things learns the beginnings of scientific knowledge which THE GARDENING WORLD has often shown the value of. There can be no doubt that having become familiar with cultural processes out of doors, and applied in his mind's eye the theory learned in the schoolroom, a country lad would be in a very good position to become a successful gardener or worker on a farm. In the first walk of life the proposed calculations specially adapted to a farmer's requirements will not be of much direct use, but like any other arithmetic it will serve to sharpen the wits and improve the general education. Nothing better than the suggested work on seeds and plants and insects could be devised for the embryo horticulturist.

In conclusion, it may not be unwise to point out the difficulties in the way of "rural education." Some people are against any change; to others the climbing out of a groove is troublesome. Again, if good is to be done all-round teachers will require a special training. As regards those who qualify for their work in the future this may be ensured. Teachers now at work, however, may not have the opportunity of attending classes in their hard earned leisure time, or may not be inclined to do so. The introduction of itinerant teachers, it seems, then, may be necessary, but these may not be welcomed in all classes at first, and they could hardly do as much good as an enthusiastic teacher always on the spot to take advantage of special opportunities. Lastly, the question of money to carry out the alterations and to encourage the work must not be overlooked. There is not the slightest reason, however, why rural education should not be introduced by gentle steps, and we hope to see one of these taken very soon.

Since the foregoing was written a new code for day schools has been issued by the Education Department, which will have the effect of differentiating rural from urban education and will allow for it in all cases to be of a kind useful to the individuals and places to which and for which it is to be given.—W. M. W.

PLANTS RECENTLY CERTIFICATED.

THE awards here mentioned were made by the Royal Horticultural Society on the 13th inst.:

Orchid Committee.

ODONTOGLOSSUM ELEGANS EASTWOOD PARK VAR.—The typical form of *O. elegans* is a supposed natural hybrid between *O. cristatum* and *O. cirrhosum*. The variety under notice is a great improvement upon the type on account of the bold and prominent maroon-brown blotches on the soft creamy-yellow sepals and petals. The base of the lip is bright yellow, with long fringes to the crest, and a brown blotch in front of the latter. The flowers are also larger than the type and very handsome. (First-class Certificate). Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham.

DENDROBIUM BURBERRYANUM.—The parents of this pretty hybrid were *D. findlayanum* × *D. dominianum*. The flowers are of good size, with bright purple sepals and petals, fading to a much paler shade towards the base. The lip is maroon at the base, creamy in the middle, and tipped with soft purple. (Award of Merit.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

ODONTOGLOSSUM CRISPUM OAKFIELD SUNRISE.—A great amount of attention centered upon this plant owing to its being different from anything ever seen before. The sepals are ovate, blunt, crisped and white. The petals are rhomboid, obtuse, revolute at the tip and sides, the base and apex being white, while a large area is nearly of a uniform reddish-brown. On this dark area is a small crest, which we believe explains the phenomenal character of the variety, namely, that it is an attempt to form three lips, making a peloria. The lip proper is pale yellow with a few purple spots, and somewhat revolute at the sides like the petals. (Award of Merit). Thomas Baxter, Esq. (gardener, Mr. R. Roberts) Oakfield, Morecambe.

LAELIA JONGHEANA.—The sepals and petals of the typical form are soft pink, the flower measuring 6 in. across the latter. The lip has a curved tube which is soft mauve externally; while the lamina is white and tinted pink at the wavy edges. Seven wavy, yellow plates or ridges run from the base of the lamina down the tube of the flower. (Award of Merit.) H. T. Pitt, Esq. (gardener, Mr. F. W. Thurgood), Rosslyn, Stamford Hill; and Major Joicey (gardener, Mr. F. J. Thorne), Sunningdale Park, Sunningdale, Berks.

LAELIA JONGHEANA TEMPLEANA.—The flowers of this variety are darker than the type, and measure $6\frac{3}{4}$ in. to 7 in. across. The long sepals and petals are deep rose. The tube of the lip is rose externally, and the lamina rosy, crisped and waved; while the side lobes are white edged with rose. There are seven to nine yellow plates on the throat and tube, recalling the genus *Bletia* to which *Laelia* is allied. (Award of Merit.) Mrs. Temple (gardener, Mr. E. Bristow), Leyswood, Groombridge.

Floral Committee.

PENTAPTERYGUM SERPENS.—This beautiful Himalayan plant is closely allied to *Vaccinium*, and

an' the gairden line, maun hae some shiftin', sae I'm awa.—*Geordie Tam.*

FORMALITY IN GARDENING.

THERE is a good deal to be said in favour of "A. D.'s" argument on p. 427 that "gardening, of necessity, constitutes formality." This would apply to all formal gardens, usually laid out in squares, and meant for the greatest weight or the largest number of roots, bulbs, Cabbages, or what not, from a given area of ground. That is the utilitarian standpoint, and good enough in its way; but it does not controvert the fact that a planted Wallflower "retains the planted-out look to the end of its days." The plants I mentioned were not growing in a garden at all, but on perpendicular stone walls at Stirling Castle. "A. D." asks why a bed of Wallflowers, properly planted, should not "be as pleasing to see and to cut from as a bed sown, where growing, &c." Well, that is, more or less, a matter of opinion. For cut flowers, planted Wallflowers would probably be best in the greater number of cases; but, to look at with discrimination, or a keenly observant eye, they would most likely have the artificially planted appearance.

tions according to their kind, but naturally and beautifully.—*J. MacI.*

TRANSATLANTIC LINERS.

Who would ever have supposed that anything so essentially verdant and bucolic as a seed firm could ever be guilty of attempting to perpetrate a trust? Yet the arrest of some employés the other week in Chicago brought to light that same thing. The firm were thriftily endeavouring to corner the linseed market, but were puzzled to account for the fact that time and again they were compelled to unload at a loss. At length the secret was out. Some of their employes, in conjunction with a telegraph clerk, were quietly giving away their every move. Scant sympathy is theirs, and they have refused to prosecute.

This week there has been on the market a small quantity of forced Tomatos from St. Louis, which sold rapidly at 2s. a pound. They were perfect in colouring, and many more could be disposed of as easily.

The supply of fine cut flowers here is at all times a thing to marvel at, especially when the low prices



CALADIUM MADAME FRITZ KOECHLIN. (See p. 473.)

was indeed named *V. serpens* in *Wight's Illustrations*, t. 114, and in other works. The long arching stems arise from a woody rootstock, resembling a tuber, and are thickly clothed with small, lanceolate, leathery leaves. The tubular drooping flowers are five-angled or winged as the generic name implies, and solitary or in small clusters. The corolla is red with herring-bone, crimson lines on each face. The plant is suitable for greenhouse treatment. (Award of Merit.) J. T. Bennett Poë, Esq. (gardener, Mr. J. Downes), Holmwood, Cheshunt.

THE FURZE DEBATE.

It's a far cry to Norfolk, nae doot, but I daursay it's a big toon i' the sooth. Gin the argie bargiein' be a yach toot moot, as "Allister Dhu" says, it's lang and braid. Gin he can tak the breeks aff a hielanman, he's a clever chlel whateffer. He maun be haiverin' a thochtie about the Funn busses. Mair and ootower he's a lang wye aff the pint o' the airgiement. The snaw has gane, an' the yird is dry, but as nor' wast win's are cauld an' dreich for the Funn, sae they're in nae hurry to blaw; but as Ingions, Leeks, Pizz, an' the like are mair in sizzen, the spaad, the yake,

Wallflowers, like Cabbages, are often sown too thickly, and allowed to remain so too long. Instead of growing sturdily, thickening their stems from the base upwards, and throwing out side-branches, the Wallflowers develop a few branches at the top only, and the Cabbages become spindly. When at last they are planted out they are put deeply in the ground to make amends for overcrowding in babyhood, so that their thin or spindly shanks spring direct from the ground level without that stout supporting base which nature intended them to have. "A. D." also mentioned shrubs and trees. They likewise have the effects of crowding in the nursery lines imprinted upon their faces for years after being planted permanently. I do not regard such a state of matters as the perfection of gardening, because there is considerable room for improvement. Furthermore, trees standing cheek by jowl in a wood or forest, and as straight as rifle barrels, may be, and are considered beautiful by the forester and timber merchant, but they are certainly not ornamental trees for the grounds of a private demesne. Isolated trees, allowed to grow naturally, taper up from the base like the Eddystone lighthouse, and are generally well furnished with side branches assuming various direc-

are considered. igh wages and rent notwithstanding, I have never seen anything like the prices flowers can be bought for. Fine Pinks and Carnations were sold in the autumn at from 2 $\frac{3}{4}$ d. to 5d. per dozen for good blooms, and the Roses are beyond compare, all cut with long stems and plenty of foliage.

I have seen small white pieces for 1s. 3d., while for 4s. a very good wreath or flat bouquet of such flowers as Callas, Primulas, and Carnations can be had. Lily of the Valley appears about October. Everything is grown to perfection.

The small florists sell such plants as *Nephrolepis* and *Cyperus*, potted, for 2 $\frac{3}{4}$ d. each; Geraniums and similar flowering plants for the same. The dry-goods stores make great displays of flowers and plants for sale.

One of the finest sights imaginable is Siegel, Cooper & Co.'s large electric fountain surrounded by Palms and cut flowers, and overlooked by a balcony with marble stairs leading to it. A man in Philadelphia claims to have the fastest growing Lily on record. It grows at the rate of 9 in. every 24 hours! It is called the "Snake Lily," and hails from Cochin China.—*C. Macquarie, Chicago.*

EVOLUTION OF PLANTS.

MR. R. LYNCH, curator of the Cambridge Botanic Garden, addressed Fellows of the R.H.S. on this subject at the Drill Hall meeting of March 13th. Mr. Lynch, by numerous citations from undisputable records, showed that high strains which have evolved from lower characters can be kept true from seeds. Garden hybrids are often fit to rank as true species, for in all respects they behave quite identically with good species. With Darwin's theory and explanations as to the causes for evolution, which are, (1), variation; (2), struggle for existence; and (3), survival of the fittest; Mr. Lynch entirely accorded. Each day fresh proofs for Darwin's theory were being adduced. The germ-plasm and body-plasm of the cells of plants was not free, but joined and continuous, and, from the fact of this continuity of the protoplasm, the transmission of hereditary peculiarities is said to be dependent.

From causes of environment, &c., plants greatly differ, as was shown by two Spurges, one a British species, the other a native of dry South Africa. We also have the aphorism that "No two blades of grass are ever exactly alike." So much for variation.

In dealing with the effects of hybridisation, it was shown that marked differences arise by means of hybridisation between species in Nature. Plants are evolved in Nature just as they are developed and altered in the garden by artificial instigation. Species in a state of Nature often originate as hybrids. In point of selection or survival, it was stated that just as we select seeds for our purposes, Nature likewise does so for hers. A good illustration of a garden bigeneric hybrid acting steadily as a species is that of *Montbretia crocosmiaeiflora*, another being *Urceocharis Cibrani*.

In endeavouring to solve the question as to whether it was possible to determine the limits of genera and species by sexual affinity, it was concluded that we can hardly make any distinction between hybrid and cross. It would be interesting to know what would follow on the selection and hybridising of "rogues," or the hybridising of rogues and good members of a crop. Mr. C. E. Shea, who was chairman, made a few remarks, as did Dr. M. T. Masters and Rev. Geo. Henslow.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

REPORT FOR 1899.

THE annual general meeting of this very useful Benefit Society was held as we mentioned last week, in the Caledonian Hotel, Adelphi, Strand, on Monday, March 12th. Mr. S. T. Wright, of Chiswick, being absent through illness, the chair was occupied by Mr. R. Dean. About thirty-five members were present. In presenting their report, the committee expressed satisfaction with the progress made during the year.

Eighty-three members joined during the year, twenty-nine lapsed from various causes, two died, and two ceased to pay, being over seventy years of age; this leaves a nett increase of fifty, the membership for the year being 791. The amount of Subscriptions paid by members to the Benefit Fund, including arrears for 1898, was £1,236 5s. 3d. The sick pay account was £206 2s., being £52 15s. less than last year. This is covered by deductions from members' deposit accounts of 6s. 5d. and 4s. 4d. respectively. There is a balance now in this Fund (including £1,201 15s. 11d. standing to the credit of lapsed members) of £12,190 9s. 2d.

The Benevolent Fund is now doing a useful work. Subscriptions amounting to £153 16s. 1d. have been received from honorary and benefit members, including £10 10s. generously given by W. Y. Baker, Esq., at the annual dinner. Various grants have been made from this Fund amounting to £66 5s. 6d.

The Convalescent Fund continues to increase. Mr. Baker and Mr. Sherwood each gave a donation of £5 5s. at the annual dinner. Three members only applied for assistance during the year, the amount paid out being £4 only.

The Management Fund shows a balance of £129 8s. 10d. The amount invested in corporation stock by the treasurer during the past year was £1,500, the total invested funds being £15,850, and the treasurer has £153 14s. 11d. in hand.

The annual dinner passed off in a most successful manner, the chair being admirably filled by W. Y. Baker, Esq.

STATEMENT OF ACCOUNTS: BENEFIT FUND.

RECEIPTS.				EXPENDITURE.			
Dr.		£	s. d.	Cr.		£	s. d.
1899, January 9th.				1900, January 8th.			
To Balance brought forward ..		10,899	19 1	By Sick Pay to members, &c. ..		206	2 0
1900, January 8th.				„ Various amounts paid out ..		56	16 1
To Interest credited to members,				„ Balance to date ..		12,190	9 2
Arrears, and Subscriptions ..		1,553	8 2	„ Benefit members £10,988	13 3		
				„ Lapsed ..	1,201	15 11	
		£12,453	7 3			£12,453	7 3

BENEVOLENT FUND.

RECEIPTS.				EXPENDITURE.			
Dr.		£	s. d.	Cr.		£	s. d.
1899, Jan. 9th				1899 and 1900, Jan. 9th.			
To Balance brought forward ..		3,015	11 0	By amounts granted ..		66	5 6
„ Other items ..		259	16 11	1900, Jan. 8th.			
				By Balance at date ..		3,209	2 5
		£3,275	7 11			£3,275	7 11

VOLUNTARY CONVALESCENT FUND.

RECEIPTS.				EXPENDITURE.			
Dr.		£	s. d.	Cr.		£	s. d.
1899, Jan. 9th.				1899.			
To Balance in hand ..		365	3 1	Paid to No. 514 ..		1	10 0
1900, Jan. 8th.				„ „ „ 130 ..		1	0 0
To Interest, Subs., &c. ..		39	0 0	„ „ „ 243 ..		1	10 0
						4	0 0
		£404	3 1	By Balance to date ..		400	3 1
						£404	3 1

MANAGEMENT FUND.

RECEIPTS.				EXPENDITURE.			
Dr.		£	s. d.	Cr.		£	s. d.
1899, Jan. 9th.				1900, Jan. 8th.			
To Balance in hand ..		109	19 4	By Secretary's Salary, Stationery, Rent,			
1900, Jan. 8th.				&c., &c., ..		138	18 10
To Subscriptions, &c. ..		158	8 4	„ Balance to date ..		129	8 10
		£268	7 8			£268	7 8

TREASURER'S STATEMENT OF ACCOUNTS.

RECEIPTS.				EXPENDITURE.			
Dr.		£	s. d.	Cr.		£	s. d.
1899, January 9th				1900			
To Balance in hand ..		128	15 11	By Sick Pay from Benefit Fund		206	2 0
1900, January 8th				„ Payment to Nominees of deceased			
„ Hon. Members' Subs. ..		62	7 0	members ..		6	7 2
„ Benevolent Members' Subs. ..		1,208	19 2	„ Payments from Benevolent Fund		66	5 6
„ Other items ..		273	14 7	„ „ „ Convalescent Fund		4	0 0
„ Dividends on Investments ..		444	18 2	„ „ „ Management Fund		138	18 10
				„ Investments, stamps, and com-			
				mission ..		1,543	6 6
		£2,118	14 11			1,965	0 0
				„ Balance in hand ..		153	14 11
						£2,118	14 11

STATEMENT OF LIABILITIES AND ASSETS.

LIABILITIES.				ASSETS.			
		£	s. d.			£	s. d.
1900, January 8th				1900, January 8th			
To Benevolent Fund ..		3,209	2 5	By Invests. at par valuation—			
„ Convalescent Fund ..		400	3 1	„ Nottingham Corpor. Stock ..		5,500	0 0
„ Management Fund ..		129	8 10	„ Manchester ..		1,600	0 0
„ Benefit Fund ..		12,190	9 2	„ West Bromwich ..		3,300	0 0
		15,929	3 6	„ Cardiff ..		2,600	0 0
				„ York ..		1,850	0 0
				„ South Indian ..		1,000	0 0
Balance ..		74	11 5			15,850	0 0
		£16,003	14 11	Cash in hands of Treasurer		153	14 11
						£16,003	14 11

Total Invested Money £15,850

March 7th, 1900.

Audited and found
correct.GEO. DIXON }
W. GUNNER }

Auditors.

The Annual Dinner Account for 1899 amounted to £31 5s. 6d.

The society's accounts were audited by Messrs. G. Dixon and W. Gunner, and found correct.

Mr. R. Dean moved and Mr. W. Marshall seconded, the adoption of the report. Mr. Dean spoke with satisfaction of the society's affairs in their every detail. He urged the claims of the society, expressing the hope that they might largely increase the membership by advertising the society more at the flower shows. The report was unanimously adopted. Retiring members of the committee were re-elected with the exception of Mr. E. T. Cook and Mr. Forman, their places being filled by Mr. C. H. Curtis and Mr. Standridge. It was proposed, on the motion of Mr. Marshall, to print 5,000 copies of the balance-sheet for distribution. A bonus to the secretary of £10 was proposed and carried, his yearly increment thus being £52. The committee were instructed to take into consideration the question of permanently increasing the secretary's salary. Copies of the balance-sheet and all particulars may be had from Mr. W. Collins, 9, Martindale Road, Balham.

SOCIETIES.

PRESTON AND FULWOOD HORTICULTURAL SOCIETY.—*March 14th and 15th.*

THE twenty-second spring show was held under the auspices of the above society in the Public Hall. The entries were slightly below the average, but showed no defect in quality, although in some few cases, *Azalea indica* especially, the flowers were not fully open. The exhibition includes sections for nurserymen, gardeners, amateurs, and cottagers in over ninety classes.

NURSERYMEN AND FLORISTS—A group of plants for effect, not to exceed 100 sq.-ft., was well won by Mr. E. Payne, with a base of moss well broken up with Palms, *Dracaenas*, *Coelogyne*s, *Cattleyas*, *Heaths*, &c. This exhibit secured the Silver Banksian Medal, presented by Mr. E. Smith, for the best exhibit in the show. The same exhibitor secured premier honours for twenty-four single *Hyacinths*, twenty-four double *Hyacinths*, and six *Azaleas* in bloom.

For one bride's bouquet and one hand bouquet, Mr. W. N. Wood scored in each class with beautiful types.

GARDENERS AND AMATEURS.—For twenty-four single *Hyacinths*, R. Smith, Esq. (gardener, Mr. C. Lamb), led the way with fine massive spikes, the best being *King of the Blues*, *Peeneman*, *Hayden*, *General Havelock*, *King of the Yellows*, *Lord Derby*, and others. J. B. Dixon, Esq., was second. R. Smith, Esq., also staged the best dozen and half-dozen pots. For twenty-four double varieties, J. B. Dixon, Esq., led the way, including *Albion*, *Delicata*, *Duke of Wellington*, *Etna*, &c. The best twelve varieties came from the same gardens. For six doubles, J. Smith, Esq., scored.

For twenty pots of bulbs, corms or tubers, Jos. Smith, Esq., won with a nice lot. For six pots of *Duc Van Thol Tulips*, R. Smith, Esq., had the best; for three pots, J. B. Dixon, Esq., won with fine blooms; for six pots double *Tulips*, J. B. Dixon, Esq., had the finest; and R. Smith, Esq., the leading three pots. For six pots of *Amaryllis*, W. Charnley, Esq., was the only competitor. For six pots single *Narcissus*, J. B. Dixon, Esq., scored; for three pots of single and three pots of double, the same exhibitor excelled.

In the class for six *Azaleas*, J. B. Dixon, Esq., won with specimens that were the feature of the exhibition, with plants $4\frac{1}{2}$ ft. in diameter. For three varieties and the single plant, the leading prizes went to the same exhibitor. For three hardy *Azaleas*, J. B. Dixon, Esq., proved the victor.

For three pots *Dielytra*, M. B. Copland, Esq. (gardener, Mr. W. Gillett), won with fine plants, W. Charnley, Esq., having the best single pot. The lead for three pans *Lily of the Valley* was well won by J. B. Dixon, Esq. W. B. Copland, Esq., secured the leading award for one pan.

Jos. Smith, Esq., had the best pot of *Mignonette* and pan of *Musk* and specimen *Rose*, also twelve cut *Roses* and six cut *Roses*. M. B. Copland, Esq., took the lead for six *Cyclamen*, three *Deutzia gracilis*, and single plant. Mrs. Birchall won with six *Cinerarias*, and R. Smith, Esq., for six *Primulas* with fine plants. J. B. Dixon, Esq., led with three

Ferns, staging good plants, and for six foliage plants the same exhibitor won with large *Latania borbonica*, *Kentias*, *Phoenix*, &c., also for a group of plants not exceeding 100 sq.-ft.

For six *Roses* in three varieties, R. Smith, Esq., staged fine plants, but a few days late. This exhibitor also won for five table plants and three *Dracaenas*. For three *Orchids*, W. W. Daniell, Esq. (gardener, Mr. T. Cross), won with two *Cattleyas* and *Dendrobium wardianum*. For the single, Mr. C. Parker scored with *Coelogyne cristata*. Mr. B. Ashton, Lathom, won for the epergne of flowers; and W. Charnley, Esq., for the basket.

FRUIT AND VEGETABLES included some good exhibits. Jos. Smith, Esq., won for six vegetables, and W. Charnley, Esq., for three kinds. Jos. Smith, Esq., had the best culinary and dessert Apples, remarkably fresh for the season.

The arrangements as usual were ably carried out by the energetic secretary, Mr. C. Parker, and his committee. The luncheon, at which a large number of members and friends were present, was under the chairmanship of the Mayor of Preston.

GRASSENDALE SPRING SHOW.—*March 17th.*

THE tenth annual show of the above was held in the Parish Rooms. The entries were somewhat less than in previous years, which was accounted for by the unfavourable weather, many usual exhibitors not entering in the competition. The show as a whole hardly upheld its high position. For twelve distinct *Hyacinths*, the first prize, presented by Messrs. Ant. Roozen & Son, Overveen, was won by J. H. Wilson, Esq. (gardener, Mr. F. Field), with massive spikes, the best being *Queen of the Blues*, *Grand Maitre*, *Fabiola*, *Lord Macauley*, *Leonidas*, &c. Mrs. Duncan (gardener, Mr. F. Keightley), was second. For six varieties, the first prize, given by Mrs. T. Davies, Wavertree, R. P. Houston, Esq., M.P. (gardener, Mr. J. Heaton), took the lead. For six pots—three bulbs in a pot—(prizes given by Mr. G. Rose, Liverpool), W. J. Davey, Esq. (gardener, Mr. G. Leadbeater), led the way with good spikes. For three pots—three bulbs in a pot—(prizes by Mr. T. Whalley, Liverpool), W. J. Davey, Esq., had the finest.

For six pots of *Narcissus* in 8-in. pots, Mrs. Duncan scored with a grand lot. For six pots single *Tulips*, Mrs. Duncan was again to the fore, *Keizerskroon*, *Prince of Austria*, *Proserpine*, *Joost Van Vondel*, &c., being good. For six pots of doubles the same exhibitor won with good blooms, *Toredor* being excellent. For four pots of *Amaryllis* the leading prize was again secured by Mrs. Duncan, the prizes being presented by Messrs. R. P. Ker & Sons.

The single stove plant in bloom was won by R. P. Houston, Esq., M.P., with *Begonia Glorie de Sceaux*. For the single greenhouse plant in flower Mrs. Duncan scored with *Imantophyllum miniatum*, 3 ft. in diameter. The prize for two *Orchids* was won by F. Cross, Esq. (gardener, Mr. C. Duke), with *Oncidium cavendishianum* and *Odontoglossum Insleayii*. For the single plant, W. C. Atkinson, Esq. (gardener, Mr. J. Madeley), led with *Coelogyne cristata*. For the specimen *Fern*, J. H. Wilson, Esq. (gardener, Mr. F. Field), led with *Pteris serrulata* major, well grown.

For one *Azalea*, R. P. Houston, Esq., M.P., scored, Mrs. Duncan being in the coveted position for three plants in 8-in. pots (the first prize presented by W. Hill, Esq., Grassendale). W. C. Atkinson, Esq., had the finest hardy *Rhododendron*; and for one *Rose* the same exhibitor had the best. For three hardy forced plants, W. J. Davey, Esq., won with good plants; and also for the single *Palm*, with *Kentia fosteriana*. For four *Cinerarias*, Mrs. Watts (gardener, Mr. J. Lewis), won with good types. R. P. Houston, Esq., M.P., was first for five table plants, two *Callas*, and four pots of *Lily of the Valley*. W. J. Davey, Esq., took the premier awards for one hardy *Azalea*, and four pots herbaceous plants.

Messrs. R. P. Ker & Sons staged a hank of *Amaryllis*, remarkable for their form and colour, the pick of a good lot being *Imperial*, *Ladas*, and *Sultan*, all rich crimsons, and *Phoebus*, a beautifully veined variety. The firm also contributed a beautiful group of *Palms*, *Imantophyllums*, *Azaleas*, *Lilacs*, &c., of leading kinds.

The management was under Mr. E. Evans (chairman), Mr. J. Madeley (treasurer), and Mr. T.

Johnson (secretary), the details being ably carried out. Messrs. Cromwell and Heaney were the adjudicators.

OBITUARY.

MR. THOMAS BOYD.

THE many friends of Mr. Thomas Boyd, late gardener to William Forbes, Esq., Callendar Park, Stirlingshire, will be deeply moved to learn that one so well known and so much respected by a very wide



MR. THOMAS BOYD.

circle of friends has been removed suddenly by death, on Monday, March 19th. Our friend and neighbour has not been quite well of late, but showed nothing to indicate that his end was so near. His kind and affable manner had gained him many friends. Either as a successful exhibitor or as a judge at exhibitions his kindly unassuming manner was always in evidence, and by such he became very popular among his compeers. He was a native of Hopetoun, near Edinburgh, and had excellent opportunity of gaining a thorough knowledge of gardening as an apprentice, journeyman, and foreman. He was early in evidence as a successful exhibitor of fruits, especially with general collections, and with *Grapes*; and for over twenty years has been known as one of the leading prize winners in the North. He attended all the International shows in England and in Scotland, where he was always well to the front, and returned with many of the most valuable prizes. He had, for *Grapes*, two Veitch Memorial prizes, besides cups and plate. For some years he gave a good account of himself when head gardener to Sir W. Wallace, Lochryan, Wigtonshire. From there he came to Callendar Park, near Falkirk, where he has shown much talent and zeal in the management of the fine gardens of Mr. Forbes for twenty years. Mr. Boyd has left a widow and large family to mourn his loss. He was fifty-five years of age.—*M. Temple, Carron House, Falkirk, N.B.*

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. A. Thatcher, Aldenham, Elstree, for his article on "Labelling," p. 454.

QUESTIONS AND ANSWERS.

Names of Plants.—*R. M.*: 1, *Caltha palustris*; 2, *Cyclamen ibericum*; 3, *Scilla sibirica*; 4, *Spiraea prunifolia flore pleno*; 5, *Prunus pseudo cerasus* (this is the accepted botanical name, but there are many synonyms); 6, *Erica carnea*.—*A. M.*: 1, *Dendrobium crassinode*; 2, *Dendrobium Pierardi*; 3, *Cattleya Trianaei* var.; 4, *Odontoglossum ruckerianum*.—*A. C. L.*: 1, *Spiraea Thunbergii*; 2, *Sisyrinchium grandiflorum*; 3, *Crocus vernus* var.; 4, *Saxifraga Sibthorpii*; 5, *Polygala Chamaebuxus*; 6, *Acacia Drummondii*.—*D. T.*: 1, *Lachenalia pendula*; 2, *Lachenalia tricolor*.—*E. C. H. D.*: 1, *Iberis sempervirens superba*; 2, *Euphorbia Peplus* (a bad specimen because the leaves are destroyed with a fungus).

Small Photos Received.—Would "D. D." kindly send his full name and address? not necessarily for publication.

Bougainvillea Sanderi.—*A. C. K.*: There should be no difficulty in flowering this plant in a lower night temperature than 60°, such as you mention. Nevertheless, it should flower earlier in the year if kept at that degree than if lower. The plant may, however, be grown in a greenhouse kept at 45° or 50° by night at the present time, and, of course, allowed to rise higher with the advance of the season. It should be fully exposed to sunshine at all times, and not shaded in any way whatever. Ventilation may be freely given just as would be accorded to the greenhouse under ordinary summer treatment. The shoots and leaves will be firmer and more robust under such conditions than if the plant were subjected to stove treatment, even though the flowers may be later in making their appearance. Keep the pots near the glass.

Director of Kew Gardens.—*A. H.*: In the note to which you refer on p. 452, the punctuation has got distorted by some unfortunate means or combination of causes. Commence at the twenty-eighth line from the bottom of the third column and read as follows:—"In April, 1841, Dr., afterwards Sir W. Hooker, took charge of the fifteen acres of Botanical Gardens. In 1855 he took charge of the Herbarium, and eventually the pleasure grounds. In 1865 Sir W. Hooker died, and was succeeded by his son, Sir Joseph Dalton Hooker. In 1886 Professor Thistleton-Dyer was appointed. In the same year Dr. Morris was appointed assistant director," &c. This should make the matter clear by the shifting of three points.

Tulip in Florence.—*A. D. W.*: With so small an amount of information, that is, description, it is rather difficult to fix upon "the small white Tulip with pink stripes, abundant next month in Florence," such as you mention. We think, however, you must refer to the Lady Tulip (*Tulipa clusiana*) which is native of the Mediterranean region, and might be cultivated. In this country Messrs. Barr & Sons, King Street, Covent Garden, London, grew it quite recently and possibly still do so. In any case you could apply there. Possibly also Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, London, may grow it.

Agapetes buxifolia.—*A. H.*: The note at the place you quote does not contain any statement that New Holland ever formed any part of Northern India; nor that *Agapetes buxifolia* was a native of New Holland. There is no such country as the latter in modern maps, though you may find references in botanical books to New Holland. The fact is the name of the country to which the name was given has been changed many years ago. Gardeners still speak of New Holland plants, however, and by the term they mean to indicate almost any hard-wooded greenhouse plant, which may include natives of Africa, and other temperate countries from which such greenhouse plants are obtainable. That was the sense in which the term was applied in this instance, and did not imply the inreading of any particular country. Moreover, names lose their significance, and custom dies hard. To be particular, *A. buxifolia* is a native of Bootan, which is in the north-east corner of India; but other species occur as far south as Australia.

Asparagus crispus.—*A. H.*: What method of description do you like best?

Species of Hypericum.—*E. C. H. D.*: At a rough calculation, there are over 700 names in the *Index Kewensis*, but the greater portion of them are synonyms. About 271 are given as good species. The smallest species we have seen is the British *Hypericum humifusum*, though there may be smaller species in other countries. The tallest we have seen is the shrubby *H. elatum*, from North America. In British gardens we have seen it about 6 ft. high, more or less. Seventy-five are recorded as being in cultivation, independently of varieties. All, or mostly all of them, are very neat in habit, pretty, interesting, and worthy of cultivation by those who fancy the class of plants.

Communications Received.—W. P. R.—J. Rusell—D. P. Laird—W. B. G.—Short, Short & Co.—D. M.—R. A. C.—J. H.—A. C.—T. B.—S. H.—Benton & Stone.

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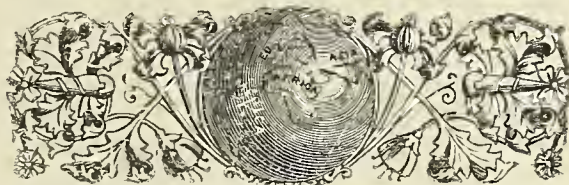
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MARCH 31st, 1900.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, April 4th.—Royal Caledonian Society's Show at Edinburgh (2 days).

THE CENTURY BOOK OF GARDENING*.

This massive and weighty volume, issued in twenty-six weekly parts, has now been completed, and runs to 610 pages, exclusive of the comprehensive index, which runs to 30 columns of letter press, and facilitates reference to the plants, fruits and vegetables dealt with in the body of the work. There is a separate index of the illustrations given in the work, and this runs to nine columns. A good index is indispensable to all books of any size, in order to facilitate reference; for students nowadays

*THE CENTURY BOOK OF GARDENING. A Comprehensive work for every Lover of the Garden. Edited by E. T. Cook. Published at the offices of "Country Life," 20, Tavistock Street, Covent Garden, W.C., and by George Newnes, Ltd., 7 to 12, Southampton Street, Strand, W.C. Printed by Hudson & Kearns, 83-87, Southwark Street, S.E. Price 18s.

have much to learn in order to get abreast of a fair knowledge of the profession; and have to consult many books if they desire to make themselves proficient in the various branches of the profession so as to qualify for places where general gardening is carried to a high state of perfection. The volume above described as weighty is an indication of the solidity and quality of the material, which consists of fine art paper with a glossy surface, which brings out the illustrations as well as the letter press in great perfection, a fact we mentioned on a previous occasion. The work deals with every aspect of horticulture, but so vast is the literature of gardening that details have had necessarily to be excluded. The greatest book-worm will, however, be unable to devour the volume at a sitting, or several for the matter of that.

The illustrations consist of photographic reproductions, which after all are most faithful to the originals when skilfully executed on the one hand by the artist and on the other by the printer; and here we must allow that both have accomplished their work admirably. It is rather a pity that a short account, at least, of every subject depicted, could not have been given, as that would have enhanced the value of the pictures and their interest to readers. Many of them represent "stately homes of England," and though a similar or even a greater number of equally fine places might remain unnoticed, that is what might be expected without prejudice to the remainder. No doubt they are intended to give glimpses of nineteenth century gardening, not at the beginning but towards the close of the century, and therefore decidedly modern. There is certainly no lack of material with which to adorn gardens at the present day; and provided the owners of the gardens are gifted with a love and taste for gardening, they have only to afford the means and order designs to be carried out to ensure a wealth and variety of vegetation, both decorative and utilitarian that could hardly be surpassed in any other country, temperate or tropical at least while summer lasts. Many of the illustrations occupy a whole page; and amongst these we may notice a glorious Rose garden; Rose beds and climbers at Shiplake Court, Henley; the fountain garden, Ashridge Park, Berkhamstead; Brome Hall: where the Water Lilies grow; the topiary gardens, Elvas on, Derby; la refuge and fountain, Alton Towers, Staffordshire; the Italian garden and conservatory, Belton House, Grantham; the terraces and Elm avenue, Ven House, Milborne Port, Somersetshire; and many others, the above being taken at random. All of them represent gardens upon which their owners must have spent vast sums of money; and if most or all of them represent the taste of the owners, there is certainly an immense amount of variety even in that respect. Some have made gorgeous displays of floral vegetation, while others embower their grounds with umbrageous trees, or build stately palaces with gardens of geometric exactitude to match. As might be expected stony grandeur is a prevailing feature of some establishments; while topiary art is equally well represented by some of the finer or most noted examples in this country. There can be little question but that formal gardening still retains a considerable hold upon this country, particularly in those portions of the private demesne in proximity to the dwelling house. Many of the above gardens, no doubt, belong to an earlier period than the last two decades of the dying century; but the more modern taste of planting or naturalising Daffodils, Snowdrops, Crocuses and other hardy bulbs in the grass has by no means been overlooked. Something in this way is

represented by the pictures of Daffodils in the grass at Huntercombe Manor, Maidenhead; gathering wild Roses; Himalayan single Rose; a group of China Roses; a colony of Cyclamens; Ferns on rockwork, &c. The latter are associated with water. Rockeries are decidedly a feature of modern gardening, and many of them are here represented. Bold masses of rock are often subtended by pools of water, and the back ground is very frequently filled in with masses of shrubby and arboreal vegetation. The picture entitled "A well-constructed rock garden," represents a style of alpine garden that might be more frequently imitated than it is. A bold mass of *Cerastium Biebersteini* shows what should be the aim of gardeners in the planting of rockeries for pictorial or spectacular effect when viewed from a more or less distant part of the grounds. A broad patch of any bright plant has all the effectiveness of a flower bed without its formality.

The chapter on flowers for all sorts of purposes is dealt with by various writers at considerable length, and numerous illustrations of them are interwoven with the text. Ferns get their share of attention, and amongst them the figure of *Polystichum angulare plumosum densum* is worthy of mention, as the very wealth of greenery and fineness of cutting represented by a single frond make it very difficult to represent in black and white. Hardy Ferns, mostly natives, come in for a great share of attention. Arboreal vegetation is strongly represented in the chapters devoted to "trees and shrubs in garden and woodland," the manuscript in this case being from the pen of Mr. W. J. Bean, Royal Gardens, Kew. The habit of many favourite or popular trees is well represented and their general characteristics recognisable. The trees at "The monk's walk, Compton Beauchamp," must be veritable giants of their kind.

The culture of vegetables is in the able hands of Mr. Edwin Beckett, who has already well earned respect for his opinions in the matter. He passes under review the whole subject of vegetable culture dealing with the matter in a practical and masterly way. He is a strong believer in the necessity for deep trenching and heavy manuring of vegetable ground. In this respect we can endorse his opinion; for all good vegetable gardeners owe their success to thorough and deep cultivation. The young men at such places are also thoroughly aware of the fact, judging by the hard work they have to perform, each succeeding winter; but they have no reason to regret it in after life.

Weather in London.—The weather of the past week has been very cold, and at times rain or snow threatened to fall. So far, however, dryness has prevailed. Growth is in the meantime very slow. Grass cutting has commenced.

Blue Primroses.—Our correspondent, J. C., F., Chard, sends us a bunch of a very beautiful variety of the blue Primrose. The flowers are of a rich blue, of that particular shade now familiar to those who grow or have seen this strain of Primroses. Around the golden-yellow eye was a bright crimson zone, making a bold contrast with the blue of the rest of the flower. Very frequently a decided tint of purple runs through the blue of many varieties of the strain; but in this instance the narrow band of crimson above mentioned was all that showed itself, not mixed with, but quite separate from the blue. The late and cold spring is by no means favourable to the growth of flowers, but the Primroses sent us were both fresh and beautiful. Evidently a pure atmosphere, remote from the smoky conditions prevailing in the vicinity of large towns, is highly favourable to the blue Primrose.

Ealing Gardeners' Mutual Improvement Society.—The annual dinner and distribution of prizes of this society will take place on Tuesday, April 3rd, at 7.30 p.m., at the Drayton Court Hotel, Ealing, W. The chair on that occasion will be taken by R. D. Preston, Esq.

Ladywell, Lewisham and District Cottagers.—The report and balance sheet for the year ending October, 1899, with the schedule of prizes offered at the forthcoming annual exhibition on August 16th and 17th, are now published. The society's finances are good, a sum of £24 being placed to its credit. The officers and the schedule of prizes stand much the same as in previous years. Mr. H. J. Jones, among nurserymen, offers a Silver Gilt Medal, in addition to first prize of 10s., in the class for a group of plants arranged for effect. Numerous other special prizes of a strictly utilitarian nature are offered.

National Carnation and Picotee Society: Southern Section.—The report for the year 1899 of the above society is now to hand. The finances of the society are on a very sound footing, as much as £225 11s. 10d. being the amount of the balance to be carried to the credit of 1900. The society has enrolled a number of members during the year, and the committee rest satisfied with their year's progress. The annual show held at the Crystal Palace was in most respects entirely successful. The extreme heat was the only drawback. The exhibition this year will be held at the Crystal Palace, Sydenham, London, S.E., the probable date being Wednesday, July 25th, 1900. About £300 and four silver cups will be awarded in prizes. Mr. T. E. Henwood, Auricula Villa, 16, Hamilton Road, Reading, is the hon. sec. and treasurer.

National Auricula and Primula Society: Southern Section.—The twenty-third annual report for the year 1899 is now to hand. Sixteen new members have been elected during the year. The committee, while thanking those who have contributed their services to the society during the year, still express a hope and desire for greater and more widely spread influence. All lovers of the flower are cordially invited to become members of the society. The advantages which members secure are that they can exhibit at the annual shows, they receive tickets of admission to the exhibitions, and a packet of choice "Alpine" seeds, saved from the collection of Mr. James Douglas and Mr. Charles Phillips, who generously present this seed as an encouragement to growers to join the society. Two classes have been added to those open to gold-laced Polyanthus, with the view of encouraging this section. The report of the society (which is desirous of spreading its influence abroad) may be had from Mr. T. E. Henwood, Auricula Villa, 16, Hamilton Road, Reading. The annual show will this year be held on Tuesday, April 24th, in the Drill Hall, James Street, Westminster, S.W.

Supply of Shamrock for the Queen.—Mr. W. B. Hartland, 24, Patrick Street, Cork, Ireland, sent several beautiful packets of Shamrock to the Queen, at Windsor Castle, for St. Patrick's Day, and received the following reply:—

"The Private Secretary is commanded by the Queen to thank Mr. W. B. Hartland for his letter of the 14th inst., and for the Shamrocks he has kindly sent to Her Majesty.

16th March, 1900.

"Buckingham Palace."

Mr. Hartland also offered seeds of Shamrock to the Secretary of State for War, and in return received the following reply:

"War Office, London, S.W.

16th March, 1900.

"Sir—I am directed to acknowledge the receipt of your letter of the 12th inst., and to acquaint you in reply that the Secretary of State for War accepts with very many thanks your kind offer of a gift of 1,000 packets of Shamrock seed.

"I am further to state that if you will be so good as to send the seed to this office it will be despatched to South Africa, and distributed among the Irish regiments.—I have the honor to be, sir, your obedient servant,

"W. A. Dunne, A.Q.M.G.

"W. B. Hartland, Esq."

Bees consume large quantities of water especially during spring and summer months.

Clematis Vitalba, with its list of common names, among which that of Virgin's Bower is very popular, has derived this from the habit the plant has of forming cosy bowers wherever it grows.

Death of Admiral Fairfax.—Admiral Sir Henry Fairfax, of Ravenswood, Melrose, Roxburghshire, died suddenly while driving with Lady Fairfax at Naples, on Tuesday, March 19th. The deceased will be sorely missed by residents in the district around lovely Ravenswood. The superb collection of Orchids, too, which he had amassed will now have fewer additions to it in the way of fresh plants brought from foreign countries. The Admiral himself used to collect abroad. This Orchid collection is probably second to none of any in the North. Our sympathies go out to all who were dependent upon and related to the late Admiral.

Chiswick Gardeners' Mutual.—Mr. J. Fraser, F.L.S., Editor of THE GARDENING WORLD, lectured most interestingly on the subject of "The Cabbage Tribe" before the members of the above association on Thursday, the 22nd inst. The lecture was paramously scientific, but every point was carefully explained or compared. The derivations of the various generic or specific names was exhaustively discussed, showing that he has a strong bent to linguistic erudition. By means of numerous wood cuts, and by well prepared dried specimens of some of the British members of the tribe, Mr. Fraser was able to portray the forms of all the varying species or varieties. The uses of the different members were pointed out. There was a good attendance, and hearty thanks were accorded at the conclusion.

Sweet Pea Bi-Centenary Celebration.—Substantial progress is being made towards the celebration of the introduction of the Sweet Pea into Great Britain two hundred years ago. The celebration, as already announced, is to be held on July 20th and 21st, at the Crystal Palace, Sydenham, and will take the form of a grand exhibition of Sweet Peas shown in bunches, in vases, in pots, in pans, in baskets, in bouquets, in wreaths, in table decorations, and in other ways that may suggest themselves to the gardener and florist; at the same time a conference will be held at which papers will be read and discussed. The work of arranging for this conference occupied the attention of the executive committee which met at the Horticultural Club, Hotel Windsor, on Friday, the 23rd inst., when it was decided that the conference proceedings be held during the afternoon on each of the show days. Broadly speaking, the subjects for consideration upon the first day will be the history, evolution, and improvement of the Sweet Pea, also an American's view of this popular annual. On the second day it is proposed to deal with the decorative uses of Sweet Peas, Sweet Pea cultivation, and classification. It is probable, however, that other matters relative to Sweet Peas will be discussed, but a further meeting of the committee will be necessary ere titles and authors can be announced and the final arrangements made. The desire of the executive body is that the largest possible amount of information regarding Sweet Peas shall be brought into reasonable limits of time and space, for it is hoped that the funds will admit of the publication of the papers read and discussion elicited, together with classification, &c., in the form of authoritative report. The executive committee reports that the actual income up to the date of meeting is, in round figures, £250, this including subscriptions and special prizes. The hon. secretary, Mr. R. Dean, Ranelagh Road, Ealing, stated that, owing to the immense demand, he had practically distributed the whole of the two editions of schedule and circular; consequently, it was decided to have a further 550 of each printed. Letters from several Continental and American gentlemen were read, and in each case the writer expressed his sympathy with, and interest in, the movement, and his intention of being present at the celebration. Mr. N. N. Sherwood's generous offer to place at the service of the committee, for the purposes of classification, the immense trial of Sweet Peas his firm—Messrs. Hurst and Sons—are this season conducting at Kelvedon, was unanimously accepted, and Mr. Sherwood's thoughtful generosity in this matter was heartily applauded.

The De la Grifferaie Rose stock is said to be useless for any, except the most vigorous growers, like those of the Polyantha section.

Messrs. Stanley, Ashton & Co.—This is not a new firm but merely an improved way of writing Messrs. Stanley-Mobbs & Ashton, the wholesale importers, exporters, and growers of Orchids, of Southgate, London, N. The whole name was too cumbersome and lengthy for business purposes, so that for convenience sake the title and address of the firm are Messrs. Stanley, Ashton & Co., Southgate, London, N.

The Reading Gardeners' Mutual.—A very large attendance of members assembled on Monday last in the Club Room of the Old Abbey Restaurant, to spend an evening in "A Surrey Garden," by the aid of lime-light views, and under the guidance of Mr. Alex. Wright, of Bucklebury Place Gardens. The garden was that of Falkland Park, which was entirely planned and maintained for several years by Mr. Wright, who, in a very interesting manner, explained the different alterations that were made, and the reasons for planting particular varieties of trees, shrubs, and flowers. Messrs. Baskett and Neve spoke to the very interesting evening that had been spent, and congratulated Mr. Wright on the splendid way in which he had laid out the grounds and gardens under his charge. On the proposition of the chairman, Mr. Fry, a hearty vote of thanks was accorded to the lecturer and to Mr. G. Smith, of Cintra Lodge Gardens, for staging some beautiful specimens of the White Grape Hyacinth, and to Mr. Cretchley, The Gardens, The Honeys, Twyford, for a splendid plant of *Cineraria stellata*.

Anne Pratt's Flowering Plants of Great Britain.—This publication, which we have had occasion to notice at various times within the last few months, has now reached the final stages of its issues. Numbers XXXI. and XXXII. of the fourth volume are devoted to the grasses and the Filices or Ferns. The coloured illustrations are very good, and faithfully represent the various subjects. The number of them in each of the parts is quite surprising, especially as the price of each is but one shilling. The structure of the plants and flowers treated upon is depicted clearly by means of drawings and by letterpress descriptions, the fertilisation of Ferns being also detailed. With this work beside them, he or she who cares to apply themselves diligently for one summer to the study of British botany will have gained so much insight to it that a keen interest will have been induced, and will be maintained from the sheer fascination of the study. We would recommend those who are likely to have opportunity to study our native plants, to obtain at least a specimen copy, feeling sure that they will be strongly tempted to secure the complete work. It is published by Messrs. Frederick Warne & Co., 15, Bedford Street, Strand, London.

Croydon and District Horticultural Mutual Improvement Society.—An interesting meeting was held in the society's room at the Sunflower Temperance Hotel, Croydon, on Tuesday evening, March 20th, forty-nine members being present. Mr. F. Gilbert, The Gardens, Addington, read a capital paper on "Violets." After giving an account of the geographical distribution of the Violet, the essayist dealt very practically with its culture, principally in the open air and in frames. Soils, manures, and diseases were mentioned. Mr. Gilbert much prefers a west or south-west aspect. The reading of the paper brought various questions from members, and the discussion which followed, and the practical remarks were most instructive. A very hearty vote of thanks was accorded Mr. Gilbert. The secretary, Mr. Gregory, read and placed before the members a complete list of books on botany, horticulture, agriculture, insect pests, &c., which he had received from Mr. Jast, chief librarian of The Croydon Public Libraries. On the proposition of Mr. Naylor, seconded by Mr. Harris, a unanimous vote of thanks was given Mr. Jast. Ten new members were nominated. Mr. J. R. Box sent a vase of very good *Cyclamen* blooms; also some bunches of *Cineraria stellata*. Notice was then given of the next meeting which will be held on Tuesday evening, April 17th. The subject will be "How Plants Feed," introduced by Mr. C. B. Green, Chairman of the Ealing Gardeners' Mutual Improvement Society. The meeting terminated with a hearty vote of thanks to the chairman.

The Italian Vintage.—The Italian vintage last year amounted to 699,000,000 gallons, the figures for the preceding years being, according to the *Journal of the Society of Arts*, 723,800,000 gallons, £22,600,000 gallons, and 629,200,000 gallons.

Acacia dealbata.—In reference to the paragraph on this subject, on p. 469, by "J. M., B.," I may safely predict that he is not likely to get many replies to his closing question. It is hardly likely that it will be found to thrive far from the south and west coasts of England. I was unaware that any trees of it would be found on the mainland, and if he is competing he ought to have the prize for the originality of the information vouchsafed. Some years ago I saw a fine tree of it about 15 ft. to 20 ft. high, with a broad spreading head quite as far through, in one of the front gardens facing one of the principal streets in St. Peter's Port, Guernsey. Being in autumn it was not the flowering season, but evidently the tree had reached the flowering stage some years previously.—P.L.

"A Danger to Planters."—A writer on the subject of trees in a society paper condemns the practice of propagating such trees as Lawson's Cypress and the like by cuttings which, as so often happens, are struck under bell glasses. From such beginnings they will never make proper trees. We read of trees reaching 100 ft. or 150 ft., and in some cases even more than twice that height, and some of us may hope to get something like this even in our own country. But rapidly as the tree grows, and well suited as it is to our land, it is impossible that it can ever come to the dignity of a mighty tree from a cutting. It is the branchlet origin at the start that makes the tree grow with a many stemmed habit. The writer suggests the propagating of the Lawson and other Cypresses from seeds.

SCENT IN CYCLAMENS.

It may be well to ask where the scent has gone in our present race of *Cyclamens*. Beautiful as any flower may be, its merits are much higher when it has a sweet scent. Years ago the *Cyclamen* was noted for its delicious perfume. At the present time it is difficult to find any that can compare with kinds thirty years ago. Somehow or other we seem to give up many good features for vulgar size.

Personally, I am old-fashioned and prefer the smaller-bloomed kinds to the large ones of to-day. I admit the blooms are large, but then there are far fewer on a plant. Added to this they have no perfume. Nor do I consider them as ornamental as the strain of smaller-bloomed kinds with bright and decided colours. They do not commend themselves for cutting. Some thirty-five years ago when a youth in a large garden in Wiltshire, *Cyclamens* were grown well, and I remember the fine plants in 32 pots, with an enormous quantity of blooms in thumbs. As they were elevated amongst *Cinerarias*, they scented the house, and oh, so sweet! I admit much has been done to improve the culture of these, but certainly we ought not to lose sight of this desirable feature in them for mere size.—J. C., F., Chard.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Dendrobiums from Larbert House.—A box of blooms of various species and varieties of *Dendrobium* has reached us from Mr. David Airdrie, gardener to J. H. N. Graham, Esq., Larbert House, Larbert, Falkirk. The varieties of *D. nobile* are numerous, and some of them are very fine. Several of those without any varietal name attached are handsome flowers, particularly one in which the rich purple of the segments is extended to the middle of the sepals and petals, and then continued in a paler hue to the base. *D. nobile pulcherrimum* is a pretty light variety, with nearly white petals and a creamy lip. *D. nobile wallichianum* is a large flower, with dark tips to the sepals and petals. *D. n. w. grandiflorum* differs chiefly in being paler. *D. n. Larbert House var.* is a bold and handsome flower of large size, with broad petals that are richly coloured in the upper third of their length. The maroon blotch on the base of the lip is very intense and beautifully rayed at the margin. *D. n. Rolfae* is also pretty in quite another respect. The tips of the sepals are

rose, the rest being delicately shaded. The short and broad petals are whiter but retain their bright rose tip. The blotch at the base of the lip is reduced to very small proportions, and rosy-purple, lined on either side with maroon. The *peloria* form, known as *D. n. Cooksonii*, in good form, also accompanied the others.

Dendrobium leechianum is a hybrid from the same parents as *D. Ainsworthii*, but the sepals and beautifully crisped petals have more of the rosy tint than the original *D. Ainsworthii* possessed; and, besides, the hybrid under notice is the less common of the two in cultivation. Large and well coloured flowers of *D. wardianum* were also sent. A different name might have been found for a very pretty variety named *D. wardianum album*. The sepals and petals are pure white with the exception of a small and pale purple blotch at the tip, the lower half being waxy and shining. The lip hardly differs from that of the type. There is even less colour in *D. w. candidum* than in this which is both beautiful and distinct, but we should have given it another name. Mr. Airdrie is very successful in the cultivation of the above two types, namely, *D. nobile* and *D. wardianum* with their varieties. The samples sent were of the first size, and in the aggregate they presented a galaxy of bright colours. Two others have yet to be mentioned, namely, *D. findlayanum* and *D. primulinum*. The former is always charming on account of the delicacy of all parts of the flower contrasting with the rich orange base of the lip. Several of them were distinctly scented, including *D. primulinum*, *D. leechianum*, etc. The snowy white *Coelogyne cristata alba* is also a favourite at Larbert House, where Mr. Airdrie grows a number of specialities.

The following are among a number of Orchids at present in flower at the Royal Gardens, Kew:—

Brassavola grandiflora.—Among the showy species of these epiphytes must be included *B. grandiflora*. Pure white Orchids are scarce, and for that reason one may well prize the few we have. *B. grandiflora*, when in good form, is very pretty, the lip being of medium size, convolute, so as to form a moderately long tube. The sepals and petals unfortunately are narrow, and only from 1 in. to 2 in. long. The foliage is thick and succulent.

Ansellia africana.—This is a noble flowering epiphytal Orchid, attaining to about 1 yd. in height. It flowers from now till well on into spring; but to get it to last the longer a cooler house than that necessary for growth should be selected. The genus is found distributed over tropical Africa, and reaches as far south as Natal. A place in the East India house is found to serve its needs. One of the most popular species is the subject under note. The flowers individually are large, and are borne on drooping racemes which spring from the apex of the stems. The flowers are highly marked with bars of dark brown or purple on a pale primrose ground. The lip is an extremely rich and fine yellow. As many as 100 blooms can be obtained on one spike. It is an evergreen species.

Dendrobium Pierardii.—This delicately sweet little species, which is deciduous, is very useful because of its early flowering character. The blooms depend in fascicles of two blooms from the nodes of the stems. The spatulate lip is tinted a soft yellow, and the involute claw is feathered with purple lines. The petals and sepals are quaintly pretty, being a transparent white. They are small, but freely produced on the rather long stem. The species is a native of India; a place in the East India house, and the treatment similar to *D. superbum* suits it.

D. wardianum.—Some few pieces of this very handsome *Dendrobe* are dotted about the stages. The blooms are of good form, but not numerous.

D. leechianum.—A rather showy member, having a mauvy-purple lip of the usual spatulate form, and recurved at the edges. It is coloured white, with mauve tip and a maroon throat. The sepals and petals are edged with mauve, the inner part of the lip being white. It is a handsome hybrid, the result of a cross between *D. aureum* and *D. nobile*, in fact, the same cross which gave us *D. Ainsworthii*. A place beside the other above mentioned is agreeable to it.

Eulophia saunderiana.—The *Eulophias* are not particularly pretty, yet, for variety, such a species as *E. saunderiana*, with its erect raceme of small flowers having crested lips and arching upper petals,

has some claim to inclusion in a collection. The species is in flower now. The lip is bifid, and winged at the back part on each side. These wings and the front drooping part of the lip are streaked with purple veins. The petals and sepals, which are ovate and acute, likewise bear this faint purple veining. The culture as for *Calanthes* suits the *Eulophia*.

The following species are likewise to be seen in flower:—*Cattleya guttata* var. *Prinzii*, *C. aurantiaca*, *Laelia harpophylla*, *Lycaste Skinnerii*, *Maxillaria venusta*, *Gomesa crispa*, *Oncidium unguiculatum*, *Dendrobium crepidatum*, *Selenepedium grande*, *Cryptostylis arachnitis*, *Acriopsis indica*, *Eria flava*, *Calanthe vestita* *Regnierii*, *Epidendrum xanthinum*, and *Laelia Cowani*.

STOVE AND GREENHOUSE CLIMBERS.

MANY climbing plants are really never seen to perfection through improper training, although sometimes it is unavoidable, owing to the position, etc. Some of the most beautiful plants belonging to the stove and greenhouse are to be found among those classed as climbers, and a selection can easily be made to suit any position. For the roof of the stove the following flowering plants are indispensable:—*Thunbergia grandiflora*, *Dipladenia profusa*, *Bougainvillea glabra*, var. *sanderiana*, flowers inconspicuous, and almost concealed by large, leafy bracts, which are a rich violet-red. This plant should be allowed to grow freely. *Schubertia grandiflora*, *Allamanda Hendersoni*, *Stephanotis floribunda* are others. *Cissus discolor* is a very handsome foliage creeper, and if the vines are trained so that the branches hang freely from the roof the effect is very beautiful. *Manettia bicolor* is very pretty for pillars or supports of any kind, *Ficus repens* is very useful for covering back walls of stoves and ferneries. *Cobaea scandens* and *Cobaea scandens variegata* are graceful and very rapid growers, producing large, bell-shaped flowers, and are very effective when trained as recommended for the *Cissus discolor*. *Myrsiphyllum asparagoides* (*Smilax*) is a universal favourite for table decoration, bouquets, &c. A good plan is to train each spray up separate threads of binding string. *Cantua dependens* has long, tubular flowers. *Plumbago capensis*, if possible, should be allowed to grow freely. *Lapageria alba* and *Lapageria rosea* are very effective when trained over a greenhouse or conservatory roof.—*C. P. Cretchley, The Honeys, Twyford, Berks.*

HOW TO PROPAGATE CROTONS.

THE safest and best way to propagate these plants is by the simple process known as ringing. The best time to do this is the spring of the year. Select the plants to be rung, and remove a few leaves about six or eight inches from the top of the plant, just enough to allow room for moss. Get a sharp knife and cut from a joint downwards in an inwardly fashion. Leave enough of the stem you have cut to support the Croton, and supply it with sap. Get some good damp moss and put round the cut and tie up securely with bass. Be sure and tie the plant firmly to a stake to avoid its being broken off when syringed. See that the moss is kept well damped by frequent syringing, for if the moss is left to go dry the Croton will not root. As soon as roots appear through the moss, cut off the plant below the moss and pot up into 60's or 50's in some good soil. Fibrous loam with some good leaf soil and silver sand will be found to suit them. I may here add that *Dracaenas* of all varieties may be rung the same as Crotons, but of course the soil is different, some requiring peat &c, and others the same mixture as Crotons.—*R. Maybury, Silver Medalist, Wolverhampton Horticultural Club.*

BOWLING GREEN.

A CORRESPONDENT in a contemporary some time back made enquiries as to the formation of a bowling green. Another correspondent replied to this effect:—"We do not understand what is meant by the crown in the centre. We have never seen bowling greens other than absolutely flat, indeed, as perfectly level as can be. The winding of the bowling is not produced by the formation of the ground, but to the form or bias given to the ball, and the play really depends on understanding this bias, and how

it may be overcome. If there are grounds with crowns and trenches round them to catch the balls, then is that something we have never heard of. You can really get a true level if you use a bricklayer's level or plumb-board."

Bowling is a very popular game in Lancashire, consequently greens are numerous, and are all laid down with a crown in the centre, from 6 in. to 10 in. high. A green fifty yards square may be a foot higher in the middle or the crown than the outer sides. Round the sides there are channels to receive the balls. I am not a bowler, but have always understood that there would be no art in bowling if the ground were level; so the plumb-board or level is useless for laying out a bowling green, and the only way it can be done is with the T rods. One owner of ground concreted the bottom in convex fashion, and placed over this some cinders, then soil. Another secured a lot of old bricks cheap, and paved the bottom with them. On these he placed cinders from mill furnaces, and over these soil, the object being in each case to ensure dryness at all times. In dry weather sprinklers are placed on the green to avoid parching of the grass, and to maintain it in one uniform state. Has anyone beside the correspondent referred to seen an "absolutely flat" bowling green?—*W. P. R., Preston.*

THE FRUIT GARDEN.

MARCH is the starting-post from which the gardener takes his departure on his race round the year. Whatever remains unfinished in the fruit garden, it should yet have attention if possible. Peaches off the walls to retard them may soon be fastened in their positions. If flower-buds are very thick on weakly trees, they should be thinned in time, otherwise a thin crop may be the result. It is not uncommon among practical men to say "they had abundance of buds, but they all dropped off." Wood crowded, and buds clustered all over, without room to expand, are often the causes of this "dropping." Where trees are at the mercy of frost and cold battering rains it is difficult to secure a crop under such circumstances. Disbudding requires attention. It should be done gradually. As soon as the buds can be detected, rub or nip them out among the fruit buds with a sharp pointed knife, clearing off many of the latter at the same time, leaving those best placed and strongest. This applies to Apricots, Plums, and Morello Cherries, as well as Peaches, always leaving one or two good buds next the main branches, and one at the top of each shoot to lead up the sap. Stopping the shoots, and having a number of spurs fitting closely to the wall is a sure way of having plenty of fruit buds. Timely stopping strong shoots is necessary to keep the trees evenly balanced over the walls.—*J. Macdonald.*

DENDROBIUM NOBILE.

WITH the exception of *Calanthes* I consider the above the most useful Orchid to grow for early spring flowering. It can be had in bloom easily by the time *Calanthes* are on the wane, which makes it doubly valuable. As soon as new growth is seen pushing from the base, carefully pick out any loose material, and give a top-dressing of fresh sphagnum and peat, adding a little charcoal or crocks. If any plants require repotting shake them clear of old soil, prepare your pot, half filling it with clean crocks, a layer of sphagnum, and then a little peat, placing your plant a little above the rim of the pot. Add the soil just mentioned as work proceeds, not pressing it too firmly, securing the longest growths to neat stakes to keep the plant in position. An ordinary stove, if no Orchid house proper is available, will grow this plant splendidly, providing a fairly light position is given it, dispensing with shade as much as possible. Ply the syringe well up under the growths to the disadvantage of thrip. As soon as growth is perceived to be finished, which can easily be seen by examining the centre, remove to cooler quarters, where a temperature of 50° to 60° can be maintained, affording sun and air to thoroughly ripen the growths made the previous years, which will produce the most flowers. Later growths often carry a few near the base. Keep dry overhead, and only afford water at the root to prevent shrivelling, and introduce into heat and moisture as required, as soon as you see the flower

buds prominent at the nodes. But they require a long rest, and if given much heat before they are thoroughly ripened, growths appear instead of flowers.—*J. Mayne, Bickton.*

Kitchen Garden Calendar.

FORCED VEGETABLES.—Owing to the backwardness of the season and the scarcity of green spring vegetables, those grown under glass will still be in demand. Unless there is a very great change in the weather there will be no Asparagus ready to cut from the open ground for another three weeks or longer. Every effort should therefore be made to prolong the usefulness of that growing on hot beds or in pits. Those who have permanent beds over which temporary frames can be erected will be able to forward the growth somewhat by their aids. It is too late now to take up roots for forcing, as that in the open ground should be ready to cut before the roots lifted and planted in frames would be exhausted, and to sacrifice permanent beds for so short a period would be a great waste. A sprinkling of salt or guano over the surface of the soil in the frames, and afterwards washed in with warm water, would induce the roots to send up a few more growths, and so tide over till that outside was ready to cut.

FRENCH BEANS.—The absence of sun has necessitated the use of more fire heat to maintain the requisite warmth, and such is always favourable to the production of red spider. To keep this under more moisture in the atmosphere must be afforded, and the plants must on no account be allowed to suffer for want of moisture at the roots. Should any spider make its appearance this ought to be promptly dealt with by giving the foliage a thorough washing with the syringe. As the weather gets warmer, the pods will swell much faster, therefore it will not be necessary to make such large sowings to keep up a supply. Smaller sowings at shorter intervals will be found more economical.

POTATOS, both on hot beds and in frames, will need watching to prevent the foliage from coming in contact with the glass. Where this happens, special care must be exercised in the way of covering at night, for if the leaves get frozen this causes a serious check to the growth. Earthing should be done before the foliage is too forward. Do not apply too much water, only just sufficient to keep the plants in a healthy growing condition. Planting in the open ground will now be general, and where the land has been prepared as previously advised this will not be a long operation. Many make a mistake by having the rows too close together for some varieties, as the haulm has not room to develop properly; when this happens the crop is never satisfactory. Where strong growing kinds are cultivated in the garden, and the soil is in good heart, a distance of 3 ft. should be allowed between the rows, and at least 15 in. from plant to plant in the row.

CARROTS.—At all times the young tender roots of these are acceptable. Those sown on hot beds will soon be ready for use, and to succeed these the batch brought forward on a warm border will be most acceptable. A sowing should now be made of some short-rooted variety in the open quarter. About the middle of the month the intermediate and long rooted varieties may be sown for a main crop. In districts where the soil is very fertile, the latter end, or even the beginning of May, will be early enough to put in the seed, for when the roots are overgrown they often split should we have a wet autumn before being lifted.

SMALL SEEDS.—Borecole, Brussels Sprouts, Savoys, and Cauliflower, should now be sown. Avoid sowing too thickly as the plants become stunted before they are ready for transplanting. It is useless to sow a quantity of seed where only a few dozen plants of each kind are wanted for planting; better by far have dwarf strong plants than those that have become spindly through overcrowding in the seed bed. The Turnip fly sometimes plays sad havoc with these when small; for this reason it is necessary to sow more seed than would otherwise be needed. Soot, newly slacked lime, and guano are all good for keeping these pests off, particularly the latter, for the quicker the plants grow the less opportunity there is of these pests destroying them.

CAULIFLOWER, ONIONS, LETTUCE, and other plants that have been grown under glass may now

with safety be planted out. Advantage should be taken of showery weather if possible, as the plants will then grow away more freely. Rather than plant when cold parching winds prevail, we would prefer to wait another week or so, as by so doing there will be a gain in the end. Salading will be more in request as the weather gets warmer. Radishes, Lettuce, and such-like, must be grown in such quantities as to keep up a supply. Mustard and Cress will grow if sown on the open border and protected with a hand light; while Chervil will grow freely if sown in the open ground. Weeds will now be showing themselves, therefore when the weather is fine the hoe should be got to work amongst growing crops. This will not only keep the ground clean but will admit the air to warm the soil.—F.W.J.

THE FLOWER GARDEN.

SHRUBS FOR AN ALPINE GARDEN.—On this occasion I propose giving some hardy and dwarf growing shrubs, whose presence, for shelter, for variety, and for winter furnishing on the rockery, is a necessary item in the constitution of the same.

EPHEDRA MONOSTACHYS.—This is not at all a common little shrub, yet as we have room enough in most rock gardens to allow all the space it ever requires, we see no reason for its absence. The slender, trailing, green shoots are leafless bearing bracts instead, resembling the central stems of Equisetums, or Horsetails. When well berried, the berries being red, this little shrubby plant is pretty and cheerful. It thrives in poor, gravelly soil so that those who are searching for plants for such soils might well search out this Ephedra. It is also known as *E. vulgaris* and hails from Siberia, being also found throughout parts of Europe.

PERNETTYA MUCRONATA.—In this bushy little shrub we have a better known member. Still, I think there is room for its increased adoption, in many northern gardens at least. The habit is not unduly compact, while the ovate leaves which are $\frac{1}{2}$ -in. long, are dark green, and shine as though varnished. It is a most ornamental and pretty rockery subject. *Arbutus mucronata* is a synonym, but it has no closer relation to the Strawberry tree, except that it belongs to the same order—Ericaceae. The abundance of bell-shaped white flowers adds yet another attraction. Its use need not be confined to rockeries but it may be planted by water margins in dry soil, or in clumps out in the shrubbery. On the rockery it is of great service as a protective or nurse plant. On its lee side many less hardy dwarf plants obtain a safe home. To those who would like to propagate it, layers constitute the easiest and best means.

PODOCARPUS ALPINA.—The branches of this Podocarpus bend down after growing 1 ft. or 2 ft. high, the general appearance of the subject being like that of a small type of Yew.

GENISTA SAGITTALIS.—The flat, blade-like, stiffish shoots of this suitable rock plant growing out as they do in close procumbent masses, make it at once a capital subject for the slopes of a bank or rockery. A sandy soil suits it and either an open or a shaded position may be selected. It bears sparse yellow flowers like the majority of the other Brooms.

SANTOLINA CHAMAECYPARISSUS INCANA.—Many seem to possess this plant without knowing its name if one is to judge by the frequency with which it is desired. Besides being a fine looking plant it (as the specific type in like manner does) possesses an exceedingly agreeable aroma. The foliage when pressed exhibits this characteristic. The plant is dwarf and bushy and differs from *S. Chamaecyparissus* very noticeably in the colour of the close growing foliage. *S. Chamaecyparissus* is light, ashy gray, while *S. C. incana* is more hoary. A light soil and sunny position suits it well, and new clumps can be made from cuttings.

EUONYMUS RADICANS VARIEGATA is frequently referred to and is too well known to require further notice.

HELIANTHEMUM UMBELLATUM.—There is a delicacy about this species of Helianthemum which makes it very ornamental and desirable to possess. In all ordinary winters the plant is quite hardy. It grows erect, the general appearance reminding one of a fine leaved Rosemary. The narrow leaves are

glossy. It bears snow-white little flowers. It may be serviceable to refer to the collections of rock Roses which should be in every sunny garden.

Without entering on any further special notices at present I should still like to add a few names of other subjects. These are Yuccas in variety, *Picea excelsa pygmaea*, *P. e. Remontii*, *P. Laricio aurea*, *Juniperus virginiana compacta*, *Taxus baccata fastigiata*, *Artemisia arborescens*, dwarf Rhododendrons, *Pinus Strobus pendula*, *Thuja japonica pygmaea*, *Cupressus (Retinospora) squarrosa*, *C. plumosa*, *Ulex* in variety, dwarf Hollies, *Abies sibirica*, *A. canadensis* and Ivy trained over raised knots and mounds.—J. H. D.

THE FERNERY.

POTTING, re-basketing and renewing of pockets and rockery arrangements are still occupying attention and time. Newly-potted or basketed Ferns should not receive much water, and in the case of tropical species, the water should always be made lukewarm before applying it. A steady and warm atmosphere is very necessary just at this present juncture. The air of the house should be kept charged with moisture, for if the atmosphere becomes dry the plants not yet fully established are sure to suffer. Besides this fact, a dry atmosphere originates infestation by thrips, red spider, scales, &c. The blinds will soon require to be placed upon the houses. There are some very fine Adiantums which I should like to notice, and these are as follows:—

ADIANTUM CURVATUM.—This is fairly well known. However much appreciated by those who know it, at the same time it, like many another, occupies no space in the general run of stove Fern collections. No lover of plants surely can alienate himself from the flowerless section of vegetation, which includes the Ferns. A garden without a good fernery is to me like a summer flower garden without green grass, a dazzling thing, but quickly wearisome.

A. curvatum takes after the *A. pedatum* type, only the moderately large pinnae are arched back curvingly like the wings of a gull when flying. It is a graceful grower, throwing the fronds well up and spreading out the lateral bifurcations or branches. It can be propagated from spores or by division. As a rule, with most Ferns division is preferable.

A. COLLISII.—The chief points of distinctiveness in *Collisii* lie in the rounded form of the pinnae of the fronds. The variety is not altogether a strong grower, yet attains a height of 1 ft. or more. The stems are strong and erect, the fronds being just nicely compact and suitable for any of the heavier floral decorations such as wreaths. A stove temperature is necessary.

A. COLPODES ELEGANS.—As the name indicates, the plant is beautifully graceful and fine in its parts. The rachis or stems are slender and droop, though those in the centre support themselves. A well-grown plant has thus a handsome appearance. It is one of the finest Adiantums for purely stove decorative use that we possess.

A. EXCISUM.—Anyone having seen this species once will be able to identify it anytime afterwards, simply by glancing at its pinnae or little, cut (incised) leaflets. The incisions are about $\frac{1}{4}$ in. deep around the edge of each leaflet. The variety *A. e. Leyi* is a very pretty Maidenhair growing robustly and attaining from 1 ft. to 1½ ft. in height.

A. HENSLOVIANUM.—This tropical species is one of the most distinctive and pretty in any of our collections. It differs considerably from all other Adiantums. The fronds are 18 in. to 2 ft. long and from 6 in. to 9 in. broad. The pinnae are dark green and curiously wavy on their undersides. From this latter fact the distinctive character of the species is well marked.

A. MOOREI.—Only as a basket Fern can I recommend this lax-growing and long-stemmed but very graceful Adiantum. When well established it certainly presents an exceedingly pretty subject. The long, soft fronds with cuneate pinnae are just strong enough to half bear themselves up, so that looking upward at them their full effect is beheld.

A. TENERUM.—This species, with *A. Veitchii* and *A. Williamsii*, also the tall growing form of *A. aethiopicum* all belong to the more prepossessing and handsomer section of stove Adiantums. They are each quite distinct in appearance, but all agree in being robust growers, throwing up strong, tall and

broad fronds with well defined leaflets. *A. tenerum* should find a place in all collections. The same remark applies to the others mentioned in this note.

A. CUNEATUM ELEGANS and **A. C. VARIEGATUM.**—The shapely cuneate leaflets of the former variety and its close growth render it distinctive and charming. For floral arrangements it has not superseded the finest and most graceful Maidenhair, *A. gracillimum*, but as an additional fine-leaved Fern for the stages it is worth consideration. *A. c. variegatum* is probably the only variegated Adiantum we possess, omitting such as *A. scutum roseum*, this being entirely rosy.—F. L.

Gleanings from the World of Science.

The undermentioned subjects were discussed at the meeting of the Linnean Society of London, on March 15th.

Dissections of Flowers.—Prof. Farmer, F.L.S., exhibited (as lantern-slides) several photographs of dissections of flowers, and made remarks on the utility of such illustrations for teaching purposes. His views were supported by Mr. J. C. Shenstone.

Hybridisation of Orchids.—Mr. R. A. Rolfe, A.L.S., exhibited specimens and drawings of *Paphiopedilum*, both of species and hybrids, with their capsules, to illustrate remarks on the hybridisation of Orchids. Additional observations were made by Mr. A. O. Walker, Dr. Rendle, and Prof. Farmer.

Plants from Mount Roraima.—Mr. I. H. Burkill, F.L.S., gave an abstract of a Report on the Botanical Results of an Expedition to Mt. Roraima, in British Guiana, undertaken in 1898 by Messrs. F. V. McConnell and J. J. Quelch. The same travellers had made a previous journey of shorter duration to Roraima in 1894, a narrative of which had appeared in the journal *Timehri*, edited by Mr. Quelch, at Georgetown. During the second expedition in 1898, nine days were spent in collecting on the summit. The plants, obtained in these two journeys, had been named by Messrs. Brown, Masee, Rolfe, and Wright, of the Royal Gardens, Kew, by Herr Stephanie of Leipzig, and by Dr. Brotherus of Helsingfors. The number of new species to be described was said to be considerable, and the interest attaching to the collections was undoubtedly great.

Acknowledged authorities on plant-geography had considered it probable that the vegetation of the summit of Mt. Roraima when better known would compare well with that on the Paramos of Venezuela; but this was not the case. The characteristics of the treeless Paramos were absent from Roraima: and *Bonnetia Roraimae*—the commonest of species on the summit—attained, where sheltered, a height of 40 feet. Lower than the Paramos on the slopes of the Andes was the Befaria zone, and to this the upper flora of the mountain was to be ascribed; the rest of the vegetation being a Brazilian type. Many of the plants collected were of anatomical interest; the huge mucilage-cells of the leaf of *Bonnetia Roraimae*, and the quaint pitchers of some of the *Utriculariae* were especially noteworthy.

The complex chain of mountains to which Roraima belongs includes other peaks of similar height, such as Duida over the upper Orinoco; but in this direction the chain terminates with the low lying forests of the Casiquiare, which has barred immigration from the higher Andes.

The additions to botanical knowledge now made by Messrs. McConnell and Quelch might be said to emphasise the remarkable similarity which had been found to exist in the floras of Roraima and the Kaïeteur Savannah. In illustration of his remarks, Mr. Burkill exhibited some of the more remarkable plants collected, and lantern-slides from photographs taken in the course of the expedition, showing the nature of the country explored. A discussion followed, in which information concerning special groups of plants was afforded by Messrs. Hemsley, N. E. Brown, C. S. Wright, and A. R. Rolfe.

Bryozoa from Franz Josef Land.—The Zoological Secretary gave an abstract of a paper by Mr. A. W. Waters, F.L.S., on Bryozoa from Franz Josef Land, collected by the Jackson-Harmsworth Expedition, 1896-97.

HINTS FOR AMATEURS.

Cannas.—Canna roots may now be put into pots. Those who have had it in their minds to exhibit this lovely and very handsome flowering plant at some of the early shows, will have accomplished the primary operation of potting-up some time ago. By successive batches any gardener can keep up a supply of Cannas for cutting or for ordinary decoration, for a period extending from May till November. Such is not desirable, however, and like the all the year round *Chrysanthemums* they are "very nice but not wanted." Some growers select good eyes on single pieces of roots, and first of all start these in trays, only surrounding them with leaf mould or dung. When they have sent out a number of white roots, and are in course of developing blades, they are then potted into 5-in. pots. These make nice plants for summer planting. A warm house with a moist atmosphere should at first be given.

Lantanas.—These may be started in a warm house, and either the young shoots can be taken and rooted separately, or a number, by dividing the plants. These soon develop into nice bushy little plants for edging the summer flower beds.

Verbenas.—On no account should a sowing of these fine dwarf bedding plants be forgotten. The number of favourite varieties is yearly increasing, and as we have previously shown, these are advancing in merit just as most florist's flowers are. *V. Miss Wilmott*, a rosy-pink variety, is one of the best; *Mammoth* is another new good one; and *La Plata* and numerous others have fine rich flowers.

Violets.—It is now time to see about selecting cuttings or runners for next year's stock. Cuttings turn out very well if taken and treated as other cuttings are. Runners of course save further trouble than that of merely selecting and removing the best of them when rooted. Old Violet plants in frames at the present time should have a thorough look over. If it is thought desirable a top-dressing may be given around the necks of the plants. Such a dressing must needs be light, or a thorough soaking with liquid manure water may be given in the forenoon of some balmy day, the lights being kept off till the foliage and surface has somewhat dried. The leaves, however, should not be wetted more than is unavoidable.

Hydrangeas.—In the cool greenhouses *Hydrangeas* are beginning to push forward their flower buds. All that really is necessary in their treatment is simply to see that they are well supplied with feeding and water. On no account allow the young wood, which they will make, to become drawn or weakened from want of light. Those who wish to have a batch for forcing next year should put in cuttings of the usual shoots.

Fuchsia.—No plants should have cuttings taken from them after this time. By late cutting we impair the old plant, and at the same time do not get the same quality in the young stock. Plants now rooted from cuttings taken a month or six weeks ago, should be potted on in a light compost, the shifts being gradual. Do not give them more than just enough water to keep the soil moist until the roots lay good hold of the fresh soil. After they have filled the pots with roots abundance of water may be given without harm. The plants must not be forced on either by too high a temperature or by a superabundance of water when they do not want it. Old plants may do with a top-dressing instead of a re-potting.

The more confined the roots, the better the chances of having a good show of bloom; and there is less risk of drowning from the careless use of the water can when the roots are cramped. Under such conditions it is necessary to feed with liquid, artificial and natural manures. Staking, tying, and pinching of the plants as heretofore advised, should be attended to. Young plants at present in 6-in. pots, and intended for an early summer display, may be grown on for a time in a Fig house or other structure in which a briskly warm, moist, and growing air can be guaranteed.

Pelargoniums.—The old plants which, during the past dull months, have awarded us basketfuls of blooms, are now past their vigour. They had better be cleared right away, or at least those of them which are not likely to return much more display.

Any which may be left should have the best of care and light feeding so as to get their yield as quickly as possible. The others may be dried off slowly. From them more cuttings may be taken at a later date to supply smaller plants for next winter's use. All dead leaves and flower trusses should be removed from the plants which are being kept on.

Spring Plants.—The stock of these plants is rapidly coming on. The *Jonquil Narciss*, the *Polyanthus Narciss*, and any amount of the trumpet *Daffodils*, *Hyacinths*, &c., are already in flower. All that they require is seeing to in regard to watering, staking, airing and removal of withering matter. The *Primula floribunda* which has lasted so well is now giving out. In its place comes *P. verticillata*. By-the-bye I see there is a cross between these two fine greenhouse *Primulas*. I speak of *P. verticillata* as a greenhouse species, because it is hardly robust enough to succeed properly out of doors in any but very favourable positions. That it can be grown out of doors is, however, fairly common knowledge.

Hippeastrums are likewise in fairly strong array. It requires some forethought to have these good and in quantity at the present time. The blooms last longer if the bulbs are kept supplied with clean water only. During the expansion or previous development of the blooms, weak liquid manure should be given. *Spiraeas* demand a constant supply of the "liquid life." *Azaleas*, *Cyclamen*, *Acacia*, *Cinerarias*, *Eriostemons*, *Roses*, *Eupatoriums*, &c., are all in bloom in the flower house.

Heliotropium.—Plants of this in 5 in. and 6 in. pots are at all times well worth the labour they cost to have; that is, good plants of their kind. It is necessary to take cuttings early in summer to be able to have good plants for flowering the following spring. The plants in flower now should be kept in as cool a house as possible. Those not yet flowered may be brought on in a warm temperature, thence taken to a cooler place for the production of firm wood, which may either be pruned back and the cuttings used.

Marguerites.—In the frames are many nice young plants, but it is an easy matter to see "the nice young plants" disappear. A great many are lost every year through being placed in too cold and damp a place. They are by no means tender, yet the *Paris Daisies* are susceptible to detrimental as well as to amenable conditions of temperature. They are rather easily drowned, so that while yet young and not very firmly rooted it is well to take good care of them. Older plants must be looked over and syringed with paraffin water, unless they are in flower, to prevent the composite-leaf miner fly from laying her eggs.

Carnations.—Cool conditions are necessary for both the tree and the *Malmaison Carnations*. Neither do they appreciate more moisture than they actually are able to absorb, which is very little at this period.

Lawns.—The treatment of lawns in the early part of the season more or less determines their quality throughout the summer. Dry weather so soon comes upon us that unless we have been busy when the season was still young (such as at this time), the lawns are burned up and retrograde before many weeks go by. What can be done now is to roll them hard. There is a goodly amount of moisture in the soil now, and the fresh and growing grass makes a loose bed for itself in a very short time. The roots are compressed and the sward consolidated by timely rolling, sweeping, and cutting. A dressing of fertiliser, soot, or very fine soil may also be given. Soon they may be gone over with a scythe.

Aspidistra lurida variegata.—Now is the time to divide old plants of this very common but greatly appreciated ornamental foliage plant. A compost consisting of good fibrous loam, some lime rubble, sand, and leaf mould, should be prepared. Pieces of the rhizome may be cut or broken off and carefully potted up. After potting, water with tepid water and allow the plants a warm house with a steamy atmosphere for about a fortnight. After that time inure them to the usual cool conditions. Such a course of procedure is not absolutely necessary, but for the quick and safe establishing of the plant, it is advisable. If the common green-leaved form, the true *A. lurida*, is to be potted, a rich soil should be given, and feeding is desirable so as to increase the depth of green colour. The variegated form comes whitest when nearly starved.

Boronia megastigma.—So sweet-smelling a plant as this requires to be known among all lovers of flowers. Its flowers form little or no attraction, yet the plant is very graceful and free flowering. It is commonly shown at London and other exhibitions, yet there are many gardens in which it finds no place. It is notorious that the same things are seen and grown incessantly and without change year after year in many private places, and if good plants such as this are absent from the general collection, they may be known, but rarely or never are they bought. A few plants are powerful enough to scent a wide portion of any conservatory in which they may be staged.

Tussilago Farfara.—This common wilding with the golden flowers is now in full blaze. Any waste bank where the soil is heavy should be planted up with some such subject.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Peas: Gladiator and Fillbasket.—*H. Maldrett*: Fillbasket was raised by Messrs. Laxton Bros. of Bedford, and received a First-class Certificate in the year 1872. *Gladiator* was raised by Messrs. J. Veitch & Sons, Chelsea, S.W., and received a F.C.C. in 1882, or ten years later. They both resemble each other in many respects, but differences will be found on close comparison. Both of the varieties are used for midseason supply. The fact that the committee of the R.H.S. awarded a F.C.C. to *Gladiator* ten years after *Fillbasket* has been in commerce is sufficient to prove that there are distinctions. The fact remains, however, that the older variety is the most popular, and is included in all seed catalogues. So much cannot be said for *Gladiator*.

Ornamental Kales.—*J. R. T.*: We do not know from what source you could get a supply of seeds unless perhaps from *MM. Vilmorin-Andrieux & Cie.*, 4, Quai de la Mégisserie, Paris. Probably some of the Edinburgh seed houses could put you in the way of getting what you want. *Miss Hope*, late of *Wardie*, exhibited a very complete collection of the hardy ornamental Kales at one of the Edinburgh shows a year or two ago. *MM. Vilmorin-Andrieux*, of Paris, author of "The Vegetable Garden," describes and figures most of the varieties of Kales. None of our English seedsmen's catalogues appear to enumerate ornamental Kales.

Prunus triloba.—*A. S. S.*: This early flowering shrub by budding or grafting on a tall *Plum* stock furnishes fine plants for forcing. It does well in pots, a yearly pruning and top dressing alone being needful. You will distinguish it when more fully developed from its having three-lobed leaves. *Almond*, *Cherries*, *Plums*, *Peaches* and *Nectarines*, are all species of *Prunus*.

Dendrobium brymerianum.—*W. Toole*: We have not experienced any extra difficulty in the growing of this handsome species. It requires a warm house and moist atmosphere throughout the growing season. During the early winter months it should be rested, starting it again just after the new year. It can be grown side by side with *D. chrysanthum*, *D. crassinode*, and others.

Pruning Ivy and Roses.—*A. W. S.*: The former should be pruned or cut in with shears at the beginning of April; the *Roses* should be pruned about the first week in April.

Cyclamens not Moving.—*Alex. McK.*: Place them in an intermediate temperature (38° min., 65° max.). Slightly dew them over occasionally, and after sponging the foliage and seeing that soil and drainage is good, be very careful in watering. Place on a light shelf.

Aucubas for Berrying.—*W. Withers*: The plants will soon be in flower, and as they are dioecious (males and females quite distinct), you should pro-

cure a male plant from some nursery firm. Place the male plant near by the berry-bearers and attend to artificial fertilisation. The *Aucuba japonica maculata*, *A. j. longifolia* and *A. j. limbata* make nice subjects for pots.

Propagating Osmanthus.—*S. Salter*: Patience is required, but if nicely made cuttings are inserted in pots and these placed in either warm or cool pits, rooting plants will eventually reward your efforts.

Plan to Eradicate Cockroaches.—*M. T. G.*: Wooden box traps having a concave glass lid or upper side, with a central vacuum or opening to allow a cockroach to pass inwards, can be obtained from horticultural sundriesmen. The cockroaches mount upon the sloping surface of the top side and, in scrambling along, lose their footing and pass inside, from which they cannot escape. Jars containing treacle are employed with effect. Ordinary jam jars may be used, and it is necessary to place a piece of stake against the jar to allow the pests a means of gaining the top edge. Poisoned pieces of Potato, Carrot, or bread may be laid about, but this should be done with care.

Tulip Tree for Suburban Garden.—*A. Thomson*:

PARSLEY AT MIDWINTER.

NEAR large and smoky towns there is always a great difficulty in keeping up a supply of fresh Parsley for domestic use in winter. This would apply to districts even where climatic conditions are usually favourable to the successful cultivation of this popular herb. Near smelting furnaces and in districts given over to the coal and iron industries, the atmosphere is usually so impregnated with chemical impurities that gardeners have great difficulties in keeping healthy green vegetables through the winter months. In northern districts, on the other hand, the gardener has also to contend with the severities of climate.

The accompanying illustration, sent us by Lady Macleod, Finlary, Shandon, Dumbartonshire, at the end of January last, shows a fine bed of Parsley that stood the winter unprotected in any way. Close proximity to Gareloch, an inlet of the sea, may, in part, account for the signal success of the Parsley; but even for that district it was considered very useful for the time of year. The variety was Austin's West of Scotland Prize Parsley, a sowing of which was made by Mr. Alexander Lyon, the gardener at Finlary, in a box, about the end of March, 1899. The seedlings were planted out about the end of June, on a border that was manured in March, 1898. The

that before sowing time came some of the thousands of wriggling gray worms, &c., might be destroyed, and the land made sweeter.—*D.*

AN OUTLINE OF CHARACTER AND CULTURE OF THE HERBACEOUS AND ALPINE FLORA.

(Concluded from p. 474.)

PROPAGATION.

THIS may be effected by seeds which are produced in large quantities or limited to a given number. Germination takes place with some in a few days; others remain dormant for one year or a period of years.

Sowing of the seeds should be accomplished as soon as possible after the seeds ripen from early summer to late autumn, especially where large collections of alpine are kept in stock. Many of the seeds are better when sown at midsummer, in order to ripen and to complete their growth before winter. Seeds of a hard texture which take the twelve months or longer periods to germinate are better for the autumn sowing, placed outdoors so that the soil and effect of atmosphere underneath snow coverings can react on them.



PARSLEY AT FINLARY IN MID-WINTER.

We have observed very shapely and healthy Tulip trees in suburban districts having a pure atmosphere. There are many around Edinburgh and London, for instance. It is hardy. *Liriodendron tulipifera* is its botanical name. Any porous but good garden soil will suit the Tulip tree. It needs little or no pruning. For effect, associate it alongside of a Weeping Birch, such as *Betula alba Youngii*, or some taller flowering shrubs or trees, as *Acacias*, *Crataegus*. Its wood is used in cabinet making, carriage building, and for shop fittings.

Acacia dealbata.—*J. C. S.*: The origin of the trade name of "Mimosa," which this *Acacia* bears, is probably identified with "Mimosa bark," a commercial article of export from various *Acacias* in Australia, among which *A. dealbata* is included. The "Mimosa bark," we believe, is used in dyeing. *Mimosa* is a common name for various leguminous plants of this class in their native habitats.

Polypodium aureum glaucum.—*T. S. S.*: Though very seldom used as a basket Fern, you will find it to succeed when its roots are confined and well established in a moderate sized basket. Plenty of space is required.

Parsley was grown on that border, and stood the whole winter without any cover whatever. The photograph, from which the illustration was prepared, was taken on January 12th, 1900.

Whatever the severity or otherwise of the winter in the neighbourhood of Shandon, the Parsley must be admitted as evidence of the purity of the atmosphere and its wholesome effect upon plant life. There is also other evidence of its healthiness in the presence of a hydropathic establishment. All the same, the fact that a full crop of Parsley may be had in healthy vigour at mid-winter in the open is not of so frequent occurrence as hundreds of gardeners could desire.

Over Manuring.—It is possible to do quite as much harm to crops by enriching the soil too heavily as it is to stunt growth by starvation. I lately aided a friend in the digging of his little garden, and never before had I turned over land so gorgeously fat. In fact, it was fetid from the exposure of decomposed remains of dogs, cats, and manure itself. We dug as deeply as possible, and left the soil loose. As an antidote and rectifier I ordered my friend to put a bushel or two of unslaked lime upon the strip, so

Where seeds fail to develop, other means are resorted to, such as leaf cuttings in *Ranunculus*, of stems and shoots in *Penstemon*, *Mesembryanthemum*, and others; and by root and crown divisions in the many *Androsaces*, *Saxifragas*, *Thymuses*, and others.

Many re-produce themselves in quantities by elongating root stems (rhizomes), as *Tropaeolum speciosum*, *Linum narbonense*, and *L. alpinum*; by tuberous root stems, as in *Tropaeolum polyphyllum*. By sections of roots made into cuttings, *Statice* and *Eryngium* can be procured in large numbers, besides *Paeonies*, *Acanthus mollis* and other species. Sometimes a mode of grafting is used particularly in tree forms of *Paeonies* and among alpine between *Statice* and *Acantholimon*.

Great difficulties are experienced at times in raising a stock of plants from seed, owing to its length of time in germinating, as in the case of *Romneya Coulteri* and many choice alpine. Others take long after germination to grow to any size as plants; Cuttings sometimes damp off with mildew.

Plants get affected with too much moisture on their crowns or planted in too exposed position to sunlight, or very often spoilt by the continual changing of an English winter, so that the many modes

resorted to are all helpful to effect propagation. The most defiant of all we have met with is the *Romneya Coulteri*, which will neither give us satisfying results from seeds nor cuttings.

HERBACEOUS BORDER.

We will now turn our attention to the herbaceous border. This, if a hundred yards in length and twelve in width, it would contain a large collection which would produce blend of colour and be useful as cut flowers, and so arranged as to produce bloom more or less at all seasons.

The soil should consist of good loam, retentive in its nature and of good depth. Rotten stable or cow manure must be added should the soil prove poor and light in quality.

The plants should be arranged to order and height, so that each may have its sufficiency of space for growth. We may place in the background the tall kinds such as *Helianthus orgyalis*, the tallest of all the *Helianthus*es. *Delphiniums* may alternate with *Spiraea Aruncus*. *Inula Helenium*, with large leaves, forms huge clumps, so that it wants plenty of room; it would be well to place it central.

We have yellow figuring very much in quantity in *Helianthus rigidus*, *H. Miss Mellish*, *H. multiflorus*, and its varieties; besides the many *Rudbeckias*, *Helenium Hopei*, *H. autumnale*, and others, and tall *Asters* in variety. All these forming the back row may be blended with clumps of tall *Hollyhocks*, and the contrasting foliage and flower of *Acanthus mollis* and *Liatris pycnostachya*.

The middle row of medium height can be supplied from the numerous *Paeony* hybrids, alternating with *Achillea* the Pearl, white and blue *Campanulas*, *Oenotheras*, *Rudbeckia Newmani*, *Aster Amellus*, *A. ericoides* and *A. bessarabicus*, *Physostegias*, *Chrysocoma*, *Helenium pumilum*, *Centaureas*, and *Chrysanthemum maximum* varieties. All these forming the middle grouping may be blended with tall *Lilium* varieties, *Gladiolus*, and *Tritomas*.

The front row should contain dwarf kinds such as *Geum coccineum*, *G. miniatum*, dwarf *Liatris*, *Heuchera sanguinea*, and *Heucheras* in variety of bronze and mottled foliage, dwarf *Funkias*, *Armerias*, *Asclepias tuberosa*, and *Statice*s in all their dwarf forms. These may be blended with the many forms of highly coloured annuals. Intervening spaces can be filled and carpeted with many of the alpinees such as the *Saxifraga*, mossy kinds in particular, *Veronica alpina* and its many other forms, *Antennarias*, *Aubrietias*, *Thriffs*, &c. These can be again blended by the *Crocus*, *Scilla*, *Tulip*, and clumps of *Hyacinths*.

Early flowers such as these and the varietles of oriental *Hellebores* need protecting from frosts and cold winds which occur more or less during their period of bloom. Those arriving at maturity towards summer will require our attention as to thinning, staking, tying, weeding and watering if needed during seasons of drought. But, of course, much can be done by mulchings of manure, &c., to prevent a rapid evaporation at the roots. Staking and tying, too, is an important feature which we do not often spare much interest on, the taller perennials are much better staked and done in a way to preserve the outline of the plant or clump to its natural appearance. Those of medium height are much the best with forked branches stuck in, and around, so that the outer stems can fall or droop over in order to maintain the natural form or appearance, rather than having them spoilt by the one stick and a sharp tie.

Autumn comes when the flowering season is on the wane, but nevertheless there will be a sprinkling of bloom here and there to be found in the Autumn *Crocus*s and *Amaryllis*, and among the tall *Asters*, *Tritomas*, late *Sunflowers*, &c. Many coloured fruits and leaves will be taking the place of the host of flowers which are fast disappearing. The scarlet fruit of *Physalis Franchetti*, and *P. Alkekengi*, wild *Iris*, and *Paeonia triternata* will now be at their best, besides the long black fruited racemes of *Aralia edulis* and *A. cashmirica*.

In the bog and alpine garden we shall see the matured fruit of *Gunnera scabra* and *G. manicata*, which produce coral and claret coloured spikes of seed, of huge growth, besides various blends of colour to be found among the plants and leaves, all telling their own tale that summer bloom is just over, and now drawing to a close.

The ground at this time may be dug over, and if the stools of plants are decayed in their centres

they should be taken up and divided, and the border trenched. This needs to be done, that is, depending upon the nature of soil, every second or third year.

PROPAGATING.—This as with Alpines is mainly effected through the production of the large quantity of seeds; secondly, by divisions both of crown and root; thirdly, by cuttings, particularly in the autumn for annuals and biennials. Springtime is best for perennials, by taking the advantage of the earliest shoots which appear. Fourthly, a mode of grafting can be adopted as in *Paeonies* and *Statice*s.

Having gone through with the general character, somewhat roughly, of the plants which more or less adorn this part of the garden, I now, in concluding, add that many of these which I have made mention of, along with others such as *Shortia galacifolia* and many of the early group of spring-flowering alpinees and border perennials may be grown in pots or pans and made use of to furnish some corner of the greenhouse. Of course, where large collections are grown the alpine house may be the first show house of the season.

FOR POT CULTURE.—We must follow upon the simple and similar lines we have done outdoors. Roots must have their perfect drainage as well as the crowns, which, of course, must be supported upon, and among miniature rock ledges and crevices in order that they may have as near as possible their own natural surroundings. Of course, the soils they flourish in best must be selected for them, besides the strata of rock they love most, which may be either limestone, granite, or chalk.

WATERING needs to be limited in winter time, and many require protecting in a cold frame with lights overhead, whilst those outdoors should be covered with sheets of glass to prevent the decay of their crowns by too much moisture which would otherwise lodge there.

The best protection is their own mantle of snow which they get all the winter through up in the heights of the alpine regions. But being brought to the climate of lower levels, and subjected to the many conditions of our atmosphere in England, glass has to be used. In summer they like plenty of water, providing they are well drained, and this is best done towards evening, and a light sprinkle overhead in the morning proves of great benefit to them. For those which are cultivated in frames the lights may remain off altogether during this season.

There are a few which it would do well to take note of before I finally close, which should always have a place in every collection, as they are extremely useful for pot culture, viz.:—*Romneya Coulteri*, the Californian tree Poppy, *Gerbera Jamesoni* and *Orange River Daisy*, quite distinct in its orange-red colour from all others in the composite family. *Incarvillea Delavayi*, a native of northern China, has *Gloxinia*-like flowers, distinct from all the other hardy plants. *Eremurus robustus* and its companion, *E. himalaicus*, are rarely seen in flower owing to the time they take to mature themselves to reach that stage. One or two varieties of *Rudbeckias* are somewhat new, such as *Golden Glow* and *Autumn Glory*. Among alpinees we have had the flora of the Rocky Mountains recently introduced to us.

Time will not allow to enlarge upon those which are useful to furnish rock walls, dry banks, stumps of trees, &c., besides others which are plants of climbing nature.—*Alfred Tucker*.

Botanic Nomenclature.—At the meeting of the Linnean Society, on the 1st inst., Mr. C. B. Clarke, F.R.S., F.L.S., read a paper on "Botanic Nomenclature." He showed that the new rule adopted at Berlin—not to disturb names that had fifty years' user on the ground of priority alone—resulted in a practical uniformity with the system of naming adopted by Mr. Bentham and Sir J. D. Hooker. The Old World, he said, had thus reached a fair general agreement in nomenclature. The American botanists follow a new system which aims at finality on a so-called "non-shifting basis" in which the genus or species, as the case may be, is established on a type-specimen. Mr. Clarke's paper was devoted mainly to showing by selected instances that this system did not ensure finality; that the errors in determining what should be ranked as the type are enough to discredit the system; and the author commented on the disputed question whether a plant should be given the oldest specific name bestowed

upon it, or the oldest specific name it bears in the genus in which it is now placed. A discussion followed in which Messrs. Daydon, Jackson, H. J. Elwes, A. W. Bennett, A. B. Rendle, E. M. Holmes H. Groves, and the President took part.

NURSERY VISITS.

MR. JOHN RUSSELL, RICHMOND.

SOME of our readers may recall the notes of a visit to the large Brentwood nursery of the John Russell firm, which appeared in the *GARDENING WORLD* last autumn. Besides the Brentwood establishment there are three other nurseries belonging to the same firm, one at Richmond, in Surrey, where much of the glass, the offices, and a seed-shop are, the other, being called the American nurseries, at Milford, near



MR. LOUIS RUSSELL.

Richmond, together with the Wood Lane Nurseries, Isleworth, Middlesex, where the bulk of the propagating is done. It will thus be seen that the business done by the sons of the late Mr. John Russell is extensive, and that, as specialists in ornamental evergreens and flowering shrubs, but particularly the former, they stand second to none in this particular section. The general trade of a first-class nursery is also included in their business, that is, garden seeds, nursery stock, fruit trees, *Roses*, bulbs, &c.

At this season the houses at Richmond are closely filled with spring flowering shrubs for forcing, such as double-flowering *Cherries*, *Staphyleas*, *Ghent*, *Indian* and *mollis Azaleas*, various ornamental *Prunus*, *Kerrias*, and *Spiraeas*. The report on their group of *Azaleas* exhibited on the 13th inst. at the Drill Hall, makes it needless to say more on this head. The general collection in the houses is just the same as those which were placed for public scrutiny in the Hall at Westminster. Whether we fully appreciate the fact or not, one thing is undeniable, that nothing which we grow for spring embellishment is finer than the forced *Azaleas* (to take an instance), whether they be the *sinensis*, the *mollis*, or the hybrid types.

And there is another class of plants which are far too sparingly indulged in, namely, the Japanese *Maples*. The trouble they cause is absolutely not worth consideration, while, for soothing beauty, a beauty which, from its freshness, its grace, and its charm, lays hold of one, we reflect in vain for their equal. *Acer palmatum* is a pretty species, having five- to seven-lobed foliage, and is the type of a number of our best varieties, such as *A. p. sanguineum*, a blood-red variety, which is even better than *A. p. atropurpureum*. For lightness, *A. p. palmatifidum*, with deeply lobed foliage of a bright green colour, is charming, and is one of the finest. *A. p. dissectum* has deeply serrated lobes, and *A. p. roseo-marginatum*, with the rosy edges, may be taken as

the choicest members of the palmate group. *A. colchicum rubrum*, may also be referred to as a worthy variety. *Acer platanoides laciniatus* is a variety of the Plane-leaved section, which is likewise a capital subject under pot culture. When good plants are secured, that is, standards or bush plants, the former preferably, they do not require more than an occasional shift-on, and after being used either in the conservatory, the dwelling-house-lobby, or the drawing-room, in early spring they may be plunged out of doors to complete their growth, whilst adding to summer and autumn effect. Truly they furnish a wise investment.

Space will not permit of any lengthened details, otherwise one would like to point out the dozen and one different ways for using to right good purpose the various species of *Euonymus*, *Veronicas*, and *Vincas* which are to be seen, some in pots, besides many in the nursery rows both at Richmond and Isleworth. Stock for planting at any time can always be had from the fact of much of it being in pots. This is the case with the bulk of the tree and other Ivies, another class of ornamental shrubby plants, in which the firm is strong. The practice of planting the common Ivy (*Hedera Helix*) beneath trees, and as a covering to very dry ground is becoming yearly more and more extensive. It is a phase of outdoor ornamental gardening still in need of more encouragement and inspiration, but of its success wherever pains are taken there can be no two opinions. Then for tree stumps for banks in rockeries, for twining along chains and fences, for all such purposes a choice and judicious selection of Ivies is strongly recommendable, and wise from every point of view. The culture of such forms as *H. H. madeiriensis variegata* in pots for cool house purposes is not absolutely a new idea, but is a practice in need of further imitation. *H. H. elegantissima*, *H. H. algeriensis*, *H. H. arborea*, *H. H. a. aurea*, *H. H. chrysophylla*, *H. H. canariensis* with its varieties, *H. H. c. latifolia maculata*, and *H. H. c. grandifolia* are all good Ivies. The selection, of course, might well be quadrupled.

Among soft-wooded plants seen in some quantity at the Richmond nursery hardy border Carnations are conspicuous.

THE MILFORD BRANCH.

A pleasant walk under the guidance of Mr. T. Bunyard to the Milford Nursery, which lies south-east of Richmond, showed us the "Kail ground," where the Seakale for trade supply and other vegetables are grown. Further to the westward a nursery is devoted to evergreens, Conifers, Ligustrums, and Aucubas, these being represented in full selection. The whole stock is of the very best quality and ready at any time to plant. The utmost attention to lifting and rearranging or thinning the rows of young plants is constantly given, the result being stout and stocky plants.

ISLEWORTH NURSERY.

As before stated, this nursery is given up to the propagating and rearing of nursery stock, both tender and hardy, tender exotics finding space. Palms, Cocos, greenhouse, and hardy Rhododendrons, *Cobaea scandens variegata*, *Eurya latifolia*, *Aralias*, *Ixoras*, *Acalyphas*, and various indoor ornamental Grasses are grown in quantity. *Codiaeums* (Crotons) and *Dracaenas* are likewise in some force. But again, the greater range of space is occupied with the hardy evergreens. This nursery is under the superintendence of Mr. H. Marslen, who was, for over 20 years, with Messrs. Lee and Son. He is an able man, anxious to impart knowledge, and quite as open to receive new impressions. He gave the secret of some experiments in the grafting of such shrubs as the *Viburnums*, *Hamamelis arborea*, &c., but we will allow him to gain from the fruits of his researches, as is in justice due to him.

Various operations were busily being performed. Transplanting of young shrubs into richly prepared land was one of the most extensive items, while root-grafting of Clematis and the various necessary duties of shifting and re-arranging cuttings, either rooted or in the process of rooting, was another business demanding the attention of a large number of men. Of the stock of plants grown, there seemed to be something of everything. The collections of *Osmanthus*, *Hollies*, *Viburnums*, *Phillyreas*, *Acers*, *Yuccas*, including the prettiest and perkier of them all, *Y. plicata*, narrow leaved and erect; greenhouse and hardy Rhododendrons, Ivies, *Skimmia Foremani*, the best of all the *Skimmias*, *Clematis*, *Ampelopsis*

or *Vitis*, *Euonymus*, *Elaeagnus*, *Ligustrums*, *Aucubas*, and many of the dwarfed and much used Conifers, were viewed. Each genus has a list of its various species and varieties included. It is not possible to deal with all the host of them. It may suffice simply once again to remark that the firm is anxious to give customers every advantage. Good stuff is grown, and only good stuff is sent out. New shrubs from other countries, or shrubs of hybrid origin, are always being sought for to be obtained and added to the Isleworth or other of the firm's collections. The merits and other points of quality or usefulness of the flowering section may furnish matter for a later notice. Meanwhile, planting is still brisk, and it may be that some things have been mentioned which planters should desire to obtain. The writer's thanks are tendered to Mr. T. Bunyard for his kindly courtesy.

The accompanying portrait is that of Mr. Louis Russell, the member of the firm who manages the nurseries at Richmond, Surrey, and those in the vicinity, which are mentioned in the above notes.

GIANT ONIONS.

It was rather odd that whilst I have here splendid large Onion bulbs, which Mr. E. Beckett sent me from Aldenham Gardens on purpose to afford ocular demonstration of their keeping qualities, that I should have read but two days later in your "Kitchen Garden Calendar" the statement that "Large Onions, except for exhibition purposes, are useless. Cooks do not like them; neither do the Onions keep as well as firm bulbs of medium size." Could Mr. Beckett have had a presentiment that these words would be found in the succeeding issue of THE GARDENING WORLD. Without doubt the writer is a little prejudiced in the matter, and probably does not grow large Onions even for show; but when he asserts that other than for exhibition they are useless, he ignores the fact that they are first-rate, baked or stewed, proving, so cooked, a delicious dish.

Still further, these fine bulbs, planted for the purpose, produce fine seed stocks that again reproduce far finer bulbs even under ordinary conditions of culture than results when seed from small bulbs is sown. So many persons seem to think that large or indeed most other Onions have no other uses as edible food than to be converted into seasoning or flavouring. That is a mistaken notion. Onions liberally grown and intelligently cooked make first-rate food. Whether cooks like or dislike them seems to be a matter of little moment. The cook certainly is not the gardener's employer.

Then with regard to the matter of keeping. I had some few weeks since a couple of bulbs of Ailsa Craig, which I had used as lecturing samples, but which, having no further use for them, I left with Mr. Wright, at Chiswick, to grow for seed. I am sure these bulbs would have kept without growing for two months longer were it desired. The bulbs I have from Elstree are just as hard as the hardest of small, ordinary grown Onions, and present every appearance of keeping quite sound, if desired, till the end of April. They range from 1½ lb. to 2 lb. in weight. This fact shows that the old assumption that large Onions will not keep well is baseless. If they be well matured they possess remarkable keeping properties. Then it is not quite correct to assume that it is only globe or oval shaped Onions that keep well. It is quite a question of maturation, and plenty of round or flattish bulbs have kept until June, for Crook's Late Keeping Onion is of this type, and it is a remarkable long keeper. Whatever may have been the case with the old varieties, certainly now there is little difference in the endurance of flat, round, and ovals. But every gardener, all the same, likes to grow three or four varieties, both to produce giant bulbs, and for ordinary outdoor sowing.

The favourite varieties to produce large bulbs are Ailsa Craig, the very best; Ne Plus Ultra, Excelsior, Sutton's Globe, Lord Keeper, and the Wroxton, although there is really no variety that, treated as Onion plants are to secure these fine bulbs, will not respond by producing large ones relatively. As to outdoor varieties they seem to be legion, for whilst including those named, it would not be difficult to add a score of others that seem to be good also; whilst with not a few roots, such as Potatos, Carrots, Parsnips, and Beets, for instance, there can be no

question but that bigness does mean the production of coarseness of texture and excessive, watery flesh. In Onions such is not the case; for owing to the abundant root-room and feeding furnished, especially if the variety be a good one, the bulbs seem to have flesh as fine of texture and as firm in the large ones as in the smaller ones. The former are certainly milder, but that makes for gain rather than loss, as too much of hotness is often vile.—A. D.

RADISH VEITCH'S EARLY GEM.

In private gardens, where early Radishes are in demand, a small, quick-growing kind is of the utmost importance. It is not a question of large growing kinds. Those with small, bright, quick-growing roots, about as large as the top of your little finger, are most appreciated. Added to this it is of the first importance that they should have but little leafage; kinds that make a lot of top are bad in two ways, namely, they are a long time coming in, and they take up a lot of room.

For years I have grown Veitch's Exeter Early Turnip-rooted, as I could not find anything better. These come in marvellously quick when sown in frames.

This year I tried Early Gem, sowing it with the other named kinds. All three kinds were sown at the same time, early in January, in a vinery on a bed made of leaves for Asparagus. When the Asparagus was put on the bed and covered with soil, on the soil I sowed these three kinds of Radishes, just covering the seed. In six weeks we had nice, young, tender Radishes fit for use. Early Gem is a gem. The roots are of a bright red colour, with scarcely any foliage, only four or five leaves, and these are very short and close to the ground, so that many roots can be grown in a small space. It is the best kind I ever saw for early work. Added to this the stock is very true. I am sending you a few roots for your opinion.—J. C. F., Chard.

[The samples of this Radish sent by our correspondent were globular, varying towards a shortly oval outline, and were of a rich red colour. The flesh was crisp, tender, juicy, and very solid, as Radishes should be at this early date, and made excellent eating. The leaves were remarkably short, and dark green, constituting, with the other qualities, a model Radish.—Ed.]

MAIDENHEAD GARDENERS' MUTUAL IMPROVEMENT SOCIETY.

LEAF EMBROIDERY.—The last meeting of the society for the winter session was held on Tuesday, the 20th, when two papers were read and discussed, the first, "Leaf Embroidery," by Mr. J. W. Richardson, the assistant secretary, and gardener to G. Hewing, Esq., Bridge House, Maidenhead, the lawns of which place sloping as they do towards the Thames opposite the well known Skindles Hotel lend themselves particularly to this style of embellishment. The features of this carpet bedding, the lecturer said, were the effectiveness of various designs of distinct colour masses; dwarfness of growth, and that the effect lasts from the time of planting out till autumn. Against it, it is the most costly and requires plenty of labour. Having given his ideas on colour contrasts, the lecturer then gave a list of plants suitable for working out designs in green leaved plants; plants with golden and variegated foliage; hedders with gray, white and dark coloured leaves. A list of the various bedders would be taking up more space than your paper can afford. Mr. Richardson placed on the table some dozen large photographs showing various designs carried out annually at Bridge House.

HORTICULTURAL SHOWS.

Mr. D. Ingamells, the chairman of the society, then followed with a paper entitled "Horticultural Shows; their management and principles of Judging." Mr. Ingamells, who is always practical, treated his subject as one would have expected. He, amongst various preliminary remarks, stated that the two primary objects of horticultural exhibitions are stability and independence, with a great many exhibitors on committees. The great danger often is the cost being under-estimated and the income over-estimated; and the chance then is dependent on weather. Therefore, one great and desirable feature in carrying out of shows is a properly instituted

reserve fund to fall back upon. The rules and regulations of shows should be concise and not easy to misunderstand; to convict an exhibitor and rule his products out of competition owing to imperfect wording of rules is fining him for faults which really should rest on the framers of such rules. Passing various judicious comments, and finding out the weak spots of committees, secretaries and stewards of shows, Mr. Ingamells then hinted that exhibitors often gave trouble by making entries and failing to fill them, or worse, making no entries at all, or making them too late, and then bringing loads of produce, and clamouring for space when every inch has been allotted. Exhibitors are also very remiss in the matter of staging late.

GROUPS.

There is no more important class at shows than this. About the year 1868 these first came into the schedules, Mr. Leslie Melville starting them at the Lincoln Horticultural Society. At Shrewsbury in 1898, there were no less than eight groups, each covering a space of 400 ft. sq. Many groups are too formal, flat and over packed, and need light, grace, and no artificial rustic work, bridges, arches and such like adornments.

JUDGING.

Owing to keenness in competition, a good judge, besides a good temper, must have more than a knowledge of the value and rarity of exhibits placed before him, be familiar with the best of everything in the domain of gardening, and appreciate the skill displayed in its production, and has a requisite sense to make up his mind at the right moment, never giving a thought as to whom he will please or offend.

WINNING AND LOSING.

If bearing honours meekly is a virtue, surely enduring losses bravely is a greater virtue. Exhibitors who fail to win should patiently search for the cause of failure. More is really learnt from failure than success. The losers of to day who profit by experience and persevere are the winners of to-morrow. It is the importance of attending to small matters by committees, secretaries, stewards, exhibitors and judges that make our exhibitions.

"Think nought of a trifle though it small appears,
Sands make the mountains, moments make the years, and trifles life."

—J.W.S.

EARLY FLOWERING SHRUBS.

PYRUS JAPONICA.—This member of the Apple tree family is in a few respects one of the finest ornamental members of its class. Even so far south as London it can be relied upon to flower freely when grown in the open grounds as a bushy shrub; but even to the borders of the northern Highlands it succeeds capitally when a suitable place on a warm wall is chosen for it. The flowers are rich ruby coloured and freely borne from the axils of the young wood and also the old spurs. When trained to a wall the pruning and root attention are quite as necessary matters for consideration as they are in the case of pruning and the care of fruit tree roots. We grow the *Pyrus japonica* for the feast of its flowers; we grow the Apples to eat their fruits. Some amount of attention will be found necessary to furnish a properly regulated wall specimen. When grown as a bush, *P. japonica* is most tortuous and spreading in growth. It retains much of this nature even under the severe regulations evolving from pruning—knife and hammer—in its growth on a wall so that outward growing branches required for filling in must not be allowed to go too far ahead before being trained in. The pruning resolves itself into the thinning of superfluous growth, the selection of properly disposed and suitable shoots, and the spurring back of the lateral shoots arising from the secondary stems forming the outline or framework of the subject. Any good garden soil is suitable for it, and a little cramping of the roots is helpful rather than pernicious.

CRAB APPLES.—Although not to be classed with spring decorative shrubs but rather with those of late summer, I should like to plead for the pretty fruiting Crabs. It is by no means too late, even a month from now, to plant a few, provided extra care is expended in the planting. The new varieties of ornamental Crabs will shortly become very popular, or I wrongly conceive what suits our British taste.

ERICA CARNEA and E. C. ALBA.—The placing of such lowly shrubs among tall and conspicuous ones

might cause a questioning thought to run through the minds of some readers. Ericas are oftener treated of by themselves but "all the same for that," as the colloquialist would say, they are still shrubby plants, and they are flowering now, and now is early!

So useful are these two subjects, the rosy-pink one and the white, that wherever there is a rockery or space on a bank for a few plants there they should be placed. Even the smaller gardens should be able to boast of a bed of Ericas and *E. carnea*, with *E. c. alba*, is as pretty as any.

THE ALDERS.—From shrubs of pigmy size a step is taken to trees of respectable proportions. But only for a passing reference. When the Alders (*Alnus glutinosa*, *A. cordifolia*, &c.) are heavily laden with their long drooping "tails" or catkins, generally of a greenish-yellow colour, their presence by the side of still water is uncommonly beautiful. Or again showering down from the steep sides of a gullet among the hills—country hills—with a rushing mountain stream foaming below—what is prettier? The male-flowered Willows are likewise extremely attractive.—H. D.

GARDENING MISCELLANY.

WHITLOEF CHICORY.

As most gardeners are aware the fleshy roots of this plant are grown for the purpose of forcing in winter. When brought into heat the roots are easily induced to throw to develop leaves, which may be retained in the blanched condition merely by covering them from the light when brought into the forcing house, that is, provided it is lighted. Many gardeners now have the convenience of a forcing house that is perfectly dark when the door is closed; others make a temporary one. Some eminent connoisseurs tell us that the best way to serve the forced leaves is to use them raw as a salad dressed with oil and a little vinegar. One uses it sometimes as a French salad and at other times as a German salad. In any case it is a very accommodating and agreeable vegetable that may be used in various ways; while its culture is of the easiest.

ESCHSCHOLTZIAS.

Nothing in the garden during summer possesses more charmingly brilliant flowers than do the Californian Poppies. *E. californica* has a tremendous depth of colour, a colour which really glows. Strangely enough, the *Eschscholtzias* only open fully under the influence of sunshine. This is to be regretted, for half, or even three-quarters, of their beauty lies in the finely curved cup and its inner ruddiness. They seem to favour a dry sandy border, and are much used in public parks and private gardens for the edges of beds, and such like. A pinch of seed need only be sown in May to supply these welcome blooms by midsummer. The average height is 1 ft.

ACACIA UROPHYLLA.

AMONG the many Acacias now in bloom or soon to be, the above stands out as a very handsome subject. It throws up tall slender stems bearing crowds of little flower heads of a pale yellow colour, similar in form to *A. armata*. The foliage is irregular and oblong. The flowers are slightly fragrant, the bushes being conspicuous and pretty.

SOCIETIES.

TORQUAY.—March 21st.

THE spring show, as usual, was held in the Bath Saloon, in glorious weather, the sun shining the greatest part of the day, in fact, Queen's weather at the queen of watering places down west. This consequently favoured the attendance, which generally has the most to do with shaping the balance sheet. The number of entries was slightly below that of previous years, but the quality of the exhibits maintained the show's reputation. Huge Palms and Tree Ferns, stood on tall iron stands, greatly added to the exhibits staged below, reducing to a minimum the otherwise flatness of the arrangement.

There were forty-six classes in all, the first being for six flowering plants in 8 in. pots, distinct species.

Dr. F. Edgelow came first, and Mrs. Hassall second. For six foliage plants, distinct species, Mrs. Hassall and Miss Lavers came in the order named. For three plants, flowering or foliage, Dr. F. Edgelow led; while for six Ferns, Miss Lavers came first. With one specimen Azalea, Mrs. Hassall was first. Dr. Edgelow, second; Mr. P. Bushby, third. These were all grandly flowered, and a sharp race ensued as to which should have the blue. For the specimen plant in bloom, Dr. Edgelow won with a nice plant of *Imantophyllum*, and for a nice Orchid, Miss Lavers was the only exhibitor, but for three Orchids, Dr. Edgelow came first with good *Dendrobium nobile*, well flowered. Miss Lavers was second, with *Angraecum*, *Coelogyne*, and *Cymbidium*. There was only one exhibitor for six Gloxinias, and these were really splendid for so early a period, from Mrs. Hassall's garden. Double Primulas were poor, but the singles quite the reverse, Mr. Wingate taking first for three; Mr. Quick second. For three *Spiraeas*, Dr. Edgelow was well ahead with fair pots; Mr. Bushby next. A prize for three *Dautzias* only brought one entry, and this from Mrs. Hassall, but they were good specimens, full of flower.

Dr. Edgelow took first for six table plants in flower; Mr. Quick, second; while for six foliage plants, Mr. Bushby was first; Dr. Edgelow second. Mr. Quick was first for a dozen distinct Hyacinths; Dr. Edgelow, second; and for six, Mr. Wingate led the way. For six pots of *Polyanthus Narcissi*, Dr. Edgelow was first; and in six pots trumpet varieties, Mr. Wingate came first, with Dr. Edgelow second. Only two lots of *Freezias* were staged. The first prize lot was very good, and came from Mrs. Hassall. Lilies of the Valley were very poor. Miss Lavers was also first for six hybrid Primroses, and Dr. Edgelow again scored for six pots of Tulips, as well as for three. *Cinerarias* call for no comment except that they were poor and scarce. In the cut flower, Mrs. Hassall led for six varieties *Narcissi*, not *Polyanthus*. Mr. Bushby took first for an epergne of flowers and foliage. Mr. Minifie was first for dinner table decoration, done entirely with single Daffodils. Special prizes were given by the president, Dr. Hamilton Ramsey. For a basket of flowers grown in the open air, Mr. Bushby was first. Messrs. Veitch & Son, Exeter, offered prizes for six pots of Hyacinths. The first was taken by Mr. Wingate. Mr. Smale gave prizes for six pots Hyacinths, six pots Tulips, and three pots of trumpet *Narcissi*. Mr. Bushby took honours.

The honorary exhibitors included Messrs. Curtis, Sandford & Co., who had a fine display, consisting of white Lilacs, Hyacinths, Lily of the Valley, *Freezias*, *Spiraeas*, *Genistas*, *Mignonette*, Ferns, *Acacias*, and two large boxes containing dozens of bunches of Violets in variety, and four boxes of bud Roses, W. A. Richardson and *Niphetos* showing up well. Altogether this was a showy group. Mr. Heath, King's Rerswell, had a fine display of gathered and pots of Violets, *La France* showing up well amongst many other novelties. Mr. B. Smale, nurseryman, also had a showy bank of Azaleas, Hyacinths, *Cyclamen*, Primulas, Palms, Ferns, &c. Messrs. R. Veitch & Son, Exeter, had miniature rockeries, *Richardia compacta*, *Amaryllis sports*, *Cerasus Watereri*, cut blooms of *Narcissi*, &c. Miss Lavers staged a nice collection of Orchids. J. Snelgrove, Esq. (gardener, Mr. Bale), put up a meritorious collection of flowering stuff. Amongst it I noticed *Magnolia stellata*, Hyacinths, *Eucharis*, *Acacias*, fine Orchids, Palms, &c. The awarding of prizes was in the hands of Messrs. Franklin (Streatham Hall), Mayne (Bicton), and Gale (Home Park).

ROYAL HORTICULTURAL.—March 27th.

The meeting on Tuesday last was brightened very largely by means of forced stuff, the continued cold winds having the effect of retarding growth to such an extent that hardy flowers are yet comparatively scarce. Forced flowering trees and shrubs in a great wealth of variety brightened the tables. Other subjects were: *Cyclamen*, Tulips, *Clivias*, *Hippeastrums*, Daffodils, and other plants of that type. Orchids were also fairly well represented, the small exhibits and new plants being the most numerous.

A group of Orchids was set up by H. T. Pitt, Esq., (gardener, Mr. Thurgood), Rosslyn, Stamford Hill, who had fine pieces of *Dendrobium aggregatum majus*, *D. nobile*, *Vanda tricolor*, *Oncidium sarcodes*, *Phaius Norman aureus*, *Odontoglossum Rossi majus*, *O. Adrianae*, *Rosslyn var.*, and many others. Several

of the smaller pieces were very interesting. (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, had an interesting group of Orchids, very conspicuous amongst which were some well-flowered pieces of *Cattleya Schroderae*, having its characteristic orange blotch very large and well defined. They also had such interesting things as *Dendrobium barbatulum*, *D. brymerianum*, *D. findlayanum*, and *D. nobile Cooksoni*. (Silver Banksian Medal.)

Messrs. F. Sander & Co., St. Albans, exhibited a group of Orchids, including five varieties of *Odontoglossum crispum*, with broad segments and round flowers. Fine also were *Dendrobium atroviolaceum*, *Cypripedium bellatulum*, and *C. Svend Bruun*. *Bulbophyllum saurocephalum* is a strange looking species. (Silver Banksian Medal.)

N. G. Thwaites, Esq. (gardener, Mr. J. M. Black), Chessington, 23, Christ Church Road, Streatham, had a group of Orchids, including a grand piece of *Dendrobium nobile Cooksoni*, also *D. Wiganae*, *D. nobile ballianum*, and *D. Ainsworthii intertextum grandiflorum*, &c.

J. T. Bennett Poë, Esq. (gardener, Mr. J. Downes), Holmwood, Cheshunt, exhibited a basket of well-flowered *Ada aurantiaca*, for which he received an Award of Merit. Messrs. F. Sander & Co. staged *Selenipedium titanum*, with a stem 4 ft. high, and carrying four flowers besides numerous buds. They also had *Phaius Bernaysii*, a yellow-flowered species, J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford, exhibited *Dendrobium nobile album*.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, exhibited the beautiful *Laelia Cowani*; also *Dendrobium Clio superbum*, and *D. Melpomene*, all very handsome hybrids. De B. Crawshay, Esq. (gardener, Mr. S. Cook), Rosefield, Sevenoaks, staged *Odontoglossum triumphans* Mrs. De B. Crawshay, and *O. excelens crawshayanum*, both very handsome varieties. The intense colour of the blotches of *O. triumphans* Raymond Crawshay was very telling. *O. Mulus crawshayanum*, *O. triumphans Imperator*, *O. andersonianum pulvereum*, and *O. a. flavum* were also in the same interesting group shown by De B. Crawshay, Esq. The two last named forms of *O. andersonianum* were charmingly distinct and handsome, *O. a. pulvereum* having a creamy ground, and *O. a. flavum* having a yellow ground to the fascinatingly spotted flowers.

Messrs. James Veitch & Sons, Ltd., Chelsea, staged the hybrid *Cypripedium hirsutissimum-Argus*. Mr. A. J. Keeling, High View Nursery, Cotingley, Bingley, had a small group of *Laelia jongheana*, Sir Frederick Wigan, Bart., M.P. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, staged *Cattleya Trianae* Katie Wigan, *C. Nigel*, *C. T. var. Mars*, and the orange coloured *Masdevallia Pourbaixii*. The *Cattleyas* were very fine. *Pleurothallis longissima* and *Bulbophyllum dayanum* were shown by F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin.

Messrs. Cutbush & Son, Highgate, London, N., had a pretty group of forced shrubs. These included *Laburnums*, *Staphylea colchica*, *Prunuses*, *Magnolia*, and *Lauristinus hirta*, the whole fringed in with *Ophiopogon Jaburan variegatus*. The stock was of the best quality.

Messrs. Barr & Sons, 12 & 13, King Street, Covent Garden, London, came out in exceedingly strong array with pot Narcissi and others cut and staged in glasses. Of the Ajax section *Victoria*, with clear yellow trumpet and pale perianth, was very fine; *Mdme. Plomp* was also extra good; the new variety, *Duke of Bedford*, *Golden Spur*, *Telamonius plenus* (some strikingly fine blooms), *Emperor*, and others. Of the medio-coronata we have *Stella superba*, *C. J. Backhouse*, a lovely variety, and one of the old favourites. Sir Watkin was also well seen, the white or pale grey-white *Mrs. Langtry*, and very many others which could not be specialised. The visitors fully appreciated this fine feast of Daffodils and other hardy plants. (Silver Flora Medal.)

Messrs. Thos. S. Ware, Ltd., Hale Farm Nursery, Tottenham, London, N., were strongly represented in hardy alpine stuff grown in pots, as well as by pot grown Narcissi. Hardy *Cyclamen*, *Primroses*, *Adonis amuriensis*, too seldom seen, *Anemones*, *Iris reticulata*, very deeply coloured, *Drabas*, for exposed rocky parts, *Saxifraga purseriana*, *Lachenaia Nelsonii*, *S. apifolia*, *Bulbocodium vernalis*, and

Aubrietia purpurea aurea variegata, together with very fine Narcissi and *Dielytras* made a very interesting show.

The Duke of Richmond and Gordon (gardener, Mr. R. Parker), Goodwood, Chichester, exhibited a number of fine Apples, such as *Wellington*, *Lemon Pippin*, *Lane's Prince Albert*, and others. These Apples were one and all splendid. Apple "King of Tomkin's County" received an Award of Merit as being a good late keeping dessert variety.

From Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nurseries, Chelsea, came a number of seedlings from *Clivia miniata*. The *Clivias* of recent years have been occupying attention, with results that are already very apparent. The colourings and the forms of some of Messrs. Veitch's seedlings evince a marked evolution and change, no one type being held to, which is certainly a feature worthy of notice. It is to be hoped that at no distant date we shall have pure yellow, creamy, orange, and other colours among our *Clivias*. They also showed *Viburnum Tinus lucidum* and *Deutzia Lemoinei* *Boulge de Neige* in a number of specimens, each of them laden with blooms. (Silver Banksian Medal.)

The St. George's Nursery Co., Hanwell, exhibited a large assortment of their now famous strain of *Cyclamen latifolium*. The plants were in capital condition, strongly flowered, and very varied in colour. The ordinary tall and strong blooms of the *C. latifolium* (*C. persicum*) contrasted strangely against their new *Fimbriatum* types. One very strongly marked feature of this latter kind lies in the fact that the foliage, too, is quite fimbriated, equal with the crimped and wavy petals. Such variations will find admirers. (Silver Gilt Banksian Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, showed Tulips in pots, a class of spring forced bulbs not elsewhere seen in the show. Some of the sweetest and best of these were *Queen of the Netherlands*, *Bacchus*, *Van Vondel*, *Rose Luisante*, *Chrysolora*, *Duchess de Parme*, and others. *Narcissus poeticus ornatus*, *N. princeps*, *N. incomparabilis* Sir Watkin, &c., were likewise shown.

Mr. John Russell, Richmond Nurseries, Surrey, had a lovely group of specimen spring flowering shrubs on array. Tall standard Lilacs, *Prunus triloba*, and *Genista andreana* were grouped in quantity, each sample being laden with flower trusses. The *Viburnums* were also shown in considerable variation, *V. plicatum*, *V. Opulus*, &c., *Azalea mollis*, and *Clematis Jackmanii* varieties were also on show. (Silver Floral Medal.)

Mr. John May, Gordon Nursery, St. Margaret's, Twickenham, Middlesex, set up a fine collection of *Cyclamen latifolium*, plants well flowered, fresh, stout and clean. (Silver Banksian Medal.)

J. A. Kenrick, Esq., Barrow Court, Edgbaston (gardener, Mr. A. Cryer), exhibited a large collection of *Hippeastrums*, among which there were some very fine spikes. So early an exhibit was very pleasing.

Messrs. F. Cant & Co., Braiswick Nursery, Colchester, arranged Tea Roses in liberal quantity, and all fresh and good. Some of the strongest and finest varieties were found in the *Catherine Mermet*, *Bridesmaid*, *Media*, *Mdme. Lambert*, *The Bride*, *Clara Watson*, *Viscountess Folkestone*, and *Mdme. C. Guinoisseau*. Very fine was a central stand of *W. A. Richardson* in bunches. (Bronze Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, showed a beautiful group of a new double Zonal *Pelargonium* named *Miss G. Ashworth* (All-Flower) of pure white colour, and which received an Award of Merit.

Dr. Stocker, Anery Hill, Eltham, exhibited a lovely spray of *Acacia riceana*.

Messrs. F. Sander & Co., St. Albans, Herts., showed plants of *Pteris argentea*. The fronds are dry and firm, prettily dissected, and of a pale dusty colour, which gives it distinctiveness.

Messrs. J. House & Sons, Westbury-on-Trym, Bristol, again sent their pot Violets, a collection of which contained an amount of new seedling varieties. The *Prince of Wales* and *Princess of Wales* we have seen and noted before for their merit; *R. Augustine*, *Sulphurea*, *La France*, a large dark flowered single variety which on this occasion received an Award of Merit, were among the number of new and good introductions.

Messrs. J. Peed & Sons, Roupell Park Nurseries, arranged a diversified and very useful group of forced greenhouse flowering plants and shrubs. There was

a freshness about the plants that was very pleasing. Tulips, Hyacinths, Mignonette, Ericas, and other plants were shown.

J. I. Thorneycroft, Esq., Eyot Villa, Chiswick Mall (gardener, Mr. F. Mearns), exhibited pots of *Iris germanica*, lifted from the open ground in January, and brought gradually into bloom in heat. The object of the exhibit was to prove the value of this *Iris* for forcing, and certainly, to judge from the encomiums expressed by visitors, its value is very great for this purpose. It is an idea that was conceived by Mr. Mearns. (Vote of Thanks.)

Messrs. Paul & Son, Waltham Cross, Herts, again showed a full collection of forced pot-grown *Prunuses*. The beauty and great quality of these were fully notified on a previous occasion. (Silver Gilt Flora.)

Messrs. R. and G. Cuthbert, Southgate Nurseries, Middlesex, showed some very fine specimen *Azaleas* of the variety *Fielder's White*. The luxuriant growth, the graceful build, and the wreathing of pure white flowers borne by the plants were all points of particular notice. (Bronze Banksian Medal.)

A First-class Certificate was awarded to Daw's Champion *Rhubarb*, a beautiful sample being exhibited by W. Poupart, Esq., Marsh Farm, Twickenham. Other varieties were shown.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, set up *Tulipa kaufmanniana*, *Iris stylosa speciosa*, *I. lindjarensis*, and *Chionodoxa gigantea*, all sweet and pretty.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper*. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. J. McAra, Kingsburgh, Prestonkirk, for his article on "Snowdrops and Polypody Fern," on p. 470. Several of the other competitors this week were very close upon the prize winner; and altogether we must commend the writers for their painstaking care in writing clearly and correctly.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as *Carnations*, *Pelargoniums*, *Chrysanthemums*, *Roses*, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Vinca major and others.—E. C. H. D.—There may be, and often is, variation in the relative lengths of calyx and corolla tube, so that you must take descriptions as something aiming at approximate exactness. Plants are often so variable owing to differences of soil, climate, age, &c., that you must always be prepared to make allowances for these differences, especially when they are of minor importance. Characters that prove variable must always be regarded as unimportant. Ten species of *Vinca* are recorded in the *Index Kewensis*, and eight are recorded in gardening books as having been introduced to cultivation. The *Index Kewensis* gives no descriptions, merely the names, the authorities for the names, a reference to where the plants were first described, synonyms, and native countries. We do not study plant-galls, nor the insects that produce them, except so far as they are found in gardens and destructive to garden plants.

Asparagus crispus.—A. H.: We enquired of our correspondent what he meant by describing this as the "finest of the *Asparaguses*," and he explained that the term was meant to imply that it was the "finest in growth or most slender of the *Asparaguses*," and was not intended to convey the impression that it was the "best" of the decorative species. From this we gather that the word

"finest" was used in rather a restricted sense, and without modification was liable to mislead. This would explain the conclusion that the Asparagus in question might be good enough as a variation upon those already in common use, but was not sufficiently meritorious to displace such as A. Sprengeri, for instance. We hope this will make the matter clear.

Stove or Greenhouse Plants.—*Johnstone*: Please note that better specimens should be sent. Leaves are insufficient in many cases to determine the plants; and where they were only half developed they were dried and shrivelled up. Of those you sent the following were stove plants:—Nos. 2, 3, 4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 27, 28, and 31. The following were greenhouse plants:—Nos. 1, 5, 8, 10, 20, 21, 22, 25, 29, and XXX. The following were hardy plants:—Nos. 18, 24, 32, and 33. No. 13 is *Pittonia Verschaffeltii*, a stove plant, easily grown in rich sandy loam and peat, either in pots, pans, or planted out on the benches. It must have a moist stove, and be kept at a temperature of 60° to 80° in summer, and from 45° to 55° in winter. Cuttings of the half ripened shoots root very readily in sandy soil under a glass or handlight, in a bottom heat of 70° to 80°.

Orange Raised from a Pip.—*Johnstone*: Oranges may be grafted at any time when not in a growing condition, so that you could commence at once if you have rooted stocks upon which to graft shoots of the seedling before growth commences. If you have no stocks then you must get some or else root them for yourself. Get shoots of the common Orange, or of the Citron, if you can get them. They may be one, two or three years old, those of two or three years' growth soon making strong plants. They may be inserted in well drained pots of sand or very sandy soil, and placed in a close frame with a bottom heat of 75°, and plunged in cocoanut fibre or ashes. These stocks may be grafted as soon as they are well rooted. If the stocks are strong you may cut off the tops and crown graft them. Take out a triangular notch, running the long way of the stocks, from the top or crown downwards for a length of 1 in. to 1½ in. Then get a small shoot from your seedling and cut it so as to fit the notch exactly. One, two or three of these shoots may be put on each strong stock. Fit them in position and tie them firmly with fine raffia. Then tie a little wet sphagnum round the grafts, covering the union so as to exclude the air. The pots containing the grafts must be kept in a close case, or covered with handlights or bell glasses in a propagating pit till a union is formed. On the other hand you may fix the graft on to the side of the stock in a growing condition, by the method known as whip or tongue grafting. A tongue is made on the graft, and a notch in the stock to receive it. This holds the graft in position till a union is formed. The bark of graft and stock must coincide or fit exactly. You may, if you have an old Orange tree, cut back some of the branches and put shoots of your seedling upon them by tongue grafting. This can be done at once, and the tree put in a moist, warm stove. The old tree will have the effect of bringing the seedling quickly into a bearing condition.

Names of Plants.—*J. M., P.*: 1, *Boronia heterophylla*; 2, *Asparagus Sprengeri*.—*E. C. H. D.*: *Linum augustifolium*, apparently, but flowering specimens should be sent later on. The only other plant it might be is *L. perenne*.—*D. M.*: 1, *Narcissus cbvallaris*; 2, *Narcissus cyclamineus*; 3, *Scilla sibirica*; 4, *Pulmonaria saccharata*; 5, *Forsythia suspensa*; 6, *Forsythia viridissima*.—*R. A. C.*: 1, *Primula denticulata*; 2, *Primula rosea*; 3, *Sparmannia africana*; 4, *Choisya ternata*; 5, *Petasites vulgaris*.—*Johnstone*: *Begonia metallica*; 2, *Euphorbia fulgens*; 3, *Poinsettia pulcherrima*; 4, *Gesnera fulgens* var.; 5, *Rivina laevis*; 6, *Aristolochia elegans*; 7, *Begonia maculata*; 8, *Browallia speciosa*; 9, not recognised; 10, *Begonia fuchsoides*; 11, *Eucharis grandiflora*; 12, *Marica gracilis* (probably); 13, *Pittonia Verschaffeltii*; 14, *Pittonia argyrea*; 15, *Alocasia macrorrhiza* (probably); 16, *Episcia fulgida*; 17, *Thunbergia erecta*; 18, *Sedum Telephium* (probably); 19, not recognised; 20, *Plumbago capensis*; 21, *Abutilon* sp.; 22, *Rubus rosae-folius flore pleno*; 23, not recognised; 24, *Valoradia plumbaginoides*; 25, *Aloysia citriodora*; 26, not recognised; 27, *Cissus discolor*; 28, *Rondeletia speciosa* major; 29, *Eupatorium riparium*; 30, not recognised; 31, *Acalypha* sp.; 32, *Azalea mollis* (probably); 33, *Veronica Traversii*; XXX, *Chlorophytum elatum variegatum*. See separate paragraph.

Communications Received.—James Thurstan—H. Perkins.—David P. Laird.—C. Mullins.—G. H. Richards.—A. C.—A. G. B.—W. M.—A. D.—R. S.

TRADE CATALOGUES RECEIVED.

F. R. PIERSON, Co., Tarrytown-on-Hudson, New York.—Choice Seeds, Bulbs, and Plants.

H. CANNELL & SONS, Swanley, Kent.—Illustrated and Complete Floral Guide of Plants for 1900.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Spring Catalogue of Dahlias, Chrysanthemums, Carnations, Bedding Plants, &c.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, APRIL 7th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 10th.—R.H.S., at Drill Hall, Westminster.

UNDER-GARDENERS AND THEIR GRIEVANCES.—A discussion concerning the grievances of gardeners, generally, has been going on for some time in the pages of a contemporary, and a correspondent sends us a letter on the subject. That some gardeners are well off, and others but indifferently so is evident from the variety of opinions expressed, and that would also accord with our experience. Time was when the housing problem received scant attention from employers; and the law of sanitation being little understood or perhaps ignored, gardeners' cottages and under-gardeners' bothies were often otherwise than healthy habitations in which to live. Since these things have been better understood, changes for the better have been going on during the last thirty years or so. Doubtless there are places yet in which the housing question has not received that attention which it deserves. In some instances this might be due to the employer, especially if not resident upon the estate or only occasionally so; but in other cases it is said to be due to the head gardener not bringing the matter before his employer. Without being sumptuous a gardeners' bothy may be clean, well ventilated, sufficiently commodious, and otherwise built or constructed on hygienic principles, without being in any way too costly for the importance of the inmates to the employer himself. Happily there are employers who recognise it to be to their advantage to provide for the well-being of their employees; and in our experience such employers are year-by-year increasing. This refers more particularly to gardening establishments situated in the country and more or less remote from towns and villages. In and near towns and villages many gardeners and their subordinates are housed under the same or similar conditions to the general populace of those places.

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Our correspondent refers to the prevailing order of things existing in Scotland, and reckons amongst the grievances of under-gardeners too long working hours, inferior bothies, and low wages; yet he admits that in his particular district all those advantages are fairly well met. By comparison with other occupations, however, he thinks that the wages of under-gardeners stand in need of a little advancement. With this we entirely agree. A slight advance on the present rate of wages would mend matters considerably, when one remembers the fact that a few shillings in the country go much further than in town, though that may be due in a great measure to the less need there is to spend the money earned. In bothies there is no rent to pay, no coals nor light to buy; and various other things for which the town gardener has to pay do not in purely country life come to be necessities, or only occasionally. When to this is added the fact that employment for most of the men is continuous all the year round, there may be bad days, but no unpaid ones. The glamour of a considerably higher wage in and near towns is undoubtedly a means of luring gardeners and others towards the great centres of population; but when the expenses of the new and absolutely necessary requirements are deducted from the higher wages obtainable by town and suburban gardeners, the remainder may, and very often is below the living wage accorded to the country gardener. Against all this, however, we may place the greater advantages which town gardeners enjoy in the much greater facilities afforded for self improvement in the way of education, by attending evening classes, libraries, mutual improvement societies, and the like, which tend to give gardeners a much greater and more far reaching grasp of their profession, thus raising their mental standard, and making them more useful to their employers, besides affording them a much more extended and legitimate means of enjoying life.

Our correspondent also calls attention to the scarcity of young gardeners in the North. Mr. M. Temple also alluded to this fact in a very pointed manner in our pages a short time ago, the chief reason adduced being the low rate of wages offered to young gardeners, the difference between the emoluments accorded to the gardening profession compared with that of other occupations being so great as to draw or drive the men into altogether different channels of labour. There can be no doubt that the low wage question in gardening is of far reaching importance, and hundreds either creep into towns, or crossing the borders come south in order to better themselves. Many go abroad to all quarters of the world where the conditions are often anything but conducive either to happiness or longevity. When all these things are considered it would be to the advantage of employers to offer better remuneration to their young employees in order to induce them to stay on the land. On all the larger establishments at least there ought to be a cottage on the estate for the foreman or heads of departments. It is obvious that many men at least must wait for years before an opportunity occurs for them to fill the position of head gardener, if indeed such places can ever be found for them all. There is an advantage in young men roaming about from place to place in their youth, for they thereby get a greatly extended knowledge of their profession to their own and ultimately their employers' advantage; but the time must come in the natural course of events when it would not only be convenient but necessary to settle down to some earnest and useful occupation.

A suggestion is also made that gardeners

should form themselves into some sort of union or combination for the betterment of their conditions of labour. Such a proposal was made some years ago by the Tunbridge Wells Gardeners' Society, and a large number of gardeners were gathered together to discuss the matter; but though they were ostentatiously opposed to anything like a trade union, yet the matter was regarded with so much suspicion that the project fell through in the initial stages. Those gardeners who are in fairly comfortable positions, and who are not particularly favoured in that respect hesitate to commit themselves in any way that would be likely to jeopardise their positions. The remainder are not strong enough to have any appreciable effect in bettering their position. As far as we can see, gardeners are too widely separated to be able to combine in any formidable manner. The resources of civilisation may not, however, be exhausted even in this matter, and it may be possible by peaceable means to attain by degrees the desired object in a way that will suit all parties concerned. Of course young gardeners are differently situated to those in head places, and could rough it for a time if prospects warranted a combination on their part; but as far as we can see no compulsion of any sort in the meantime would further their ends. Our correspondent, we admit, is of this same opinion, for he advises peaceable and constitutional means. We have evidence that there is a real scarcity of useful journeymen gardeners at present in some quarters, and this in itself we should imagine would in course of time bring about the desired improvement in the matter of wages. We cannot see how employers could continue to carry on their establishments with practically inexperienced labourers in lieu of well trained journeymen gardeners. The efficiency of their gardens and glass houses would soon decline. Moreover, unskilled labourers demand a higher wage than journeyman gardeners. The latter look upon their circumstances for the time being and are content to follow out their calling at a relatively low wage in prospect of something infinitely better when they get into head gardeners' positions. If, however, the attractions in other occupations become so great as to induce journeymen in any considerable numbers to throw up their profession for something more remunerative, surely it will be high time for employers to seriously reconsider the whole matter and offer their employees something more substantial.

War Item.—Lord Roberts has a beautiful collection of Orchids at Kingsbury.—*Daily Chronicle*.

Rosery at Karlsruhe, Germany.—With the March number of *Rosen Zeitung* is issued two plates in black and white of the Rosery of the town garden at Karlsruhe. The Rosery in question, judging from the illustrations, is of an extensive and ambitious character. In what appears to be the centre is an octagonal structure or framework of iron pillars and wirework, gradually contracted on the roof to another and shorter set of pillars surmounted with a dome of the same material. Winding walks run in various directions, and between the paths are stretches of grass on which beds are laid out and filled with bush and standard Roses. At various points the paths are surmounted by archways of wire framework, covered with Roses. Altogether the display of Roses during their season must be great, judged by the photographic reproductions of the rosery in full bloom. The standards are so numerous as to give the place a thickly planted appearance, while there is a back ground of deciduous and evergreen trees including Conifers. Something of the kind might well be attempted in some of the London parks, for Roses, as a rule, do well even within the confines of London; and the heavy soils in some of them should suit the Roses.

Peach trees on early walls are in flower at Gatton-side, Melrose, N.B.

The Thirsty Land.—The fact that the River Tweed, as an instance, is almost at its lowest ebb, even after all the snows and rains, proves how very thirsty the sub-soil and land generally must have been.

Mrs. Joubert peeling Potatoes under Shell Fire.—A friend of Joubert, now in Pretoria, while paying a visit to Joubert at the front in Natal, saw Mrs. Joubert complacently peeling Potatoes for her husband's dinner, while shells from a British battery were constantly dropping within a short distance of her.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, April 10th, 1—5 p.m., in the Drill Hall, James Street, Westminster, when special prizes will be offered for Daffodils (See R.H.S. Book of Arrangements, p. 58). At 3 o'clock a lecture on "Some of Plants Exhibited" will be given by the Rev. Prof. G. Henslow, M.A., &c.

Chester Paxton Society.—The concluding meeting of the present session was held at the Museum on the 31st ult., Mr. Weaver presiding, over a fair attendance, when Mr. Waterman, secretary of the Woolton Society, gave a practical lecture on exhibition Roses, dealing with the leading details including site, preparation, culture, pests, and some hints on staging for exhibition. A useful discussion followed in which several members took part. A cordial vote of thanks was tendered to Mr. Waterman for his excellent lecture, and to Mr. Weaver for presiding.

Change of Address.—Messrs. Thomas S. Ware, Ltd., who have carried on business for so many years at the Hale Farm Nurseries, Tottenham, have now completed the removal of their stock to their new nurseries. The new address is Messrs. Thomas S. Ware, Ltd., Hale Farm Nurseries, Feltham, Middlesex. They will now be able to grow plants under much more favourable conditions than formerly. The Thames valley at Feltham is wide and flat, fertile, and so far removed from the smoke radius of smoky and foggy London, that plants will have a better chance of existence, especially in winter.

Hints for Emigrants.—The April circulars giving details and prospects for those intending to emigrate have now been sent out. The present is the best time of the year to emigrate to Canada. The principal demand is for farm and general labourers, skilled miners and female domestic servants. The Government Labour Bureau in New South Wales reports that the severe drought of 1898-99 badly affected the labour market, making employment scarce and irregular. Prospects have improved latterly owing to the plentiful rains which have fallen. Very little extra labour, however, is required. The increased value of the exports and imports last year shows that the colony of Victoria is enjoying increased prosperity. A large number of people are employed in the making of railways. There is a good demand for skilled plumbers on the Melbourne drainage works; otherwise there is no great demand for extra labour. In South Australia, at Port Pirie, there is a limited demand for mechanics and general labourers. In country districts there has been a good demand for agricultural labourers, men able to work binders and strippers. In Queensland there is a good demand for farm labourers and domestic servants, to whom free or reduced passages are being granted. The number of employees on the railways has been largely increased to meet the demands for increased traffic, additional mileage and for repairs to rolling stock, particularly locomotives. With regard to Western Australia the report of the Bureau is that no really able bodied man, desirous of finding employment, remained idle for any length of time. There was a considerable demand for farm labourers. There was a considerable demand for skilled mechanics of various classes at East Coolgardie. Female servants were wanted in several parts. In Tasmania, the best openings for skilled miners or mechanics on the west coast. In New Zealand competent labourers in the country have no difficulty in procuring good wages at shearing, flax-milling, bush-felling, road making or general farm work. Persons are warned against going to South Africa in search of work, as long as the war lasts. Fuller information may be obtained from the Emigrants' Information Office, 31, Broadway, Westminster, S.W.

Vegetable Fibres.—Vegetable fibres may be distinguished from animal fibres by treatment with iodine and dilute sulphuric acid. The former take a characteristic colour, either yellow or blue, while the latter do not.

Weather in Scotland.—From an excursionist's point of view the weather throughout Scotland is everything that could be desired. Unfortunately, the same sentiment cannot be expressed for gardeners who have seeds, trees, and shrubs to get into the land. Ground operations are, however, being pushed on. Until a few days ago, Beans and Peas were almost the only crops which were in the ground. Nine and ten degrees of frost every morning leave the ground too firm for early morning work, and then when the sun thaws the surface, a nasty condition of the soil follows. At Floors Castle, Kelso, 12° of frost were registered on the 2nd inst.

Demand for Odontoglossums.—*Odontoglossum crispum*, amongst all the species and hybrids, whether of natural or artificial origin, continues to be the most popular. A relatively small lot of imported pieces was put up for sale at the rooms of Messrs. Protheroe & Morris, Cheapside, on the 30th ult., and found a rapid sale from eager buyers at prices ranging from 9s. to 12s. each. Some of the same plants in bloom might not fetch a third of the price, while well grown samples of good varieties that may turn up amongst them would fetch a higher figure in pounds, than the imported pieces did in shillings. There is this element of speculation in them that something good may turn up.

Ealing Gardeners' Society.—The gardeners of this district brought their session to a close on the 27th ult., in the Lecture Hall of the Municipal Buildings, the occasion being a paper by Mr. W. J. Simpson, of Falkland Park Gardens, South Norwood Hill, S.E. Mr. C. B. Green, who occupied the chair, remarked that the subject of the evening, "The Value of Mutual Improvement Societies," could not be gainsaid—the numbers present, and the excellent array of plants on the tables, testified to this, while Mr. Simpson was considered peculiarly qualified to deal with the subject, he having had a large experience of such societies. Mr. Simpson then entered very fully into the principles which should guide the members, as well as the executive, in conducting their proceedings. Discussion, he maintained, should be carried on with a view to elicit information, and not to air one's knowledge. Young men should be encouraged to express their views in modest fashion, while he felt sure, that in return they would concede to their elders that attention which a life experience entitled them to. He commended the offering of prizes for essays, which often induced the younger members to try their hands at composition—an education in itself—and also for exhibits, which necessarily brought out their best cultural abilities. Mr. Simpson referred to the excellence of the exhibits—of which he was one of the judges—that evening, as practically illustrating his views on the value of such institutions. Many other useful hints and ideas were contributed. Mr. Simpson, in conclusion, expressed his approval—in no measured terms—of the manner in which the Ealing Society was conducted. After a very good discussion, in which Messrs. Burgess, Cooper, Holloway, Long, and Edwards took part, Mr. Simpson received, on the motion of Mr. Waite, a cordial vote of thanks. The exhibits referred to above consisted of twelve spring flowering plants, for which there were five entries. The competition was vigorous and keen, Mr. A. Holloway, gardener to E. Hyde, Esq., Hill Crest, Castlebar, securing the coveted place. The first prize also carried with it a bronze medal by Mr. R. Pinches, of Camberwell. Mr. Holloway's plants were excellent specimens, and consisted principally of large and well flowered Azaleas (Ghent and Indian), *Cytisus racemosa*, and made-up pots of *Narcissus* Sir Watkin, and *N. bicolor grandis*. Mr. C. Long, gardener to E. P. Oakshot, Esq., Montpelier Road, staged a fine lot of similar plants, with an especially fine *Primula sinensis* (Sutton's strain), some of the rosy pips of which were found to be $2\frac{1}{4}$ inches in diameter. Mr. H. Stiles, gardener to G. Carver, Esq., Grey Stoke; and Mr. R. Green, gardener to W. Owen, Esq., The Elms, Castlebar, were third and fourth respectively. There was only one point between the first and second competitors.

The Traders in Poisons or Poisonous Compounds for Technical or Trade Purposes Protection Society.—The above society has been formed to secure the amendment of the Pharmacy Act of 1868, whereby it may be made legal for traders other than pharmacists to sell poisons and poisonous compounds for technical or trade purposes. The initial meeting was held on December 6th, 1899, at Euston Hotel, London, where a number of influential firms were represented, and it was resolved that the existing unsatisfactory conditions of the Pharmacy Act of 1868, whereby poisonous compounds can only be sold legally by chemists, should be ventilated in the agricultural and horticultural and seed trade papers. A second meeting was held on the 6th inst., at Euston Hotel, when it was resolved to extend the sphere of this society to all those trades who are in any way affected by the existing Pharmacy Act, and who would be benefited by an amendment of the said Act to enable them to retail poisons or poisonous compounds for any technical or trade purpose, in original sealed packages, as received from the wholesale dealer or manufacturer. A committee has been nominated, with power to add to their number, who have appointed Mr. G. H. Richards as treasurer; and Messrs. Dobbs and Hill, of Worcester, as legal advisers. Offices and a permanent secretary will be appointed, and to meet expenses it will be necessary to obtain subscriptions from those interested. Among the gentlemen present at the last meeting there were guarantees given amounting to £150, and as expenses will be considerable, it is earnestly hoped that a sum will be subscribed sufficient to carry on the work to a successful issue. Since it is desirable to make the movement popular, the minimum subscription for membership has been made 5s. per annum, or a donation of 10s. 6d. Interested persons are earnestly invited to become members and persuade their friends also to join. Cheques and Post Office Orders should be made payable to the order of G. H. Richards, hon. sec., *pro tem.*, and crossed "London and County Bank, Lambeth Branch," and forwarded to him at the—Temporary Offices: 128, Southwark Street, London, S.E.

A FLAT SPADE.

I HAVE always considered a flat blade spade best suited for garden work; and many years ago had one made, which had the following advantages over the ordinary shape:—Passed under the earth more easy, did not collect so much, made more even work, and also could be used for cutting edges. I have from time to time asked for such, but I was told the shape was impracticable. I see, however, this season the well-known Birmingham tool makers, Parkes, are making such a spade, and I think the users will endorse my opinion on flat blades.—C. Mullins, March 27th, 1900.

THE CENTURY BOOK OF GARDENING.

PERMIT me to correct a misapprehension in which you have fallen with respect to the authorship of the vegetable cultural matter found in this sumptuous work. Certainly I supplied a very large portion of it, and I believe Mr. G. Wythes did a good deal also. Whilst in no respect craving for popularity, yet it is but right that even the arch fiend should have his due, and I am a very small one. No one cares to work that someone else may have the credit, except perhaps, barristers who are not too nice. I have not yet seen the book in question, but I believe that Beckett's contribution related to Chrysanthemums.—A Dean.

[We may have been labouring under a misapprehension, "but how were we to know"? There are more than one chapter on vegetables, but Mr. Edwin Beckett's name was under the first one, entitled "The Culture of Vegetables," p. 451. The somewhat lengthy introduction is followed by paragraphs of greater or less length dealing more directly with the cultural directions, &c., of each kind of vegetable. These are followed by a separate chapter or article on "Asparagus and its culture," and another on "Forcing Vegetables," but we fail to find the name of any other author, either at the beginning or the end of the said chapters. There are also several chapters and articles on Chrysanthemums of various sorts, and Mr. Edwin Beckett gets the credit for that

entitled "Culture of Chrysanthemums for Exhibition."—Ed.]

PARSLEY IN WINTER.

SOME illustrations of that admirable way in which Parsley will thrive in pots, has occasionally been seen at the Drill Hall, Messrs. Dobbie & Co., amongst others, having shown remarkably fine specimens. I have often wondered that gardeners who have to supply this herb in quantity during the winter do not make a point of getting a few scores of strong plants of some fine compact curled strain into 24-sized pots during the autumn, and then have such to fall back upon from which to gather during severe weather. Parsley needs little forcing. Its hardy nature induces it to keep growing outdoors all the winter in open weather; and the plants, stood in a cool house out of reach of frost in hard weather, would grow freely also. Where there are vineries, Peach, or other houses, Parsley plants in pots could be kept easily, and occupy little of otherwise valuable space. To get good strong ones a sowing should be made in a shallow box thinly towards the end of May. Later the plants could be pricked out singly into 60's, and then shifted into the larger pots, giving little trouble throughout.—A. D.

VIOLETS.

I THINK one will not be far wrong in saying Violets are the favourites of all classes. April is the month to commence operations, choosing a cool and shady day, taking the young rootlets away from the old plants, planting them in a partially shaded border. For flowering in the open a more sunny position may be given them. A rich soil is not necessary. A fresh position annually is desirable. Plant rootlets nine inches apart, keeping clear of runners and weeds during summer months. When in full growth, an occasional watering of weak manure water is very beneficial. Damp over plants of an evening during hot weather. Lift, and replant to frames, for winter blooming in September, in a compost of equal parts good soil and leaf-mould, keeping plants close to glass. Water well down, and no more will be necessary for some length of time, as damping must be guarded against. On fine, sunny days give plants all the air possible. Be well prepared for frost by having plenty of litter and mats for protection. If a frame with flow and return hot-water pipe can be given up for them a great saving of covering can be effected. A few of the best varieties I know of are: Marie Louise, double blue; Comte de Brazza, double white; De Parme, Lady Hume Campbell, an improved Marie Louise. Singles: Princess of Wales, universal favourite, large blooms; Victoria, fine autumn blooming variety; La France, Italia, California, hardy, for borders.—S. Jordan, The Cottage, Cheapside.

SWEET CYCLAMEN.

YOUR correspondent "J.C., F." opens up a wide field for discussion *re* the above, as well as to size of blooms. I cannot go back with experience the two-score years, or just on it, he refers to, but will say it is twenty-five years since I grew Cyclamen first. In those days it was *C. persicum* pure and simple, and as he says, the blooms were comparatively small compared with the giganteum race we have to-day. Now as to their scent I must confess that my nose has deceived me all those years; as to the merits of their sweetness, or the contrary, I have always thought what an obnoxious smell a good percentage of them give out. I agree with your correspondent that we have suffered in no small degree, if there were, as he says, such sweet smelling varieties or variety grown in those days. I often think, in fact, say what a pity it is, all flowers do not possess such sweetness as Violets, Freezias, Genistas, Roses, and a host of other things that could be named. There is no doubt we have lost quantity since quality was introduced into the Cyclamen; but at the same time when we can get a plant of Sutton's White Butterfly, which, though not classed as giganteum, is much finer than the type, in a six inch pot, carrying from fifty to sixty large blooms, I think such a plant can favourably compare with the old strain of years ago. I have just counted over fifty blooms and buds on one of the giganteum strain, samples of which I forward with these notes. I may say these are from

old corms which flower later than the one year old seedlings, this being a great advantage when one has to keep up a floral display at all seasons. I hope men of longer experience will voice their opinions on this subject, especially as to the first-named subject.—*J. Mayne, Bicton.*

[Flowers of the varieties Butterfly, Vulcan, and Giant White accompanied the above notes, as well as a rose variety with crimson base, and they were certainly handsome as far as size, form and colour were concerned. The size and snowy purity of the white varieties sufficiently indicate the reason for their popularity with gardeners and growers generally, the absence of scent notwithstanding. The broad, rounded segments of the flowers of Giant White measured $1\frac{1}{2}$ in. to $1\frac{3}{4}$ in. across.—Ed.]

THE PREPARATION OF LILAC FOR FORCING.

THE Lilacs for pot culture are budded on the common Ligustrum, and those for cut flowers on the common Lilac. Almost all are forced in pots. The treatment the plants receive till they are big enough for forcing, is the same as in England; the difference lays in the time at which the plants are potted. The winter before the plants are to be potted, they are cut round with the spade, so as to cut all roots which would have to be cut when the plants are taken out. About the end of June or the beginning of July, when the plants have made their growth, and just before they are going to make buds, they are dug out and put in pots according to size. Once potted the plants are left in full sun, and are syringed nearly every hour for a few days. The plants flag their leaves a little, but they are soon re-established, after which they start making buds, during that time and till winter. Besides water the plants receive weekly a supply of manure water. Lilacs treated in this manner make splendid buds and when forced give the best results—*G. Van Overberghe, Colombusstrasse, 34 [I] r, Munchen, Giesing.*

DIPLADENIAS.

THESE are admittedly the best of our flowering stove climbers, and when well-grown produce a wealth of bloom. They are in great request for the embellishment of the dinner table. A few blooms set off with sprays of Maidenhair Fern give quality to any arrangement. As an exhibition plant it has few rivals. The compost best suited to their requirements consists of turfy peat, a little fibrous loam and silver sand. The drainage should be ample, as they require an abundance of water during the summer. When in full swing a soaking of liquid manure, in a weak state, once a week will be of great benefit, giving colour to the foliage, and substance to the flowers. In winter they should be rested by removing them to a somewhat lower temperature, and withholding water. They are propagated by securing cuttings of ripe shoots in sandy soil and placed under a bell glass in gentle bottom heat. There is another and I think better method of propagation, and that is by layering, because you get a decent sized plant straight away. Get a 48-pot, fill it full of sandy soil, then select a good strong leader, give it a twist just below a joint sufficient to break the bark, then peg it down on the prepared pots, keep moist and roots will soon appear. When the pot becomes full, separate the layer from the parent plant and pot on. Summer temperature 65° to 80° ; winter temperature, 55° to 65° .—*S. Cooke, Rosefield Gardens, Sevenoaks.*

SAND BED FOR PROPAGATING.

I do not propose to call this a "new idea" as I know the method is practised in many places, but, for the benefit of my fellow craftsmen, who do not know, and who hope to pick up a few wrinkles from these short articles, I have persuaded myself to put it into print again. Who is there amongst gardeners, that has not felt, and perhaps felt most keenly, the great difficulties and endless little worries that attend the propagation of not a few plants? Disappointment does too often attend some of the best-meant efforts to increase the stock of some much-prized plant, or plants. A great deal of these failures can be done away with, by following this little bit of "practical" advice. Instead of the usual extra trouble of preparing pots or boxes, in which to insert the cuttings, and

all the attendant risks, have a hot bed made up in the usual way; or, better still, if you have a propagation pit or frame, where you can command a good regular bottom heat from the pipes, put a good depth of cocoanut fibre in, first, say (if you have hot water pipes to deal with) about a foot (less if a hot bed); then about 3 in. or 4 in. of nice sand, not too sharp, in fact, ordinary building sand will do on the top of the fibre. When made nice and comfortable, put the cuttings in, and a great many things that before had been difficult to strike, will root readily in the sand and fibre. Another point in its favour, too, is, it is always ready whenever one has an odd half-hour to spare to go and dibble a few cuttings in and no pots, etc., to prepare first. Stove or greenhouse, hard or soft wooded plants, all do equally well, and when struck, the plants can always be lifted carefully with a good ball of sand, as it adheres to the roots readily. Chrysanthemums and other kindred subjects, only require the bed of sand without the bottom heat.—*H.A.C.*

THE BOUVARDIA.

WHILE some men cultivate the above plant most satisfactorily, there are others who signally fail to do so. Perhaps the following few remarks will prove useful to those whose efforts have not been so successful as they might have been. Make it a practice to raise a certain number of fresh plants every year, and also to re-pot some of the best stock plants. Assuming the latter were cut back and restarted in February, the present will be a suitable time for carrying out both of these operations. Let me take increasing the stock here. This may be done either by taking cuttings, or by division of roots. As the former method is well known I will only offer suggestions regarding the latter. Select a few plants not required for re-potting, cut them down level with the soil and divide the roots into two or three portions according to the strength of them. Then place the roots in pans or boxes having a little soil, and lightly cover them from view. An ordinary stove will do to start them in, and the use of the syringe will give sufficient moisture until growth is advanced a little. Afterwards, they may be potted, hardened off, and grown in cold frames all through the summer. Another mode of root propagation is, instead of dividing the roots as above to select just the strongest rootlets, cut them into lengths of about 2 in. and treat exactly as advised above.—*C. Turner, Middlewich.*

PEOPLE WE HAVE MET.

MR. M. MCINTYRE.

THE subject of our notes on this occasion is Mr. M. McIntyre, gardener to Sir Charles Tennant, Bart., The Glen, Innerleithen, Peebles, whose features are well portrayed in the accompanying photograph. To frequenters of the spring and autumn shows of the Royal Caledonian Horticultural Society, more particularly at the former show, he is well known; but to readers at a distance and who have not the privilege of attending the shows the portrait will serve to individualise the redoubtable exhibitor known to them only by repute.

Mr. McIntyre commenced his career as a gardener with the late Mr. Cowan of Maryfield, Dunoon, practically on the steep hill sides rising from the Firth of Clyde. Here he served the usual apprenticeship in Scotland of three years. Then he was employed by Mr. James Gemmel, then at Annfield in the same township, where he gained a considerable knowledge in the lifting and transplanting of trees; also in the construction of rockwork. A considerable amount of hard work usually falls to the lot of young men in Scottish gardens and Mr. McIntyre enjoyed his share of it to the full. On leaving Annfield he went to Ardpeaton just after a gentleman of the name of Walter acquired it, so that a great deal of hard work had to be accomplished in putting the place in order. Mr. Daniel McIntosh was the head gardener, and under his guidance the subject of these remarks gained much insight in the remodelling and overhauling of the gardens. The value of such work was fully appreciated by him in after years, for it meant the making of young gardeners.

His next move was to Niddry House, where he acted as foreman under the late Mr. Gordon when gardener there. From that day till the death of Mr. Gordon the two men were the closest of friends, each understanding the other and working for the

common good. Here Mr. McIntyre first became interested in the Edinburgh shows, a love which he acquired under the tuition and encouragement of his master, who was a keen and successful exhibitor. They had no mean opponents in those days, for Mr. William Thomson, of Dalkeith Palace, Mr. Smith,



MR. MALCOLM MCINTYRE.

of Melville Castle, Mr. Anderson, of Oxenford Castle, and Mr. Paterson, of Millbank, were all arraigned in the scales against them, and formidable competitors they were. Mr. Paterson is still with us, but most of the others above mentioned have gone to swell the majority.

By this time the schooling which Mr. McIntyre received at Niddry House, had the effect of bringing out his qualities as a gardener, and this was recognised, for an uncle of the late General Wauchope appointed him head gardener to Mrs. Evans, of Ford Abbey, Dorsetshire. Here he remained for two years, after which he was engaged in a similar capacity, by Sir Henry Doulton, to manage his gardens at The Woodlands. Mr. Kemp, late of Birkenhead, was then engaged in the laying out of Sir Henry's place, so that Mr. McIntyre had the benefit of professional skill in the laying out of an estate.

After a sojourn of five years he returned to Scotland, being engaged as gardener to the late Walter Richard, Esq., of Kingsmuir Hall, Peebles, where he accomplished another five years of useful work. After this he was appointed to The Glen, Innerleithen, giving and receiving satisfaction for the long period of twenty-two years. During that time he has effected great alterations both in the way of improving the landscape, and in having great extensions made to the glasshouses. On his arrival at The Glen, he again met his friend Mr. Kemp, who was then carrying out some alterations in the grounds of the estate.

Some idea of the extent and excellence of the work accomplished by Mr. McIntyre, in the way of plant growing, may be gleaned from the fact that he has taken upwards of a thousand prizes, including medals and cups at the shows of the Royal Caledonian Horticultural Society. For some years past he has proved a champion prize taker at the spring show. He is a life member of the society, being one of four, and is one of the Council; and has, indeed, been connected with the society since 1865—a period of thirty-seven years. The quality and variety of material in the way of pot plants, which he brings all the way from The Glen, to the spring show of the society is marvellous, and helps greatly to make the spring show what it is. A glance at our reports during this and past years will show the nature of the plants he exhibits and their high class quality, as testified by the awards.

Mr. McIntyre is much in request as a judge at different shows in various parts of the country; and this year he has already been booked for Newcastle

and Dundee. Last year he acted in this capacity at Newcastle, Kelso, Hawick and Galashiels. His wide experience in horticulture, both as a grower and exhibitor enables him to give a true decision on the merits of various classes of garden produce, and his judging, therefore, gives ample satisfaction to all concerned.

Sir Charles Tennant, Bart., allows his gardens at The Glen to be open two days a week, for inspection by the public, during the summer months; and needless to say, they are visited by hundreds, one and all of whom express their admiration for the way and beautiful order in which the gardens are kept. The Glen House is situated amidst romantic surroundings, and hills and mountains of bold outline, the nearest perhaps, being over 2,000 ft. in elevation. We are not surprised that people coming in from the rugged grandeur of these hills should marvel at the contrast presented by the well kept and well ordered gardens situated in their midst. On the 27th of May, last year, the members of the Scottish Horticultural Association, to the number of sixty, paid a visit to The Glen; and as the latter lies away up the glen of the Traquhair Burn, several miles from the railway station at Innerleithen, the party had to ride in brakes. Needless to say they had a hearty reception from Mr. McIntyre, and gleaned many a useful hint from him. We wish him health and success for many years to come both in the garden and on the exhibition table.

NOTICE OF BOOK.

LAWNS, LAWN TENNIS, CRICKET, GOLF, AND OTHER GRASSY GROUNDS. James Carter & Co., The Royal Seed Establishment, High Holborn, London.

OWING to the numerous questions that had been put to them by enquirers as to the best method of the formation and treatment of the various recreation grounds above mentioned, the Messrs. Carter & Co. were induced to embody their opinions upon the subject in the form of a pamphlet or little book of some twenty-four pages, each in double column. The making of the different grounds and the sowing of seeds are the same in all cases, but different grasses are required for different purposes, so that the turf may wear well, so to speak. It is also necessary that the ground be properly prepared in the first instance and well manured, if need be, so as to maintain an evenly vigorous sole of grass. There is no question that a good lawn for any purpose must be as carefully prepared and afterwards tended—cultivated in fact—as a Cabbage garden, to give anything like satisfactory results. The subjects and objects of draining, digging, manuring, seeding, time of sowing, and after management, are dealt with in detail. Top-dressing, renovating, weeds, moss, bare places, re-making, quantity of seed and manure, lawn ornaments, sowing seeds on a steep slope, and other subjects also come in for notice.

The dimensions of a tennis court and a croquet lawn are described and illustrated by means of simple diagrams. Information of this sort will be much appreciated by those who are called upon to lay out such lawns in districts it may be where the games to be conducted upon them are, comparatively speaking, innovations to the said localities. Here it is stated that a full-sized croquet ground, according to the laws of the All England Croquet Club, should be forty yards long and thirty yards wide. Along the central line the ground is marked out at regular intervals of eight yards. At that distance from either end of the ground a peg is inserted; and between them two hoops are to be placed at similar distances from one another, and from the peg at either end. Thus the ground along this line will be marked off in five sections of eight yards each. Right and left of the end pegs, and seven yards from the latter, a hoop is inserted in the grass. Thus there are two hoops at either end and two along the middle line making six in all. A glance at the diagram makes the matter as clear as daylight. Croquet is often played on grounds of smaller dimensions, but for matches according to the rules of the All England Croquet Club, the lawn must be of the above area and marked off as described. Much other information of a useful character is also given. Printing and paper are excellent, and numerous whole page and smaller illustrations are freely used.

The Orchid Growers' Calendar.

WARM DIVISION.—The modern collections of Orchids very rarely contain any or very few of the introductions from India, although they embrace some of the finest and most stately of Orchids. Take the *Aerides* for instance, one of the most noble of all the epiphytes; even out of flower they are not unsightly.

A warm, moist atmosphere is what they delight in, such as is often found in some of the old fashioned structures. The present method of using light and airy structures seems unsuited to this genus, consequently we rarely see them nowadays at their best.

They are of easy cultivation when you have a suitable house (and what a lot there is in those last two words), as indicated above. As they are found growing rather high up on the trees, they should, if possible, be suspended—at least, the dwarfest of them. For such plants, we think Teakwood baskets are best, on account of their lightness, on the one hand, and the fact that more air can get at the roots. We use sphagnum moss alone for the smaller growers with a plentiful admixture of potsherds broken up fine; but with large plants, we find that a layer of peat before surfacing with the moss is very beneficial. When pots are used, we much prefer the perforated ones, as there is no question about the *Aerides* liking air about the roots. They require but very little rest as indicated by the nature of the foliage. There are some fine varieties from the good old *A. odoratum*, which may not inaptly be described as the noble of *Aerides*; for you will find this in almost every place that has a stove side by side with the old warrior, *Dendrobium nobile*. The one, I think, that appeals to me most is *A. Lawrencei*, not on account of its value, but it is the most beautiful. A lovely thing, too, is *A. quinquevulnerum*, and *A. crassifolium*; in fact, all are beautiful.

Saccolabiums, too, require similar treatment, but will stand a little more light and air than the *Aerides*, and should, therefore, be suspended pretty close to the roof glass. In other respects they differ but very little. A layer of moss over the crocks and plenty of moisture about them is all they require.

Shade rather heavily from strong sunshine during the hottest part of the day, but a little sunshine late in the day after shutting up will do no harm. A night temperature of 65° to 70° should be maintained from now onwards, with a considerable rise by sun heat. It is not always that a whole house can be devoted exclusively to these two species, so that a little working the oracle is necessary. *Cattleyas* of sorts should be so placed that they get all the light possible. Generally, the front stage, if a lean-to, is set apart for them; or, if a span-roof running north and south, the south end can be utilised.

POTTING.—Anything that appears to require attention in this respect should be seen to forthwith, as the season before us is most favourable to their quick re-establishment. *Cattleya aurea*, which with us is just now rooting freely, may be re-potted with advantage; also *C. gigas*, that was not done in August (which is really the best time).

Miltonias do well in plenty of heat, especially *M. Roezlii*, which likes a reeking wet place and plenty of shade; but *M. vexillarium* likes a little more light and air. As both these are rooting freely, a little fresh compost may be afforded them; the layers should be thin, as they are surface-rooting plants. We put a layer of peat and finish off with live sphagnum moss. The spikes come up with the young growths, so that the operation should not be delayed.—S. C.

FRUIT UNDER GLASS.

VINES.—The late house should now have a slight rise in temperature. The rods must be regularly syringed and the border should be sprinkled over with water. Should the days prove very bright the temperature is apt to run up quickly. To guard against any ill effect one must be constantly watchful, and when ventilating air should be given from the lee side. Only a very little should be given at a time. There must be no shutting up or leaving air on, as the case may be, on those troublesome cloudy days when dull spells and bright sunshine alternate. Nothing hurts tender young shoots more than a

roasting on the one hand, or a sudden chill on the other.

The Vines in the earliest house have now reached full leaf. The fruit after having been thinned is now swelling steadily and it is now that we must keep the roots well supplied with water and nourishment. Liquid from the cow sheds and an occasional surface dusting with Thomson's Vine manure is given. Just a crack of air should be kept on after having watered with liquid manure, to allow the volatile ammonia to escape. A dry steady day should if possible be chosen if watering is contemplated. The ammonia from the liquid often causes the wood-work of the houses to assume a dirty brown stained appearance; but no apprehensions need be raised about this. By-and-bye it will all pass off. To prevent attacks from red spider, thrips and mildew, be careful to maintain an equable and moist temperature. Liquid manure in the evaporating troughs is good in one or two ways. It gives off a gentle evaporation which is soft, rich, and not too strong, but just nicely helpful to the foliage. It also acts as a deterrent to the insect pests. About 1 in. of air should be left on all night unless the evening is likely to be boisterous, when the valves will require to be ably regulated. In the later houses where the Vines are in flower a temperature of 65° at night up to 70° during the day should be maintained. Such vineries should also have a gentle air circulation day and night to maintain a balmy atmosphere and to perfect the flowers for pollination. The canes should be smartly rapped every day about noon. As soon as the bunches are sufficiently developed, thinning should be taken in hand. The onward progress of the crop is either helped or hindered by inattention to this matter.

PEACHES.—Much the same treatment as has been written of in the preceding lines, holds good for Peach trees under glass. Disbudding of the shoots and buds, and thinning of the fruits in the early house are items of culture now to be seen to. Where Peaches are in bloom go over them (when the anthers are ripe) with a rabbit's-tail to effect pollination. A dry condition of air is advisable during the pollinating period.

FIGS.—A warm moist atmosphere and plenty of root-nourishment in the form of liquid applications should be given to Figs in borders. The more confined and the warmer the borders are, the more prolific will the crop be. It but remains to feed that crop and to get it properly ripened. Air should be given whenever it is possible with safety. A temperature of 60° to 75° should be maintained.

MELONS IN PITS.—Melons newly planted out demand a steady temperature and unfluctuating conditions. A moist atmosphere during bright days especially is very necessary. Syringing to suppress mealy bug and red spider should be performed at ten in the morning, and again between two and three in the afternoon of all days except the dullest.—J.H.D.

Gleanings from the World of Science.

Photographs of British Flowering Plants.—At a recent meeting of the Linnean Society Mr. J. C. Shenstone exhibited a collection of 700 photographs of British Flowering Plants, to show what could be accomplished by means of the camera in the direction of botanical illustration. He contended that photography was the only means by which the lines and masses of our flowering plants, as truly characteristic as the less subtle characters by means of which botanists group and arrange plants into orders, genera, and species, could be readily produced. He explained the various technical processes and apparatus necessary for successful plant photography, and alluded to the difficulties inseparable from the photography of plants in their natural habitats, &c. His remarks were illustrated by means of lantern slides. A discussion followed in which Prof. Farmer, Messrs. Homes, Monckton, H. Groves, Crisp, Carruthers, and Middleton, took part.

Potato, Up-to-Date, is grown in the Swanley region as a market variety. The tubers are all very large, and somewhat prone to disease.

HINTS FOR AMATEURS.

A Note on Daffodils.—It is now weeks ago since the first of the protected and forced Daffodils were to be obtained in the shops of the florists. From Christmas until June we can now have forms of this lionised flower to gaze at and admire. What flower in all the world is prettier than the Poet's Narcissus? And few flowers are more sweetly fragrant than the Joss Lily, the sacred Lily of the Chinese, *N. tazetta chinensis*.

In Scotland the Narcissi are very frequently referred to as Lilies, so that the Chinese are not alone in their error. It is an error thus far, that, if we are to have a clearer understanding of the relationships of plants and their botanical classification, it is necessary to refrain from awarding a wrong appellation. Not that it either alters the flowers or the beauty of them, but simply to facilitate international correctitude and simplicity. Every Narciss is not a Daffodil, it may be said, but when Daffodils are mentioned, what that individualises is intuitively understood. The minutiae of the classification of the genus *Narcissus* is far too complex for us to make any endeavour to summarise it at this time. But, as a means of revision upon some of the salient points in the arrangement of the multitudinous horde of varying forms of the genus, a few remarks in this connection may be entertained as being opportune. In dealing with so many variations of form in flowers of the same genus, a primary step which the botanist must necessarily take is to pick out or studiously select a form which record shows has been long persistent, and has individuality. Just as a study of the faces of the prominent generals in active command in the South African war of the present is an index to the type of the race they belong to, so in like manner "type characters" are exhibited even in sweet little Daffodils. The *Narcissus* has wild species variously located over tracts of country in all parts of the northern temperate zone. This includes the greater part of Europe, and extends through Asia. The genus is divided in the first place according to the length of the trumpets in relation to the lengths of the perianth segments. There are three chief groups, the *magni-medio-* and *parvi-coronati*. Under these divisions there are a number of sub-genera, as the *Corbularia* or Hoop-petticoat Narciss, the *Ajax*, or very large trumpet species, the *Ganymedes*, the *Hermione*, and so on. Within these limits the species and varieties then follow.

Of the *Corbularia* group, *N. Bulbocodium* is one of the most distinct species. It has varieties such as *monophyllus* and *nivalis*, both of which are frequently seen. In the *Ajax* section we have a finely graded series of form and colour. *N. nanus* and *minimus*, from their trumpets being longer than their perianth lobes, belong to this section of the *magni-coronati*, and at the other extreme we have the large flowered *N. maximus*. *N. rugilobus* represents the connecting link between the type of the *Ajax*, that is, *N. Pseudo-Narcissus*, and the bicolor group of the same section. It will thus be seen that even in distinct sections there are intricate sub-divisions.

Among the best Daffodils for naturalising, or for garden effect in beds, and which belong to the *Ajax* section, are *Emperor* and *Empress*, both of them very large, rich in colour, and strong; *Horsefieldii*, *grandis*, *obvallaris*, *Golden Spur*, *maximus*, *J. B. M. Camm*, *rugilobus*, and *pallidus praecox*. One of the finest of the *Tazetta*, or polyanthus *Narcissus*, is *Grand Monarque*. Of double Daffodils, the *Tellamonius plenus* from the *Ajax* section is undoubtedly most largely grown. The double poeticus, the *Sulphur Phoenix*, *Orange Phoenix*, *cernuus*, *incomparabilis*, and the old mother species of our own island, the *Pseudo-Narcissus*, are likewise useful for the purpose. For pot-culture, besides almost any of those named, the following are worth their place:—*Barrii conspicuus*, *Sir Watkin*, *C. J. Backhouse*, *poeticus ornatus*, *Gloria Mundi*, *Cynosure*, and *poeticus poetarum*. But more need not be written at this time. The object will have been fulfilled if the foregoing notes on these handsomest of spring flowers awaken a deeper interest or desire to study more closely the species and the varieties as they open, and as they will shortly be displayed.

Some Hardy Plants Grown in Pots.—One of the cheeriest little patches on the rockery is furnished

by the sulphur-yellow *Saxifraga sancta*. This plant grows in dense tufted masses, having close green leaves, the yellow flower spikes springing out from the several plants. This species may be grown in pots or pans for the Alpine house. Another *Saxifraga* which makes a sweet subject worth the growing in a cool house, is *S. apifolia*. The flowering spikes are rather longer than those of the species I have just described, and the colour is paler, nearer a primrose hue. This may be due to the finer treatment of the one compared against the other, but of the two I prefer *S. apifolia*. The opposite leaved *Saxifragas*, *S. oppositifolia major*, and *S. o. pyrenaica superba* should not be absent from any garden where alpine plants are at all well regarded. In pans the blooms are perfectly clean, and are slightly larger. So much has been written within recent times in *THE GARDENING WORLD* about this species in a wild state that its needs should be well known to readers. *Iberis gibraltarica* is well known. It is the prettiest of white flowers. Snow is bluish-white. *Primula frondosa* can also be nicely flowered in an alpine house. When grown closely together in pans I think this is an interesting little subject. The dwarf *Drabas* are likewise neat and interesting, coming as they do at this early period. Those who do not grow *Drabas* would do well to try some of the species, and if, for a trial, you would adopt pan-culture, the facility for examining them would be enhanced. They are all very small plants, the exactitude in the detail of their structure, the spreading out of their sharp, flat leaves, and their bedecking of bristly hairs, together with the golden-yellow flowers, combine to lend them an air of modest merit. *D. altaica* and *D. rigida* succeed in pans. In chinks of the rockery they also do well.

Androsace Lageri is the concluding plant of our present list. It is a pale pink flowered species, not nearly so showy as *Saxifraga oppositifolia*, but still very sweet. The *Sysirinchiums* are beginning to flower in the pots.

Crocuses.—That the poets have sung in all ages, and are now tuning their lyres in praise of the golden yellow *Crocus*, is sufficient recommendation and attestation to its beauty and worth. How it does gladden one, and how it kindles the fire of new energy, raises one from lethargy and dreaminess to a sense that the world is awake and working, when a blaze of the saffron *Crocuses*, all open to the sunshine, opens out to a viewer's gaze! Mr. S. Arnott, the celebrated hardy plantsman of Carsethorn, in Dumfriesshire, recently gave a very interesting lecture on the *Crocus* before members of the Scottish Horticultural Association. Mr. Arnott dealt with the legends which surround the *Crocus*, and went fully into its history as well as the botany of the plant. We need not here follow out the divisions and strict classifying of *Crocuses*. Suffice it to say that *Crocuses*, like other plants, are put up into sections and divisions according to differences of structure and time of flowering, and collections of species are in places definitely arranged. For a further acquaintance with these ubiquitous and well esteemed little plants Maw's "Monograph of the *Crocus*" should be consulted.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Manuring a Vine Border.—*Thos. Swan*: If the border is in good condition, a top-dressing of fresh maiden loam, two parts, with half part each of lime and wood ashes should alone be used. Slightly fork up the surface of the border and after having warmed the soil, place it over the surface, making it firm by treading, then watering it. That no check be given to the now active roots, be careful to have the soil and water somewhat warmed. Nitrate of soda and sulphate of potash as artificial manures at the rate of 2 ozs. per sq. yd. given occasionally during early growth, is also beneficial.

Cabbage, Little Pixie.—*S. Good*: The lecturer was correct. In the North this variety is grown extensively. It forms a moderately firm head, of conical shape and comes in for early summer use. Pringle's Imperial is also a good variety.

Saving Cineraria, Primula and Cyclamen.—*W.P.C.*: We do not recommend you to save your own seed. Besides the trouble and care needed, there is the risk that the seeds would not be up to par. If everybody saved, or tried to save their own seed, the results would often be far from satisfactory. Seeds from an outside source generally produce the best and healthiest plants.

Early Flowering Plants for a Stove.—*Ambitious*: At this season you could have in flower numerous *Begonias*, as *Begonia Gloire de Lorraine*, *B. manicata* and its variegated variety; the new white *B. Caledonia*, *B. Triomphe de Nancy*, *B. carnea* and *B. corallina*. Then there are numerous *Aphelandras*, the culture of which was lately given by "J.H.D."; *Ruellia rosea* is a distinct and pretty pink flowering greenhouse plant, blooming about this time. *Thysanacanthus rutilans* is a gem for decorative work having pendent "tails" of ruby-crimson flowers; *Gesnera cardinalis*, with crimson-scarlet tubular flowers, and *Barlerias*, either with yellow, purple, or lavender blossoms, are all plants of superior merit, and some of them are not at all commonly grown. If you care for stove plants, which bloom at other periods, we shall be pleased to aid you.

The Vanilla.—*Quiz*: The Vanilla, as remarked at the place you refer to, is as we say, the only edible Orchid whose fruit is used in commerce. It produces long podded fruits in the interior of which there grows "protuberances" containing the secretion called "Vanilla" and which is employed in confectionery for flavouring.

Chrysanthemums frost bitten.—*J. Williams*: We do not expect the plants are more than crippled for the time being. In case of frost being imminent on a future occasion, take the common sense precaution of protecting the frame by means of a mat or some straw spread over it. If any such like soft wooded plants are frozen at any coming time, shade them from the sun until they thaw. Large plants in pots may be syringed with cold water to facilitate the thawing process.

Horse Radish spindly.—*A. McK.*: The probable cause of the spindliness of the roots may arise from the beds being worn out, the roots having become matted together, or from naturally poor soil. A half open position in a deep, heavy, moisture holding loam (though not a wet loam), is what ought to be accorded to Horse Radish. The probability is that your spindly roots may never be fit for selection and replanting. It would therefore be wiser to remove the plantation altogether, and to obtain stout new roots for planting. Next time prepare and select a good site.

Spiraeas.—*Mrs. Waite*: It will do the roots no harm to have the pots standing in saucers of water. *Spiraea japonica compacta* draws up a tremendous amount of water when used in dry dwelling-rooms.

Protecting Seed Beds from Birds.—*W. Leslie*: The following are devices which have been tried with success:—Place a stout stake obliquely into the ground. Suspend, by means of a string, a Beet-root which has sprouted, and insert white feathers along either side in opposite fashion. The continual rotation of this monstrous "bird" frightens real birds for a time. Again, lengths of cords should be strung between stakes at distances apart, and about 18 in. from the ground. Pieces of white paper should be tied on to the string, and here again the dancing movement acts in intimidating the thieving creatures. A "racket" or crow scarer may be made use of now and then. So cheeky do sparrows and linnets become after a time that nothing less than constant frightening and chasing off by personal presence at all answers. Gooseberries should be dusted with soot and lime, or threaded between the tips of the shoots.

Protecting Spring Blossom.—*W. L.*: Herring nets and glass copings are more frequently used than anything else for protection. Light tiffany may also be employed. Take good care to keep the protectives well off the flower shoots.

Araucaria excelsa.—*W. L.*: This plant can either be raised from seeds or, in your case, from cuttings of the leading shoot.



SCOTTISH GARDENERS AT THE FRUIT CONFERENCE, DUNKELD. (See p. 506).

FRUIT CONFERENCE AT DUNKELD.

THE facts we chronicle here refer to an event which occurred on the 31st August, 1888; but our desire is to record some of the sweeping changes which have taken place since then, and to connect the past with the present. The Fruit Conference held at the gardens of Dunkeld House on the above date, was reckoned an important event in the annals of Scottish gardening by all who were privileged to participate in it. Sixty-three or more were present on that occasion from various districts over a wide area of Scotland; but since then thirteen of them have passed over to the great majority. The accompanying photographic reproduction represents the horticulturists who took part in that memorable gathering; and the photograph is year by year becoming of greater importance to the holders of the same, as being a visible record of the meeting and those who took part in it.

The idea of the conference originated entirely with the late Mr. Peter Walker Fairgrieve, then gardener to the Dowager Duchess of Athole, Dunkeld House, Dunkeld, Perthshire. He put himself in touch with Mr. D. P. Laird, of the Pinkhill Nurseries, Murrayfield, Midlothian, and others in the Scottish capital, and the result must be considered a most successful bringing together of Scottish horticulturists. By that time the fame of Mr. Fairgrieve as a fruit grower had spread far and wide, so that the idea of a gathering of Scottish gardeners at that ancient seat could scarcely have been more happily conceived. Mr. Fairgrieve's success with his exhibits of hardy fruits, especially stone fruits, such as Peaches, Nectarines, Apricots, Plums, and Cherries, at the September show of the Royal Caledonian Horticultural Society, had prepared the members and other gardeners to accept and appreciate his invitation to assemble at the gardens of Dunkeld House, to hear and see for themselves the handiwork of the great master of the profession. The various departments of the garden were first visited, particular attention being given to the stone fruits on the walls, after which the assembly partook of luncheon. The real business of the day was then commenced by the holding of a conference, at which the culture of the stone fruits was earnestly discussed by many of the leading men present, the discussion lasting over two hours. There are very few places in Scotland where Peaches on open walls can be grown with such success as at Dunkeld House, and away to the north of this their culture is seldom attempted except in glasshouses, mostly heated.

THE ILLUSTRIOUS DEAD.

Our attention on this occasion is to recall some of the changes that have taken place since that memorable gathering, noting the names of those who have passed beyond our ken, but whose memory is still green in the sympathetic recollection of their fellow gardeners still alive. No attempt is here made to give the sequence of their decease.

Amongst those who have passed away many will no doubt recollect Mr. J. Brown, late gardener to C. S. H. D. Moray, Esq., Abercairney House, Crieff, Perthshire. Mr. W. Brow was gardener to the Right Hon. W. E. Baxter, Kilmaron Castle, Cupar-Fife. Then there were Mr. W. S. Bissett, gardener to J. Bullock, Esq., Moncrieffe House, Bridge of Earn; Mr. W. Morrison, Inchmartine House, Carse of Gowrie; Mr. W. E. Dixon, late of Beverley, Yorks; Mr. W. M. Welsh, senior partner of Messrs. Dicksons & Co., Waterloo Place, Edinburgh; and Mr. Malcolm Dunn, Dalkeith Palace Gardens. The last two were prominent members of the Royal Scottish Arboricultural Society, the one Convener of Finance, and the other of the Transactions Committee. Indeed, so well-known and ubiquitous was Mr. Dunn that one is apt to forget his nationality and regard him simply as a British gardener who had a hand in almost every horticultural and arboricultural gathering of any importance. His loss to horticulture was irreparable.

Mr. W. Stratton, of Dundee, was an amateur well known wherever *Primula* and *Auricula* growers foregathered in the north. Mr. P. Whitton, late gardener to W. Smythe, Esq., Methven Castle, Perth, was the father of the well-known and much respected superintendent of the Glasgow Public Parks. Mr. James Alexander was another of the partners in the firm of Messrs. Dicksons & Co., Edinburgh. Mr. R. B. Laird, who died in Dundee, on March 4th, 1895, was the father of the nursery and seed trades of that

name in Edinburgh and Dundee, and was well-known to a large number of gardeners now scattered over the length and breadth of the land. The name of Mr. Thomas Boyd, late gardener to W. Forbes, Esq., Callendar Park, Falkirk, is still upon the lips of many, his sudden death being recorded in our issue for March 24th. Mr. P. W. Fairgrieve concludes the list of those who have dropped into the silent past. He was one of Scotland's most noted all round gardeners. The death of four of the above has been recorded in our pages during the past eleven months. They are Messrs. Dunn, Welsh, Fairgrieve, and Boyd.

STILL WITH US.

It is with greater pleasure that we record the names of those whose faces appear in the photograph, and who are yet present in the flesh. Mr. Robert Lindsay, late curator of the Royal Botanic Garden, Edinburgh, is now retired. Mr. J. W. McHattie, then at Newbattle Abbey, is now gardener to the Duke of Wellington at Strathfieldsaye. Mr. Thomas Lunt, who was champion Grape grower at Shrewsbury last year, is gardener to A. Stirling, Esq., Keir, Dunblane. Mr. W. McKelvie, late of Broxmouth Park, East Lothian, is now farming in that county. Mr. Donald Mathison is gardener to the Marchioness of Lansdowne, Meiklour House, Perth; and Mr. A. Mackinnon to the Earl of Mansfield, Scone Palace, Perth. Mr. Mungo Temple, gardener to Sir T. D. Brodie, Bart., Carron House, Falkirk, wields the pen of the ready writer, and in that respect is well-known to many. His communications frequently appear in *THE GARDENING WORLD*. Mr. W. Smith holds the reins at Oxenford Castle, Dalkeith, the seat of the Earl of Stair. Mr. David Murray, gardener to the Marquis of Ailsa, Culzean Castle, Maybole, was a fast friend of the late Mr. Fairgrieve. Mr. Jas. Lawrie is gardener to W. Stewart Fotheringham, Esq., Murthly Castle, Murthly, Perthshire. Mr. J. McKiddie, also hails from the same county, being gardener to Lord Kinnauld, Rossie Priory, Inchtute. Mr. J. Beisant, gardener to Mrs. Armitstead, Castle Huntly, Longforgan, Perthshire, is much in evidence at the autumn shows, being a great *Chrysanthemum* grower.

Many well-known nurserymen were also present at the Conference, including Mr. David W. Thomson, of Edinburgh; Mr. David P. Laird, of Messrs. R. B. Laird & Sons, Ltd., Pinkhill and Edinburgh; Mr. A. Milne, of Messrs. J. Dickson & Sons, Edinburgh; Mr. A. Mackenzie, of Messrs. T. Methven & Sons, Edinburgh; and Mr. James A. Gossip, of Messrs. Howden & Co., Inverness. The patriarch of the lot is Mr. Alexander Crombie, who retired from "active service" last November, and who also holds a fifty years' record amongst Scottish gardeners for mark and worth.

TOMATO, THE CROPPER.

WHAT everyone who takes to Tomato growing wants is a variety that combines the qualities of earliness plus continued bearing propensities, and which bear fruits abundantly, all of the fruits likewise to be usable. From acquaintance with *The Cropper*, I know it to be altogether worthy of its name. A variety which can yield 18 lbs. of fruits per plant when placed at no more than 1 ft. apart, and which bears bunches from its base at every node upwards, provided the fruits are of medium size, has only to be known to be widely grown. *The Cropper* embodies these qualities. The quantity of fruits just mentioned can be relied upon from each plant of this variety when well grown. Thus it is that market men who have seen this relatively new Tomato so much grown by Mr. Jones, of Ryecroft Nursery, have taken to it strongly. There are no small fruits, and no monsters. The fruits are deep red, round, smooth and firm, being borne in heavy trusses. The flavour is excellent as is testified by the ready sale for the crop. It is good for pickling and makes capital sauce. The first cuttings of ripe fruits can be had from seven to eight weeks from the time of planting. Those who succeed most thoroughly and who glean the heaviest amount of fruits, rely upon liquid feedings rather than repeated top-dressings with soil. In fact, at the Ryecroft Nursery, where great ranges are filled with *The Cropper*, the small amount of soil employed for rootage is quite a surprise to many. Very firm potting is preferable when they are so grown, although in larger gardens where houses are entirely

devoted to Tomatos, the planting-out system is recommended. *The Cropper* resulted from a cross between Conference and Perfection, two standard varieties of whose worth it is needless to speak.—D.K.

CHEMISTRY FOR THE GARDEN.

VIII.—MINERAL FOODS.

THERE is little room for doubting that any mineral matter found in the ash of plants is such as has been alone absorbed for the purpose of nutrition. It is scarcely constant with the knowledge which chemists possess of the history of plant life, to think absorption is so lax and mechanical as to imbibe the unnecessary along with the necessary foods, and in this manner admitting extraneous matter which if accidental must not have been required. Not only are certain materials required but plants will die if any one of them is absent from the soil or medium from which they derive their sustenance. The mineral foods must be oxidised before they can become adapted for assimilation.

An acid, perhaps, more than one, must act upon the mineral before it becomes suitable for the use of the plant. Besides it is imperative that nitrogenous matter, as we have before stated, should act in unison with the mineral, previous to its final manufacture into proper nutritious plant food. This is so far imperative that if the one is eliminated the other is unable to carry on the functions of supporting plant life. Small as the quantity of mineral food essential for the plant is it is manifest from what has been said that it forms an indispensable factor in its proper development. We saw the importance of this in the conversion of ammonia into nitrate of potash and nitric acid, in compost heaps, saturated with liquid manure. Lime evidently is the chief agent which brings this desirable state of things about. We heard a lecturer say that this process was accomplished by the operations of these atomic creatures which for the want of less mysterious ones are being held responsible for more of both good and evil than most sensible men will be able to give their assent to.

The most important minerals found in the ash of plants are silica, phosphorus, sulphur, potash, soda, lime, magnesia, iron, and iodine; the latter, however, is not generally found in plants.

ALUMINA, though said by some chemists to have been found in the ash of plants, is now universally declared as an outside worker only. Its good office as such is very energetic in the manufacture of food, especially in the forms called double silicates.

SILICA is found in almost all plants, but more abundant in those, such as the Gramineae, whose fragile structure is made rigid and pliable to stand against injury from storms by the depositions of this mineral in their structure. Some chemists deny its necessity to the plant. Nevertheless, there appears to be no doubt that silica is a very necessary food for plants.

POTASH is a very important plant food, the Brassica family having in its composition a large percentage of this mineral. On this account, it need scarcely be said, its presence in every soil is absolutely necessary for the proper growth of most plants.

LIME enters also largely into the composition of the most of plants. Some are designated "lime plants" because of their partiality for the mineral; Peas, Clover, &c., are instances. Lime is supposed to be the principal agent in bringing about the conversion of ammonia into nitrate of potash and nitric acid. It also has an important action in the formation of the double silicates. To the gardener and farmer who have to deal with clay or land surcharged with organic matter, the liberal use of lime dressings must always be beneficial. When applied to clay lands it will conduce to the formation of double silicates, and when to humic and richly manured land to that of nitric acid and nitrate of potash.

PHOSPHORUS does not exist in a free state either in the soil or the plant. It is in the form of a combination with oxygen, namely, phosphoric acid that it is met with in plants. It forms a comparatively large proportion of the mineral food of plants. All crops demand liberal supplies of phosphoric acid; perhaps manures, natural or artificial, owe as much to their wealth in this as they do to that of ammonia.

As bones consist principally of phosphate of lime, their application to the soil must be highly conducive

to the production of phosphoric acid in the soil. The phosphorus of the animal body, brain, nerves, flesh, and bones, is contributed by plants. This shows us how great the demand on this substance really is, and affords us a lesson of the vigilance, as cultivators of the soil, we need always exercise in the matter.—*Oxygen.*

(To be continued.)

NOVELTIES AND POPULAR FLOWERS.

READING your interesting leader of the 10th ult., on "Novelties and Popular Flowers," and your special remarks as to the raising of seedlings, brings vividly to my mind the inexpressible pleasure and delight I have experienced during the past fifty years in raising and cultivating seedlings from carefully selected and fertilised flowers of Pinks, florist's show Tulips, Polyanthus, Pansies, Delphiniums, Ranunculus, Anemones, &c., and can truly say with you that "No one who has ever engaged in the operation will deny the real pleasure derived from watching a bed or batch of seedlings coming into bloom for the first time, and anticipating something new and handsome." Such pleasure, however, cannot be experienced without patience, perseverance, and labour. Neither must the same be anticipated without a firm resolution to battle with disappointment, which will always be intermingled with delight at the time when the seedling plants begin to develop their blooms, and when curiosity and impatience will not admit of nature taking its course without the assistance of fingers and tweezers in opening prematurely the calyx of a flower which, from the formation of the bud, &c., looks promising!

If disappointment presents itself in the first bloom hope clings to those which are to follow; but when it is taken into consideration that one plant out of a 100 seedlings, which may excel its parents in some form of perfection, would be a satisfactory average, although produced by careful fertilisation, it may easily be imagined how much nerve and perseverance would be required should the one superior variety be cruel enough to be the last plant of the 100 to exhibit its grandeur! If, however, such were to be the case, this single success would amply compensate the raiser for all his "ups and downs" experienced during the whole progress of his venture. If anyone were fortunate enough to raise a seedling, excelling in points of quality or perfection, he could easily picture to himself the pride he would feel by being awarded the premier prize for such a specimen. I would, therefore, urgently recommend all amateur florists, whose ambition is to become prominent in the cultivation of florists' flowers, to lose no time in embarking into the very enterprising and fascinating hobby of "seedling raising."—*James Thurstan, Cannock, March 26th, 1900.*

PLANTS RECENTLY CERTIFICATED.

The awards mentioned hereunder were made by the Royal Horticultural Society on the 27th ult.:

Orchid Committee.

DENDROBIUM MELPOMENA (Hort).—In this we have a handsome, clear, but soft yellow Dendrobium, obtained by crossing *D. signatum* and *D. splendidissimum*. The oblong sepals and broader petals have a waxy, shining lustre. The lip has a large, claret-coloured, shortly rayed blotch at the base. (First-class Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

DENDROBIUM CLIO SUPERBUM.—The sepals and petals of this hybrid variety are white, tipped with purple. The lip is large with a broad, crimson blotch, surrounded with white and tipped with purple. It is a large and handsome flower. (Award of Merit.) Sir Trevor Lawrence, Bart.

DENDROBIUM NOBILE ALBUM.—Several varieties of *D. nobile* approach a white colour, but in this instance all the colouring has been washed out, leaving a chaste and handsome white flower. (First-class Certificate.) J. G. Fowler, Esq. (gardener, Mr. J. Davies), Glebelands, South Woodford.

ODONTOGLOSSUM TRIUMPHANS RAYMOND CRAWSHAY.—The sepals of this splendid variety are nearly covered with intense chocolate colouring, except some yellow at the base and tip. There is less of this colour on the petals which have a central yellow

bar, and a considerable amount of chocolate and yellow netting on the basal portion. The lip is white with a large, apical chocolate blotch. Seldom do we meet with such intense colouring and excellence in form as are presented by this variety. (Award of Merit.) De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks.

CATTLEYA TRIANÆI KATIE WIGAN.—The sepals and petals of this chaste variety are of the faintest blush-lilac. The lip is soft rose, with a purple band across the base, between the rosy lamina and the orange throat. (Award of Merit.) Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

ADA AURANTIACA.—The rich orange flowers of this cool house Orchid have a black line along the middle of each petal. A large and well flowered piece was exhibited by J. T. Bennett Poë, Esq. (gardener, Mr. J. Downes), Holmewood, Cheshunt.

DENDROBIUM AGGREGATUM.—A large piece of this species, generally seen in gardens, when seen at all, under the name of *D. aggregatum majus*, was shown by H. T. Pitt, Esq. (gardener, Mr. Thurgood), Rosslyn, Stamford Hill. It is a handsome species for growing upon rafts suspended near the glass, the pseudo-bulbs being 3 in. to 4 in. long, and bearing near their apex drooping racemes of orange-yellow flowers. (Award of Merit.)

Floral Committee.

RHODODENDRON DR. STOCKER.—The flowers of this greenhouse Rhododendron are campanulate, of great size, and white, spotted with brownish yellow at the base of the upper segment. There is also a red zone at the very base of the flower. The oblong leaves are of large size, deep green above and paler beneath. (Award of Merit.) Dr. Stocker (gardener, Mr. G. Abbey), Avery Hill, Eltham.

VIOLET LA FRANCE.—The flowers of this variety are as large, if not larger, than those of any other variety. They are of good substance, carried on long stalks, and of a dark violet with a white throat, marked with a few lines. The foliage is vigorous, but the blooms are not strongly scented. (Award of merit.) Messrs. Isaac House & Son, Westbury-on-Trym, Bristol.

PELARGONIUM MISS G. ASHWORTH.—This new zonal variety is a great improvement upon *Hermione*, having a better form of flower, being flatter and more even in outline. The blooms are of large size, double, pure white, and borne abundantly upon large trusses. For this reason, possibly, it has also been given the name of "All Flower." The habit of the plant is good, being dwarf, bushy, and well suited for winter flowering. There is a faint zone on the Pea green foliage. (Award of Merit.) Messrs. H. Cannell and Sons, Swanley, Kent.

CYCLAMEN FIMBRIATUM.—The flowers of this garden strain are rosy, and more fimbriated even than the now well-known *Papilio*. More strikingly peculiar is the fimbriated character of the leaves which are first strongly undulated or wavy, and then deeply fringed at the margins. The outgrowths from the edges of the leaves are again cut or toothed on the sides, reminding us of those Ferns which are guilty of apospory. The public has a mixed opinion whether it likes the new development or otherwise. We shall see later on. (Award of Merit.) St. George's Nursery Company, Hanwell.

Narcissus Committee.

NARCISSUS COMET.—This pretty golden yellow Daffodil has been derived by crossing *N. obvallaris* (Tenby Daffodil) and *N. cyclamineus*. The segments are slightly reflexed, and the narrow trumpet beautifully crisped at the mouth. It is quite intermediate between the parents. (Award of Merit.) Mrs. R. O. Backhouse, Sutton Court, Herefordshire.

Fruit and Vegetable Committee.

RHUBARB. DAW'S CHAMPION.—The earliness of this variety was well attested by the exhibition of several varieties, all gathered from the open ground. The stalks of Daw's Champion were 6 in. long, very stout, and intense crimson, inclined to blackish crimson. The other varieties shown came in this order of earliness: (2) Hawke's Champagne, (3) Albert, (4) Linnaeus, and (5) Victoria, the leaves of the latter being still in bud. Daw's Champion was therefore well worthy of the First-class Certificate it received. Mr. W. Poupert, Marsh Farm, Twickenham.

APPLE KING OF TOMKINS COUNTY.—This is one of the few American Apples that give satisfaction

when grown in this country. The fruits are of large size, subglobular and bright red on the exposed side when well coloured. It is a late keeper. We have seen it doing well in Kent and Devon. (Award of Merit.) Duke of Richmond and Gordon (gardener, Mr. Parker) Goodwood, near Chichester.

Edinburgh Flower Show.

April 4th and 5th.

BY TELEGRAPH.

NOTWITHSTANDING the fact of an undeniably backward and somewhat eccentric season, the spring exhibition of the Royal Caledonian Horticultural Society is, from a horticulturist's point of view, satisfactory. There is a falling off among trade exhibitors, but the absentees are installed by others, who among them arrange groups or stands which sustain the excellence of this northern spring flower show. Of these new exhibitions we would draw attention to Dr. R. Stewart MacDougall's stand of insect specimens. It may, at the same time, be well to refer to the fact that the Doctor kindly offers his services to members of the society, who care to send to him specimens of any insect pests which may be infesting their crops or gardens. For fuller mention we must direct those interested to the committee's report contained in the schedule. Of Dr. MacDougall's collection of insects, details will be found in another part of this report. Questioning the secretary, Mr. P. Murray Thomson, S.S.C., upon the number of entries obtained, we find 532 against the 570 of last year. The amateurs' section, which brought forty entries for a start last year, has forty-four this season. The entries for Hyacinths and forced bulb classes are also greater. Prizes to the amount of £282 are being competed for. The show as it stands is extremely creditable to the officers of the "Caledonian," and it is to be hoped the weather will permit visitors to venture out. Music is supplied by the band of the 5th Royal Scots, a volunteer company under the direction of Mr. Dambman. The judges officiating are as follows:—Mr. Wilson, Glasgow; Mr. McLennan, Dundas Castle; Mr. Street, Floors Castle; Mr. Laing, Salisbury Green; Mr. Boyd, Bellisle, Ayr; Mr. Harvey, Morton Hall; Mr. Shillington, Prestonkirk; Mr. Pirrie, Valleyfield, Penicuik; Mr. Whytock, Dalkeith; Mr. Buchanan, Penicuik House; Mr. Grelve, Redbraes Nursery; Mr. Bennet, Hanley Lodge, Gogar; Mr. Lindsay, Murrayfield; and Mr. Paterson, of Salton.

COMPETITIVE CLASSES.

The following enumerates the leading prize-takers in the various classes:—

CLASS I. PLANTS.—For a table of Orchids, 5 ft. by 4 ft., arranged for effect, the prize goes to Mr. John Mitchell, gardener to James Wilson, Esq., Bantaskin, Falkirk. The collection includes some fine *Odontoglossums* and *Dendrobies*. Mr. Malcolm McIntyre, gardener to Sir Charles Tennant, The Glen, Innerleithen, comes second, with some fine pieces of *Cypripediums* and *Dendrobiums*.

For the circular group of plants, 12 ft. in diameter, for effect, Mr. McIntyre comes in first, winning the piece of silver plate valued at 3 gs., which the Ichthemic Guano Co., Ipswich, offer. Mr. Wood, gardener to J. Buchanan, Esq., Oswald House, Edinburgh, is a very close second. Comparing the two groups the first prize one is the richer, although both are beautifully arranged.

For three exotic Ferns, Mr. J. H. Pearson, gardener to P. N. Fraser, Esq., Rockville, Murrayfield, beats Mr. Wood, of Oswald House; and third, Mr. J. McCartney, gardener to David Croall, Esq., Southfield, Liberton. Some exceedingly fine Ferns are shown. Mr. J. Pearson, gardener to Lady Lucy Dundas, Murrayfield, wins for two *Deutzia gracilis*. Mr. McIntyre is second, and John McLaren, Polmont, third. The first two are well trained specimens, and very handsome. Mr. McIntyre again leads the van in the entry for six forced plants. His plants are always specimens in the true sense of the word, and are difficult to beat. He shows an *Azalea indica*, a *Deutzia*, *Clivia*, *Genista andreana* (extra fine), and two fine *Rhododendrons*. Mr. Wm. Bennett, gardener to James Walker, Esq., Hanley Lodge, Gogar, is second; and J. Pearson, third.

The prize for ten forced plants goes to Mr. McIntyre. *Kalmia latifolia*, a couple of *Genistas*, and *Lilium*, are the pick of the lot; second, Mr. Bennett, of Hanley Lodge, Gogar; third, Mr. J. Bald, Canaan House.

Mr. Francis Nicoll, gardener to Thomas Roy, Esq., Craigclowan, Perth, wins for four Orchids, having exceedingly fine *Oncidiums* and *Coelogyne*. Mr. McIntyre is second; and John Mitchell, of Bantaskin, third. The Orchids are a very creditable collection. Mr. Wood wins for a specimen Orchid, with *Cymbidium*. Mr. Adam Knight, of Lenzie, is second with a *Dendrobium*; and Mr. George Balmer, of Ettrick Road, third.

Mr. McIntyre wins for six foliage plants, among which is a very fine *Hoffmannia Ghiesbreghtii* and *Ananassa sativa*. Mr. A. McMillan, Douglas Castle, is second; and third, Mr. James McCartney. For three foliage plants, Mr. M. McIntyre is again first. Mr. Bennett, Hanley, is second, having a handsome *Cycas revoluta* and *Asparagus plumosus*. Mr. J. McCartney is third. There is a good competition in this entry. In the class for six table plants, Mr. A. McMillan, gardener to the Earl of Home, is first; second, Mr. M. McIntyre; and third, Mr. Adam Knight. The plants are all uniform, fresh and smart. Notably fine is *Delabachia rupestris* from Mr. McIntyre. For three Maidenhalrs, Mr. J. H. Pearson, Murrayfield, comes first with very fine specimens; Mr. J. Pearson, Beechwood, is second; and Mr. J. Thorn, of Carlowrie, is third.

For six dwarf British Ferns Mr. Wm. Anderson, gardener to Col. Sir David Davidson, Woodcroft, Clinton Road, is first. The samples of *Asplenium incisum*, *Athyrium crispum*, *Adiantum Capillus-Veneris imbricatum*, *Polypodium*, *Trichomanes radicans*, *Scolopendrium Baxterii*, and *Asplenium fontanum* are as fine a batch as one could well imagine. Mr. J. H. Pearson, Murrayfield, is second, and Mr. A. Knight, third. For three *Selaginellas* Mr. Thos. Gibb, of Redacre, is first.

The entry for six greenhouse plants brings out some fine samples of cultural skill. The first prize goes to Mr. M. McIntyre; second, Mr. George Wood, Oswald House; and third, J. Bald, Canaan House. For two greenhouse *Rhododendrons* Mr. Bald wins; Mr. M. McIntyre is second. This class is not so good. For three hardy *Rhododendrons* Mr. M. McIntyre steps first, and Mr. D. Fraser, Cramond House, second. For four stove or greenhouse plants Mr. James McCartney wins with good *Coelogyne*, etc. (prize by MacKenzie & Moncur); Mr. McIntyre is second; and third, Mr. J. Bald.

The stage of *Azalea indica* specimens forms, as might be expected, a bright blaze in the market, and some huge trained specimens equal to the old Edinburgh samples are to be seen. Mr. McIntyre wins rather easily; Mr. J. Bald is second; and Mr. G. Wood, third. For two *Azaleas*, Mr. Bald is first. For four *Azaleas*, Mr. George Chaplin, St. Leonards, is first; Mr. M. McIntyre, second; and Mr. J. Bald, third. Mr. M. McIntyre wins for a single specimen, a picture of beauty.

For one Tree Fern, Mr. Pride, Newington House, is first; and Mr. J. Bald, second. For six Palms, Mr. M. McIntyre wins with fine *Kentias* and *Phoenix*; second, Mr. Wm. Bennett; and third, Mr. McCartney. The prize for four Palms goes to Mr. George Wood; Mr. J. Thorn is second; and third, Mr. M. McIntyre. Mr. Geo. Wood leads for a single specimen Palm.

For six *Primula Sieboldii*, Mr. W. Galloway, Fernside Lodge, Liberton, gains the premier award; Mr. Thos. Gibb, Redacre, Kilgraston Road, is second; and third, Mr. A. Brydon, Tweedbank. In this class there are some very fine plants. Mr. Wm. Wright, gardener to the Marquis of Breadalbane, Taymouth Castle, wins first with very finely favoured and highly coloured plants. This half-dozen show a decided break, and are engaging much attention. Mr. T. C. Sutherland, Park Hall, is second with taller specimens, good likewise; third, Mr. James Shearer. For two *Dielytra spectabilis*, Mr. Robert Cossar, Eskgrove, comes first; second, Mr. A. Dickson, Glenormiston.

For two *Pelargoniums*, Mr. Bald comes first, and Mr. Bennett second. There is a big batch of greenhouse *Cinerarias*, and some good strains are on show. Mr. G. Wright, Pinkieburn, Musselburgh, leads the way; second, Mr. D. Kidd, Carberry Tower; and third, Mr. Wm. McDonald, Cardrona, Innerleithen. The first award for nine *Cyclamen*

goes to Mr. M. McIntyre, who shows superb samples. Mr. A. McMillan is a good second.

For three pots of *Amaryllis*, Mr. Wm. Bennett wins; and Mr. Geo. Wood second. The entries are better than last year, but improvement is yet needed. The *Roses* in pots are decidedly poor. Mr. Wm. Galloway is first; Mr. J. Bald, second; and Mr. J. Thom, third.

The exhibition of *Auriculas* is a very sweet one. For six alpine varieties, Mr. Andrew Paterson, Polton House, wins; and second, Mr. J. Cossar, Spott House, Dunbar. The winners for six stage *Auriculas* are as for alpine varieties. A fine lot of alpine plants in pots comes from Mr. A. Paterson, who beats Mr. John Cowan, Dunedin, Blackford Road. For 12 *Hyacinths*, Mr. John Meiklem, Thorn House, is first; Mr. Wm. McDonald, second; and Mr. Traquair, third. Almost the same winners are found in the *Tulip* classes. Mr. A. Brydon wins for six pots; Mr. J. Pearson, Beechwood, is second; and A. Farquhar, Stenton, Dunkeld, is third.

The *Tulips* make a very good display. *Hyacinths* are scarce. Mr. A. McInnes, Esk Mill, Musselburgh, wins for six pots *Polyanthus Narcissus*. Mr. J. Pearson, Beechwood, is second; and Mr. J. Shearer, third. Mr. J. Pearson wins for six pots spring bulbs, dwarf kinds. Six pots of garden *Narcissi* come from Mr. J. Neald, who beats Mr. A. Farquhar, of Stenton; and third, Mr. A. McInnes. The *Daffodils* are numerous.

CUT FLOWERS.—For twelve *Rhododendron* trusses, Mr. D. Kidd wins with a beautiful lot. Mr. McIntyre comes second with a mixed lot. For twenty-four *Roses*, Mr. G. Manson, Wallhouse, who exhibits strong blooms of good substance and colour, is first; Mr. Wm. Armstrong is second with blooms not nearly so good as the first lot, and the third prize goes to Mr. D. Kidd, of Carberry Tower. The same order was followed in competition for the twelve *Roses*.

A coloured shower bouquet shown by Mr. A. C. Cameron, of Binrock, Dundee, was the premier exhibit, second being Mr. J. Wilson, of Bantaskin. For a shower bouquet, Mr. A. C. Cameron was also the leader; and Mr. J. Mitchell was second. The floral decorations were tasty and fairly numerous.

VEGETABLES.—The first prize for a collection of vegetables, nine distinct kinds, is won by Mr. D. Kidd, Carberry Tower, Musselburgh. Mr. R. Stuart, Thirlestoun Castle, Lauder, is an extremely close second. Both show a varied group including *Seakale*, young *Turnips*, *French Beans*, *Mushrooms*, *Potatoes*, *Leeks*, and *Rhubarb*.

FRUIT.—Mr. McIntyre wins for the *Pineapple*. For two bunches of black *Grapes*, Mr. Smith, of Oxenford Castle, is first; Mr. D. Kidd following. Six pots *Strawberries* is won by Mr. McIntyre.

The display of *Apples* is good. The first award for twenty-four dessert *Apples* goes to Mr. James Day, Galloway House; second, Mr. George MacKinlay, Ampthill, Beds.; and third, J. McKinlay, Inveresk. For twenty-four culinary varieties, first, Mr. George MacKinlay; second, Mr. John McKinlay; and third, Mr. James Cameron, Auchterarder House Gardens.

NURSERYMEN.—For twelve hardy *Rhododendrons*, Mr. John Downie, 144, Princes Street, Edinburgh, is first; second, Messrs. Jas. Dickson & Sons, 32, Hanover Street, Edinburgh.

For fourteen hardy evergreen shrubs, Messrs. J. Dickson & Sons are first, with Mr. J. Downie, second. The shrubs in each case are very fresh. Messrs. J. Dickson & Sons are winners for twelve hardy *Coniferae*, with Mr. J. Downie, second. The latter, however, wins for eighteen forced plants, and also for twelve. Mr. John Downie also does well in the nurserymen's cut flower classes. He also wins for twelve *Japanese Maples*, beating Messrs. J. Dickson & Sons. The former led for hardy *Azaleas*.

MISCELLANEOUS EXHIBITS.

Messrs. R. B. Laird & Sons, Ltd., Pinkhill Nurseries, Murrayfield, Midlothian, as will be remembered, swept the decks last spring in the various competitive classes, having eleven entries and gaining eleven firsts. Prior to the show it was freely stated that in future they intended to specialise instead of competing; and it cannot be said that this was owing to non-success in friendly rivalry. This spring they have in the flora of the market (the former table being set aside) a varied and select group of forced and foliage plants, arranged with exquisite taste. Standard *Acacias*, *Staphyleas*,

Lilacs, and *Broom* of sorts, add materially to the general effect, giving the whole a graceful touch not otherwise attainable. They have also a 36 ft. by 6 ft. table of hardy *Azaleas*, in all the newest named sorts. *Japanese Acers*, intermixed, give telling effect.

It came as a surprise to see our old friend the Ryecroft "Mummer," from Hither Green, Lewisham, showing *Daffodils*, *Hyacinths*, *Tulips*, and a host of other spring flowers in Edinburgh. He is welcome at the Waverley Market, and pleased are we to see such a magnificent display of many of the most handsome of these subjects that he has sent for our pleasure. Such useful varieties of *Daffodils* (*Narcissi*) for the garden borders, or in pots for conservatory decoration, as *Emperor*, *Golden Spur*, *Queen of Spain*, *Mrs. Walter Ware*, *Glory of Leiden*, *Mdme. Plomp*, *Bicolor Empress* and *Horsfieldi*, *Incomparabilis* *Slr Watkin*, *Frank Miles*, *Queen Bess*, *Leedsii*, *Amabilis*, and *Mrs. Langtry*, *Burbidgei* *John Bain*, and *Poeticus ornatus*, all arranged in tiers with *Cocos weddelliana*, and *Kentias* intermixed. Along the front were small *Maidenhair Ferns* and *Pteris* with *Chionodoxa Luciliae*, *C. gigantea*, and *C. sardensis*; also *Lachenalia Nelsoni*, and *L. pendula*. Interspersed here and there were vases of some handsome spikes of *Hyacinths*, such as *King of the Blues*, very dark; *General Pelissier*, a good bright red; *Mdme. Van der Hoop*; and *La Grandesse*, pure white. In *Yellows*, *Yellow Hammer* was very bold. A new *Hyacinth* named "Mrs. H. J. Jones" was exceedingly effective, having large bells of a pale lavender blue, and immense spikes. At each end of the group were arranged single and double *Tulips*. Conspicuous amongst these were a delicate soft rose, single variety, *Queen of the Netherlands*; and *Grace Darling*, very showy and distinct, having rich orange scarlet flowers. Others such as *Couleur Ponceau*, *Rose Luisante*, *Princess Ida*, &c., were very attractive. Mr. Jones was deservedly awarded the Silver Medal.

Mr. John Phillips, Granton Road Nurseries, set up a dark green group of fine *Araucarias* arranged conically upon a pyramidal stage. The plants embraced all sizes, from those in 4 in. pots to a central specimen in a 12 in. pot. *Lilium Harrisii* is interspersed among the *Araucarias*, and adds much to the effect.

Mr. John Downie, 144, Princes Street, Edinburgh, and Beechhill Nurseries, Murrayfield, has as usual an excellent exhibit. The collection includes all that is deemed best and most worthy in spring flowering and foliage plants. The more conspicuous subjects are standard *Cytisus*, named hybrid *Azaleas*, *Laburnums*, *Genista andreana*, *White Broom*, *Indian Azaleas*, *Tree Paeonies*, &c., the whole being neatly edged with *Hyacinths* in pots. The arrangement of the table is admirable, and the plants by their quality bear evidence of successful culture, the entire exhibit being tastefully and skilfully set up. Mr. Downie is also very successful in the competition classes, as our previous report shows.

Messrs. Dicksons & Co., Waterloo Place, Edinburgh, exhibit a very fine seedling and greenhouse *Rhododendron*, having a capital habit. It is a profuse bloomer. The flowers are strong, pinky-white, and large; it results from *R. ciliatum* and *R. caucasicum*.

Messrs. Barr & Sons, Covent Garden, London, are exhibiting *Narcissus* in some quantity. *Cynosure* and the various white *Daffodils*, such as *N. poeticus crnatus*, &c., are in some force. *N. Victoria*, *N. maximus*, *N. Golden Spur*, *N. incomparabilis plenus*, *N. i. Henry Irving*, &c., are all well shown. An edging of *Anemone* and *Squills* complete a pretty stand, and do much credit to this well-known firm.

Messrs. Thos. Methven and Sons, Prince's Street, Edinburgh, have arranged a large and varied group of spring forced flowering subjects, prominent among which are *Azaleas* of the *Ghent*, *mollis* and *sinensis* types. There are also a number of hybrid *Azaleas* resulting from crosses between the *mollis* and *sinensis*. The central pyramid of the group consists of *Rhopala corcovadensis*, and on a lower level around this there are lesser masses of the above noted *Azaleas* and *Acers*. The *Negundo aceroides variegatum* is beautifully shown. *Staphylea colchica*, *Lilacs* and *Laburnums* complete a rich and much admired group.

Mr. Alex. MacMillan, Trinity Cottage, Trinity, Edinburgh, exhibited a few fine hybrid *Rhododendrons*. They are all pure white bloomers, the seg-

ments of the corolla and the general size, build and substance of the flowers are extremely fine.

Professor Cossar Ewart's show of hybrids, an exhibition of plain and striped horses, plain and painted mules, pigeons, rabbits, &c., furnish an interesting adjunct to the scenes provided for visitors to the Market this week. Professor Ewart of the University is holding this unique show to draw money on behalf of the War Fund. These animal hybrids included crosses between zebra and horse; ass and zebra, Burchell zebra and West Highland pony with many other crosses of distinctly different parents.

Messrs. John Ford & Co., Her Majesty's glass manufacturers and potters, as usual had a stand which enjoys a liberal store of attention and admiration. The centrepiece, side-pieces and the various glasses were filled with Daffodils, Lily of the Valley, with Maidenhair Fern and Asparagus, interspersed in arching spray and trailing chains throughout. Crocuses and foliage carpeted the cloth and unitedly gave brilliant effect. Dessert plate and glass-ware such as were used by H.R.H. the Prince of Wales during his visit to Edinburgh were displayed, the beauty and worth of the table being very great.

We were surprised to find that these articles, so beautifully decorated, can be bought at such reasonable prices. Show vases in sizes can be seen. Their "Pocha" flower-tubes, which are specially manufactured for decorations, are also displayed, the tasty blending of forms and colours completing what really is a splendid table.

Dr. R. Stewart MacDougall arranged his exhibit toward the south-western corner of the market. It consists of a handsome case with glass front and arranged with shelves upon which are the jars and the boxes in which the specimens are so beautifully arranged. The entire collection is not exclusively devoted to pests of the garden, for insects such as the Sirices (Sirex gigas, S. juvenis, &c.), were shown. The steel-blue Sirex, of course, does affect fruit-trees, and should be known. A detailed report of all that was shown cannot now be given, but it may be stated that scale insects, wasps, moths, butterflies, gall aphides, sawflies, red spiders and the like were shown. The life history and remedial measures or measures to eradicate the various pests were detailed in print below the specimens. Gardeners would do well to give careful consideration to this exhibit. Upon the subject of entomology there is oftentimes lamentable ignorance displayed. We are sorry to hear that the Doctor, who is a genial gentleman, is laid up by illness.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. R. Maybury, Silver Medallist, Wolverhampton Horticultural Club, for his article on "How to Propagate Crotons," p. 486.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, APRIL 14th, 1900.

THE LATE SPRING AND FRUIT PROSPECTS.

—Mostly every one is complaining of the cold, sunless and late spring. There are exceptions to the rule, however, some being perfectly satisfied with the meteorological conditions; and one soon finds, directly or indirectly, that the contented are hardy fruit growers to a greater or less extent, whether they are amateurs, professionals, nurserymen or market growers. The continued cold weather has the effect of retarding the blossom buds of all fruit trees and bushes in the open air. The unusual lack of sunshine is responsible even for retarding the trees upon walls. Even in relatively cold springs, with northerly and easterly winds, and frosty nights, provided there is bright sunshine, the trees upon walls are urged into bloom by the accumulation of heat reflected upon the walls during the day. The comparative absence of sunshine over the greater part of the country has left the trees much in the same stage of advancement as they were during the relatively mild weather of February, when westerly winds prevailed and rain fell heavily. The hardy fruit growers therefore are satisfied with the continued low temperature, because they consider that it will hold the blossom buds in check till frosty nights are no longer expected, and the blossom will be safe. The wish is father to the belief and statement, but in our uncertain climate frosty nights may happen at any time for the next two months at least, in a mild degree it may be, but sufficient even in May to destroy all the best blooms on the Strawberries, and to cut down such vegetables as Potatoes, French Beans, Scarlet Runners, Vegetable Marrows, &c. During the present month the greatest danger lies in the occurrence of rain during the day, to be followed possibly by a keen frost at night. When everything is dry much less danger is to be apprehended than when the newly expanded blossom is laden with moisture.

It seems then all a matter of chance; but it is to be hoped that favourable weather will intervene when the blossom is fully expanded and in the most vulnerable state. We have seen Peaches set well upon outside walls during a dry period in March, with a cold east wind blowing, and followed by light frosts in the early morning. After the embryo fruits are formed the crop is almost certain, notwithstanding low temperatures afterwards. The old adage has it that "as the day lengthens the cold strengthens," but this may be due to the presence of wind which always makes itself disagreeably felt by the human body. At the same time we know that spring frosts are easily warded off by protection of the lightest nature, so that gardeners have the satisfaction of knowing that with a little extra expense and exertion they can render their more valuable trees safe from any frost that is likely to occur. Some good gardeners contend that nothing is gained by artificial protection, while others as stoutly aver that this precaution is of real advantage, and not only repays the trouble, but is more or

less decidedly essential to ensure success during the average spring. This protection can only be extended to Peach and other valuable trees upon walls; but if a crop can be ensured by such extra trouble it well repays the doing. Coverings of a heavy nature, or such as would obstruct the light too much, must be taken down or rolled up during the day; but double folds of netting may be left on continuously till all danger is past. Independently of actual cold, there are other agencies or causes that contribute to success in the setting of the fruit. Sunshine matures the pollen and dries it, while a free play of air, or in other words a buoyant atmosphere, contributes largely to its proper dispersion.

Many a gardener observes and deplors the fact that his trees may be laden with blossom, yet not always, however, followed by a bountiful crop. The failure may be attributed to frost; but in the absence of such, some other detrimental cause must be found. Some attribute the failure to lack of sunshine to ripen the wood during the previous autumn. That cannot be the contention on this occasion, for last summer and early autumn was exceptionally dry and warm. Other gardeners consider that a heavy crop of blossom detracts from rather than adds to the chances of a satisfactory crop, and they, accordingly, practise the thinning of the unexpanded flower buds. Whether this is so or not the majority of gardeners practice the thinning of the fruits after they have reached a certain stage of advancement to the benefit of the trees during the current and succeeding year, and to the advantage of the size of the fruits. Heavily laden trees if left to their own resources cast a large number of the fruits while yet small; and little doubt can be entertained that this is a device to get rid of an overwhelming load. The heavy rainfall during February last has made a sufficiency of soil moisture certain for the needs of the trees during the early part of summer at least; so that gardeners can observe and put on record at the end of the season how far this has been contributive to a full crop, and the free swelling of the fruits. There can be no doubt on the other hand that a droughty spring retards growth and the proper development of the same; while it often if not always causes a wholesale dropping of the fruits of Peaches, Apples and Pears. The lack of moisture during the later stages of summer is less injurious than a droughty spring. Trees that are well laden with fruit always repay the labour and expense of mulching and watering, particularly if the gardener or fruit grower has the command of water that can be applied by means of the hose. This will arrest the dropping of fruits, as well as contribute to their swelling properly even in the event of drought during July and August.

Another explanation of the wholesale dropping of the flower buds is that the trees themselves cannot accumulate sufficient reserve matter in their tissues to bear a heavy crop every year, and in the absence of material wherewith to build up and mature the fruit they cast the blossom. If this is really the case some varieties differ materially from others in their capabilities, for on certain soils at least they bear a fairly heavy crop annually. The fact does not contradict the former supposition, for individual and varietal differences come within the natural law of variation. The subject of fertilisation is fraught with great possibilities. In the first instance it is a question of chance or luck in escaping late frosts when in the newly-expanded and critical stage. Secondly, all varieties are not fertile alike. In the case of Pears more particularly the pollen is often deficient, and may be incapable of fertilising the flowers of the

same or any other variety. It would be highly advantageous therefore to plant different varieties in contiguous rows so that the pollen of one variety might fertilise the flowers of another through the agency of wind or insects, chiefly the latter.

The fact remains that all kinds of hardy fruit in the open are two or three weeks behind what they were at this time last year; so that if fine weather sets in presently we may have a heavy set of fruit, and prospectively an abundant harvest. Apples and Pears do not seem to have advanced in any appreciable degree since February, though we can hardly imagine that such a state can last much longer. Gardeners believe and do not hesitate to say that an early spring does not mean an early harvest, so that precocity in flowering would be no advantage, even if the trees should escape frost when in blossom. An early spring in the garden means plenty of early vegetables, and that is about its chief advantage. This year the vegetable gardeners are most likely to cast in their lot with the grumblers; but hitherto the fruit growers, resting upon the hope that their trees will escape late frosts, and the prospect of a golden harvest, have been happy.

Wearing the Green.—Bank holiday trippers dancing on Kew Green.

Croydon & District Horticultural Mutual Improvement Society.—The next meeting will be held on Tuesday evening, April 17th, when a paper will be read by Mr. C. B. Green, Chairman of the Ealing Gardeners' Society. The subject will be "How Plants Feed."

"The Culture of Hops" is the title of a new book shortly to be published by Scott, Greenwood & Co., 19, Ludgate Hill, London, E.C. It will deal exhaustively with the growth of the plant for brewing purposes, and the application of manures and insecticides.

Royal Scottish Geographical Society.—At a meeting of this society, held on Thursday, March 29th, Dr. Mill gave a lecture on "A Study of Local Geography." Dr. Mill illustrated the principles of geography by the example of a small area in the South of England, showing how the configuration of the land was explained by its geology, and climate combining to influence vegetation and agriculture, and how all, together, combined to throw light on the distribution, occupations, and movements of the inhabitants, and on the boundaries of parishes, the sites of towns, and the position of roads.

The Reading Gardeners' Mutual Improvement Association.—The fortnightly meeting of the above association was held on Monday evening last in the Club Room, at the Old Abbey Restaurant, when Mr. E. Fry presided over a good attendance of members. The subject of the evening was "Vegetables, the Varieties I Grow and Why I Grow Them," by Mr. John House, The Gardens, Northlands, Winchester, one of the earliest members of the Reading Gardeners' Mutual. Mr. House, in mentioning the various varieties he grew, said that he was greatly handicapped in his selection, as he had to contend with a soil of only 18 in. in depth, and therefore many sorts which Reading gardeners could grow would be utterly unsuitable for his district. An interesting discussion followed, in which Messrs. Burfitt, Neve, Townsend, Wilson, Nichols, W. Smith, Exler, Pigg, Alexander, Fry, and Ager took part. A feature of the meeting was a large and splendid exhibit of flowering bulbs by Mr. F. Lever, of The Gardens, Hillside, especially noticeable being Alba Regalis, Vermillion Brilliant, Crimson King, Blanchard Silver Wing, and Fairy Queen Tulips; King of the Blues, Obelisque, Yellowhammer, and La Belle Hyacinths. A remarkable freak was seen amongst the Tulips, two bulbs in one pot carrying no less than nine blooms. Mr. Cretchley, The Gardens, The Honeys, Twyford, staged a lovely specimen plant of a light-coloured Star Cineraria.

Century Book of Gardening.—We have now ascertained that Mr. Edwin Beckett, of Aldenham House Gardens, wrote the leading article on "The Culture of Vegetables," also the two leading chapters on Chrysanthemums, entitled "Culture of Chrysanthemums for Exhibition," and "Chrysanthemums for the Greenhouse and Conservatory" respectively.

Chrysanthemum Grafting.—It would be a big hit for any Chrysanthemumist to produce for exhibition such a plant as was shown at the Chicago horticultural exhibition. The subject noted is figured in *Gardening* (American) for December 1st, being a balloon-trained specimen, having twenty-two distinct varieties, all bearing flowers at the same time! The photograph shows Japanese reflexed and Japanese incurves, true Japs. and true incurves.

Photinia japonica.—The flowers of this Photinia, otherwise known as the Loquat, are remarkably strongly scented. They may be compared to Hawthorn, very much intensified and sweetened, a spicy aroma emanating from them that is rather attractive. They are small, white, borne in dense panicles, and are really allied to the Hawthorn. The large, oblong, leathery leaves are very striking. A bunch of flowering shoots was exhibited at the Drill Hall on the 10th inst. by Mr. J. Fitt, gardener to F. W. Campion, Esq., Colley Manor, Reigate.

Colour in Fruits.—Apropos to what we wrote anent the colouring of Apples, Pears, Peaches, and so on, a writer in a contemporary says that "air in plenty plays a much more important part in giving colour to fruits than we generally meditate." The writer has just gathered the usually pale Peach, Princess of Wales, from a house wherein the ventilation has been liberal, and he never has had rosier Peaches. Colour, of course, is not always synonymous with quality, but market men can sell brightly coloured fruits, no matter what the flavour is, whereas pale-skinned fruits toddle off slowly.

Proposed Improvements in Edinburgh Parks.—The Public Parks' Committee had before them on Thursday, the 29th March, proposals for the provision, at Iverleith Park, of cloak-room for skaters, store-rooms for yachts, a football pavilion, and a covered space for the storage of goal-posts, &c. The total cost of these and other proposed improvements is estimated at £1,600. The same committee granted permission to the Judge Dunlop Memorial Committee to erect a drinking fountain in Iverleith Park, as a memorial to the late councillor. It was also agreed by the committee to recommend the formation of a proper access to Blackford Hill from South Oswald Road at a probable cost of £300.

Ealing and District Gardeners' Society.—The twelfth annual dinner of this society has come and gone; the results, however, which were substantial and satisfactory, yet remain. The dinner took place at the Drayton Court Hotel, Ealing, on the 3rd inst., R. D. Preston, Esq., presiding. Between forty and fifty members and friends contributed to the dispersal of the viands and the success of the evening. Many little speeches were, of course, delivered—sound, scientific, or humorous—the tone and tenor of most of them reflecting the greatest credit on the speakers; and proving, if proof were necessary, the value of such institutions as a means to enable a man to marshal his facts coherently, and to dilate thereon. The toast of the evening, perhaps, related to the success of the society, which the Chairman gave in terse, but flourishing form. He largely contributed to that success himself by a substantial donation to enable the committee to carry out their useful work. Mr. W. Roberts (hon. secretary) responded. He said the society was in a satisfactory way (applause); the papers and lectures had been of a high order of merit, and that eighty members were on the books. After the distribution of prizes—which were numerous—other toasts followed, and general harmony prevailed. Mr. Geo. Gordon spoke about the president, officers, and committee, and other matters. He attached great importance to such societies—the benefits could not be over-estimated. Mr. C. B. Green replied. Mr. D. Cooper was entrusted with the "Donors of Prizes," to which Mr. Callard responded with two guineas, as well as some excellent advice. Messrs. Scott, Gingell, Edwards, Long, Cannon, Holloway, Prichard, Burgess, and others assisted at the oratorial display; while Messrs. Disley, Prichard, Miles, and Parr-Head interspersed that display with philomel.

Easter Trade among the florists of the United States, America, is expected to be brisk.

The Fiery Thorn still carries its last year's crop of fruit on trees trained against houses in Chertsey.

The Dog's-Tooth Violet is now in perfection in some of the cottage gardens at Shepperton, and very handsome it looks with its rosy-purple, reflexed flowers, and purple-spotted foliage.

A Carnation House of 51 ft. by 306 ft. figures in a recent number of the *American Florist*. The photograph represents what must be an immense structure for the sole growth of Carnations.

The Babylonian Willow is now a perfect picture everywhere. The drooping, slender, spray-like branches are covered with small, greenish-yellow leaves, presenting a golden sheen as far as they can be perceived by the naked eye in glancing over the landscape. The trees, in fact, appear to be hung with golden filigree.

A Fine *Miltonia vexillaria*.—A large and handsome variety of this popular *Miltonia* made its appearance at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside, on the 6th inst. When it was put under the hammer it was quickly run up to 5 gs., at which sum it was knocked down, we understand, to H. T. Pitt, Esq., Rosslyn, Stamford Hill. It was named *M. vexillaria gigantea*, no doubt on account of the great size of the flowers, but their rich rose-purple hue marked it out as a choice and showy variety. The colour was uniform throughout, with the exception of the triangular basal area, which was white, marked with yellow.

Fruiting of *Cycas revoluta* at Bayham Abbey.—The fruiting of this well-known Cycad outside of botanic gardens is by no means of common occurrence. Probably no other Cycad is more widely cultivated in private gardens than this one, and more especially in former years when stove and greenhouse plants were popular as large specimens. They require to be of considerable age and size, however, in order to produce their huge cones of fruit. The cone is really made up of a year's leaves greatly reduced in size and metamorphosed so as to bear the red ovules on their margins. A large plant in a tub is now fruiting at Bayham Abbey, Lamberhurst, Kent, the seat of the Marquis of Camden, whose gardens are in the charge of Mr. G. H. Sage. The tree, if such it might be called, is an old one with a stem 3 ft. high, and 9 in. or 10 in. in diameter, bearing a large head of leaves, having made a fine lot of them last year, but none for three years previously. The chief reason why the plant seldom fruits in private gardens, is that house room can seldom be spared for the accommodation of large plants, which must also be of considerable age, before they are capable of developing fruits.

Royal Horticultural Society.—Notice is hereby given that a general meeting of the society will be held at 117, Victoria Street, Westminster, on Wednesday, April 25th, at 2 p.m. :—(i.) To consider, and sanction if approved (either with or without addition, omission, or alteration), certain new bye-laws rendered necessary by the Supplemental Charter lately granted to the society. (ii) To consider and adopt, if approved, the following resolutions, viz. :—(a) That in accordance with the recommendation adopted unanimously at the annual general meeting to celebrate the centenary of the society by removing the Gardens from Chiswick, this meeting adopts the proposal of the Council to purchase a freehold site in the parish of Limpsfield, in Surrey, and authorises the Council to take the necessary steps for acquiring the said site, and for developing new gardens thereon. (b) That this meeting authorises the Council to enter into negotiations with and to obtain the co-operation of the Board of Agriculture and Horticulture, the University of London, and the County Councils, with a view to the establishment in connection with or in affiliation to the Society, of a representative School of Practical and Scientific Horticulture; the scheme to be duly submitted to the Fellows for approval. N.B.—The Supplemental Charter and the new bye-laws will be printed in full in the next number of the Society's journal, vol. xxiii., part iii. Fellows requiring an advance proof of the bye-laws can obtain it on personal application at the Society's office.—W. WILKS, Secretary.

The Collection of Hardy Herbaceous Plants at the Missouri Botanic Gardens, now includes 2,179 species.

Revival of Tobacco culture industry in Ireland.—The Agricultural Organisation Society of Ireland have thought fit, after some experiments, to "seriously consider" (a great step that!) the advisability of reviving Tobacco culture as an Irish industry. The experiments, as we state, have been but limited, yet from their guidance the A.O.S. reckon a yield of £132 per Irish acre from the plant. But after more consideration the venture may in the long run prove too serious.

Cabbages for Milch Cows.—Mr. Gilbert Murray believes that Cabbages should not be relied upon to any great extent, on account of their susceptibility to injury from frost or heavy rain. He makes no charge against the yielding and feeding properties of the crop. A New Zealand experimenter has nothing but praise for Cabbages, and strongly urges the more extended cultivation of the crop. They give weighty returns per acre, and have an emphatic effect on the milk yielding qualities of the cows. Mr. Murray only suggests, however, that it would be ill-advised to attempt to let it take the place of the Turnip.—*Midland Counties Herald*.

Vitality of Seeds.—Colonel Halford Thompson brings forward a case which puts the mummy wheat quite in the shade. During the past two years he has been noticing seedlings of the Artillery Plant coming up in pots in which Jadoo has been employed as compost. The plant is mentioned under the name of *Pilea microphylla*, but it has other names in *P. trianthemoides* and *P. muscosa*, the latter being that usually accepted by botanists. It is a native of Tropical America at the present day; but the Colonel surmises that it must have existed in the Mid-Eocene period in this country when the Bread Fruit and giant Cacti were native British plants. He is of opinion that the seeds have lain all this time in the peat of the Yorkshire moors from whence the moss is obtained for making the Jadoo. The latter is subjected to the process of boiling in its preparations as a compost for plants; and yet after this enormous period of time, and subjection to heat, the seeds of the *Pilea* are believed to retain their germinating power and to grow into plants when the conditions are favourable. When tropical forests overlooked a lagoon at Bournemouth, aeons ago, geologists supposed the temperature to have been about 70°, and this is the temperature at which the *Pilea* germinated.

Royal Caledonian Horticultural Society.—Our telegraphic report of this society's spring show held on the 4th and 5th April, embraced nearly every class or exhibit. The amateurs' section, which we did not so fully detail, had yet splendid exhibits. The entries for alpine plants and spring-flowering forced bulbs were both good and numerous. The various trade and nursery groups one and all received a considerable amount of notice from visitors. Messrs. Shanks & Co., of Arbroath and London, exhibited a fine display of lawn mowers and other garden requisites. The competition for Messrs. Barr & Sons' Silver Cup only brought out one collection of Narcissi. This entry was not considered fully worthy of the first prize, so that once more the cup goes uncaptured. The Messrs. Barr themselves had, as usual, a magnificent array of Narcissi and other flowers from bulbous plants. The collection included the very finest of all the earlier flowering varieties, and a few new ones not to be seen elsewhere in the show. A Silver Medal was deservedly awarded to the Messrs. Barr. Other awards were as follows :—Special awards were given to Mr. John Downie, 144, Princes Street, for a group of plants; to Messrs. R. B. Laird & Sons, Ltd., of Pinkhill and Frederick Street, also for a group of plants; to Messrs. Cunningham, Fraser & Co. for a group of hardy plants; and to Mr. J. Phillips for a table of plants. Silver Medals were awarded to Messrs. Barr & Sons, Mr. H. J. Jones; to Mr. A. McMillan, Trinity Cottage, Trinity; and to Dr. R. Stewart Macdougall for his entomological exhibition. An Award of Merit was given to Mr. Wm. Wright, The Gardens, Taymouth Castle, Kenmore, for his first prize exhibit of *Primula obconica*, also for his exhibit of bunches of *P. obconica* bloom, showing a wide range of colours. The attendance during the show days was rather sparse.

Scottish Horticultural Association.—At the society's rooms, 5, St. Andrew Square, Edinburgh, Mr. D. P. Laird, of Messrs. R. B. Laird & Sons, Ltd., Pinkhill, Murrayfield, delivered his lecture on "Trees and shrubs for town or villa planting," at the meeting on the 3rd inst. There was a good turnout of members, and with such an able and popular essayist as Mr. Laird is, the company spent an instructive and pleasant evening.

A Floral Urn.—The fine block portraying a large and handsome floral urn which appears in an American contemporary shows how far the floral art can go. To all appearance the design—very much like the handsome silver cups awarded in this country in important horticultural and other competitions—is beyond criticism. Lilliums, Gladioli, Roses, and a species of Composite, the latter forming the ground work, while the Lilies, Roses and larger flowers are furnished at top, middle and bottom respectively. The little son of the designer is seen neatly perch upon the left hand shoulder. Our florists do not go to such pains in the finishing of their conceptions.

Royal Caledonian Horticultural Society: Show Luncheon.—After having finished the work of awarding prizes to the competitors' entries at the spring show of the 4th and 5th inst., on the Tuesday afternoon judges, competitors, officials, and friends assembled to luncheon in the Royal British Hotel. The company was in a genial and sociable frame of mind, and heartily discussed a varied menu. The usual loyal toasts were given by Mr. John Methven from the chair, and were suitably received. Speeches were crisp and short. Mr. A. Milne proposed "The Lord Provost, Magistrates, and Town Council of Edinburgh," to which Baillie MacKenzie and Judge Gullane respectively replied. The Judge proposed the "Royal Caledonian Horticultural Society," and had something opportune to say in giving the toast. Mr. Robert Laird replied to the toast of the "Navy and Army," while Mr. Whytock, successor to Mr. Dunn at Dalkeith, had the opportunity of introducing himself from his name having been coupled with Mr. Massie's toast of "The Judges." Mr. J. Grieve, of Redbraes, gave the final toast, a toast to the healths of "The Exhibitors."

DRAINAGE FOR CHRYSANTHEMUMS.

THESE plants are now growing apace, and with every onward shift good drainage becomes more and more essential, but as that for the final potting is the most important, I will confine these few remarks to this. I have found the following to be as perfect at the end of the season as at the beginning. When crocking, place a large oyster shell over the hole, then from 1½ in. to 3 in. according to size of pots, of old mortar rubbish; sprinkle over this a handful of soot, and subsequently when potting a few good pieces of turfy loam. There are several kinds of old mortar rubbish, but the best that can possibly be had is that from an old plaster ceiling. When old buildings are being demolished, secure the debris from above, and you have the desideratum. This should be broken up and riddled. The fine parts may be mixed with the potting compost instead of sand, it being far more nutritive than that agent, at the same time keeping the soil quite as porous.—G. B., *Mona Cottage, Holbeach*.

TOMATO CULTURE.

I HAVE often seen failures in Tomato growing from a cause due, in my opinion, to over-potting at an early stage. By putting the plants straight away into large pots full of rich soil, with the result plenty of strong, soft growth and no fruit, with the exception perhaps of a few bunches at the top of the plant upon its becoming a bit exhausted. When the young plants are found to have filled their pots with roots in 60's they should be transferred to their fruiting pots, keeping them well down, so that when the operation is complete the pots are no more than half full of soil. Here they will be established before commencing to flower, as potting at that time is often the cause of the blooms dropping off. If the plants are given a gentle tap on bright days while flowering, just to disperse the pollen, it will be found to greatly assist the setting of the fruits. When the fruits are swelling the plants should be topdressed at intervals with a compost such as is used for potting,

with a sprinkling of Clay's fertiliser mixed with the soil. This will soon be found to be a mass of young roots. Between the topdressings liquid manure should be given; by treating them in this manner it will be found that help is given in time of need.—*W. Waite, Southfields.*

ADDERLEY, MONIFIETH.

It gave me great pleasure to get a walk round the grounds and gardens of Adderley, Monifieth, Forfarshire, to see the great alterations that have taken place in a few years. About four years ago the gardens at Adderley were lying in a forlorn state of neglect, but I may say since it has come into the hands of A. Fordyce Burke, Esq., as proprietor he has done much for the improving and beautifying of the garden and grounds.

The glass extends to seven houses in all. The principal range, or a part of it, is shown in the accompanying illustration, which includes the principal plant house in the centre, from which other lean-to houses extend along the wall of the garden in either direction. One house, standing by itself in another part of the garden, is not seen in this view. A fine collection of stove and greenhouse plants has been got together, including the aristocratic Orchids and Ferns, all very clean and in the best of health. They are a credit to the gardener, Mr. Alexander Macrae, who to all appearance takes a



ADDERLEY, MONIFIETH.

great interest in his gardening duties. I may have more to say upon them at some future time.

The kitchen garden is laid out on a plan similar to those in many other parts of Scotland, and contains many healthy bush fruit trees bordering the principal walks. Adderley gardens are favourably situated in the vicinity of the wide mouth of the Firth of Tay, so that the climate is mild for Scotland, and well suited for hardy plant growth. I may have something to say upon Adderley gardens on some future occasion.—*D.D.*

A SOUTH AFRICAN FLOWER BED.

A LARGE flower bed which was much admired some years ago, containing plants which were nearly all indigenous to South Africa, should be a very appropriate one this season, when patriotic feeling runs high, and Britons seek to emphasize the laudable sentiment. Its contents were Gladioli, scarlet and white, Agapanthus, Richardias, Hyacinthus candicans, Humeas, Nicotiana affinis, Gazanias, Geraniums, scarlet and white, and blue and white Lobelias. The form was oval, no severely symmetric arrangement being carried out, though the larger subjects, naturally, were dotted in towards the central portion. On a quiet autumn evening, with the air just sufficiently in motion to set the tall, slender plumes of the Humea a-quaking, and waft the sweet perfume of the Tobacco abroad, this bed elicited from the owner of the garden—a lady of refined taste—the pithy remark, "most artistic." The alien element,

viz., Hyacinthus, Humea, and Nicotiana is indispensable here, but, though alien, may, by a little stretch of imagination, be considered emblematic of their human prototypes—the Transvaal Outlanders, who will yet be as indispensable to the prosperity of these disturbed regions as the plants are to this group. In the early autumn, when the mass comes to perfection, let us hope that all sorts and conditions of men there may be blended as agreeably together under the benign sway of Her Majesty as the plants appeared at the time indicated.—*John McAra, Kingsburgh, Preston Kirk, April 9th, 1900.*

HOW TO PROPAGATE CYPERUS ALTERNIFOLIUS.

As decorative plants they are invaluable; whether in stove, conservatory, or house they look graceful. Being plants that could almost live in water it is advisable (where there is no fountain or such-like place) to have saucers placed beneath them filled with water; it adds to the beauty and freshness of the foliage. If left to become dry they are only fit to be thrown away. A better, cleaner, and quicker way of getting up a stock of these plants (than the old fashioned way of dividing them up) is to propagate the tops or parachute part of them. Cut off the top part with about 2 in. of a stem and insert it into a 25 in. pot filled with a compost of leaf-mould and sand and a little loam, and then plunge the pots in

lightly. Care should be taken to remove all decayed leaves as they will harbour green fly, &c. Great care is required with the water pot, for over-watering is the real cause of so many failures with Calceolarias. When the plants are established in the pots a little weak manure water will do them good, but do not give it strong one day and then none for a week, but little and often is a good rule. Cease feeding as soon as in flower, for the flowers will last much longer if given clear water. Shade well on sunshiny days as the sun will take the colour out of the flowers.—*R. Maybury, Silver Medalist of the Wolverhampton Horticultural Club.*

A SPRIG OF WALLFLOWER.

AMONGST the floral treasures of spring there are no plants so popular with the masses as ordinary strains of sweet smelling Wallflower, the delightful fragrance of its flowers, combined with their attractive appearance, fully meriting the plant's popularity. The extreme ease of its cultivation enhances its value as a plant of the people, for it flourishes under conditions where many varieties of hardy flowers could not exist. In pots, tins, and boxes on the window sills of dark city courts, where its flowers appear a veritable gleam of sunshine, and diffusing a sweetness that permeates its squalid surroundings, you find it flourishing. Though esteemed alike by prince and peasant, Wallflower is peculiarly adapted for the decoration of the cottage garden, its appearance being as suggestive of a modest flower border there as it is of the joyous days of spring. Its homely unassuming presence seems happiest in this sphere. Growing by the wall of the creeper-covered homestead, self-reproduced generations of its kind have come and gone, and where it has contributed to the joys and taken part in the sorrows of the humble occupants through many years. Its beauty has graced the nuptial board, and its fragrance given solace in death's dark chamber. Deep in the folds of the Big Ha' Bible linger evidences of its sweetness reminiscent of a quiet Sabbath afternoon lang syne, when an aged forbear with tottering steps and shaking hand plucked the odoriferous shoot and placed it there to mark the lesson of the day. Its remains are kept in treasured memory, perhaps, of one who has long since gone to rest. Instances like this adduce the fact that favourite flowers become so closely associated with the lives of the people that their cultivation becomes not only a matter of pleasure, or a whim of fancy, but a deeply religious duty.—*J. Graham, Coltness Gardens, Wishaw, N.B.*

"TRIMMING THE LEAVES OF TOMATOS."

THIS has been, and still is, a vexed question, and like the poor is ever with us. The Tomato is now regarded such a staple article of diet, that of late years this question of trimming the foliage of the growing plants has come very much to the front, and rightly so, for in more cases than one I have known it have a bad effect on a growing crop of Tomatos. Each individual grower has his own ideas about it, and acts accordingly.

As a grower of Tomatos on a large scale in various places, perhaps a few items of experience so gained may be of value to some few of your readers. I find the general error to which many a young grower commits himself to is to trim *too hard*, and that is far worse than not trimming at all. Certainly it is an advantage, in more ways than one, to trim the foliage off, but it must be done judiciously, and not in a kind of a wholesale manner, to rob the plant of that which is an absolute necessity to the proper development of its fruit. Firstly, then, never trim a leaf off, nor a portion of it, unless it is decayed, till the first and second trusses are well set, and the first one swelling up fast. Secondly, never trim quite close up to a truss of flowers that are in the act of setting, but draw the line before that is reached at the truss below, that is safely set and going on all right. The fruit ripens quicker when the foliage is removed; but too much exposure to the sun is harmful, so care must be taken in that respect. Again, if the plants are too close together they are apt to retain too much moisture on the leaves, which fosters mildew and kindred diseases; and a judicious removal of some of the foliage does much to mitigate this. Commercially, of course, it is a great advantage, as fruit ripe a week earlier may mean a considerable trifle in the monetary returns.—*H. A. C.*

HERBACEOUS CALCEOLARIAS.

THIS beautiful plant is usually considered difficult to grow, but with careful treatment can be grown successfully. Procure a good strain from a reliable firm, and sow it in the beginning of August in well drained boxes or pans in some good light soil. As the seed is very small it should only be covered with a light sprinkling of silver sand. Place the seed in a cool house and cover with some glass and paper to keep dark, as the seed germinates better in the dark. When the seedlings are large enough to handle pot them lightly into "thimbles," using some good loamy soil with a fair amount of leaf soil and silver sand. Stand them in a cold frame with a north aspect and be careful with the water. When the plants are established pot them on into 56's or 48's, using the same mixture as before, adding a little chemical manure. Stand them in the frame as long as it is safe, and then remove them into a cool house of 45°. The plants will stand the winter in the 48's, and as the weather improves pot them on into 32's and 24's. Use the above mixture and pot very

TOMATOS GROWN IN SMALL BOXES.

THE following plan is excellent and superior to pots for producing heavy crops:—Assuming that plants in 5 in. pots are to hand, get some boxes (the size I use is 18 in. by 14 in., and 6 in. deep inside measure), make a few holes in the bottom, and a layer of coarse coal ashes for drainage, also for the benefit of the roots, which cling to these, showing they find something to their liking in them. Over this a layer of well-rotted manure is placed, which gives the plants food when they require it. Fill with soil to within 2 in. of the top, which allows a top-dressing of soil later on when required. The soil used is two parts loam, one part sandy soil from the potting bench. To each hushel add a gallon of wood ashes and a little soot. Place two plants in each box, one at each end; make the soil fairly firm, and add more soil as they fill the boxes with roots. Keep the plants near to the glass. Train them to single stems, pinching out side growths, and also the top of the plants when a good crop is secured. I also fertilise the flowers as they open with a small camel hair pencil, which always insures a good setting of fruit. Give manure water occasionally, and a sprinkling of soot and some well-known fertiliser, and fruit of fine flavour and quality will be the result.—*F. Mears, Surrey Villa, 43, Dorchester Grove, Chiswick.*

UP-TO-DATE WORK.

ALL berried *Solanums* should be cut hard back if not already done. *Azalea mollis* and Ghent varieties that are past their best must not be neglected, or else poor results will follow next spring. Remove all fading flowers and seed pods so that the new growth can start away clean, using every care that the latter are not cut away with the former, as the growths appear quite close to the decaying flower truss. Shorten the strongest shoots of *Lihonias*, and thin out weakly ones. This also applies to *Coronilla glauca*. Place all those plants above mentioned into a Peach house or late Vinery at work, keeping the same well to the light, plying the syringe well amongst them, and guarding against over-watering those that have been pruned. Reduce the hall of earth slightly, before new growth has much advanced, if repotting is necessary, but the *Azaleas* will thrive several years without the disturbance of the roots if an annual top-dressing is given them. Remove the plants to cool quarters as soon as growth is finished, previous to placing them outdoors to harden the same.

Deutzia gracilis requires the same treatment unless the grower makes it a practice to cut fairly hard back after flowering, but by doing this, such large specimens are not to be had, as if only a few of the strongest shoots are shortened a bit, and the weakly shoots removed from the centre. This is our treatment, and we have plants full of flower at the present time (April 6th). We only cut hard back once in five or six years, when the plants show signs of getting leggy or rough. These are kept in pots throughout the year, with an annual top-dressing and manure water from January to September.

Staphylea colchica, after passing out of flower, requires the same attention as the hardy *Azaleas*. *Spiraeas* of sorts should be gradually hardened before exposing them outdoors, as the nights are very cold yet even in Devon. Hail and rain has been the order several days this week; the former generally foretells frosty nights.

For a moment let us leave the plant department, and turn to the fruit where heaps of work stare one in the face. The succession crop of Strawberries requires thinning down to ten or a dozen fruits, on plants in pots 5½ in. in diameter, supporting the same with neat props, fork-shaped, so that the stalk does not get crippled, which would be detrimental to the swelling up of the fruit. Grapes that are to be ripe early in June require almost daily attention in the way of thinning, tying down or stopping, not neglecting water at the roots. Peaches must be well attended to in the matter of watering now they are stoning, tying in the growths and giving the fruit all the sun possible, and guarding against too high a temperature for the next month or so. Ply the syringe well amongst them twice a day, if not too dull and wet.

The earliest Melons should be swelling freely now, and if not supported no time should be lost ere it is done. We find pieces of flat board, oak or deal, 4 in.

to 5 in. square, ½ in. thick, with a hole scooped out in the centre that any moisture may escape, excellent as supports. They should have a small hole in each corner to take a strong string that is tied to the trellis. Plant out about once a month for succession up to the end of July. Cucumbers we relegate to hot beds from now up to the end of August, so that Melons can be grown in the house. Pinch all shoots one leaf beyond every Cucumber that shows, and reduce the fruits to one, where more show, if size is booked for; keep the frames closely matted at night.—*J. Mayne, Bickton.*

Kitchen Garden Calendar.

WITH more genial weather plants of all kinds will grow apace, more especially weeds. Whenever the weather is favourable the hoe should be run through the soil amongst all growing crops to keep down the young seedlings, as more can be done in an hour when the weeds are small than in a day if such are allowed to grow up and choke the plants. It is also a good plan to thin all crops early or so soon as they are out of danger of the ravages of birds and other foes. We have before drawn attention to this important item in the cultivation of first-class vegetables and here repeat the remark, as we are well aware that some are apt to let plants get choked in their early stages.

PARSLEY.—Seed that was sown last autumn will by this have produced plants sufficiently large for transplanting. This herb always does best if allowed plenty of room to develop its foliage; the leaf-stalks are stouter and the foliage more useful for garnishing when grown in this manner. If planted a foot apart each way, the plants have a chance of growing much better than when cramped for room. Seed sown in the autumn will remain longer without going to seed than that sown in spring.

MINT.—This herb is also much in request during spring and early summer months; for this reason there should always be a good supply. The ground on which it is grown cannot be too fertile, therefore a liberal manuring should be afforded. As soon as the young growths are a couple or three inches long they should be pulled up, when it will be found there are small roots attached to them. If these are planted five or six inches apart they will soon get established, and make fine heds before the end of the season.

PEAS.—Another sowing of these should be made for succession, choosing some of the best mid-season varieties for this sowing. Most people have their own ideas which suits them best, but we prefer the choicest marrow kinds that are of a deep green colour such as *Stratagem*, *Veitch's Main Crop*, *Invincible*, *Telephone* and the like. It will be necessary to sow the seed a little deeper when the ground becomes dry to ensure a more uniform moisture which will cause the seed to germinate more freely.

FRENCH BEANS.—In sheltered situations, where the soil is warm, and where protection can be afforded the plants as soon as they appear through the soil, a few rows of French Beans may be put in towards the end of the month. A good place is at the foot of a south wall, for there is less risk of them suffering should a sudden frost make its appearance. For these early sowings, such varieties as *Oshorn's Prolific*, *Negro*, *Syon House*, and others of that class are preferable, as they turn in more quickly than those of the Canadian Wonder type. A few pots could also be sown where room in a frame can be provided as they would make strong plants for planting out early in June, and would fruit before those sown in the open ground.

BROAD BEANS.—To keep up a supply of these it will be necessary to make small sowings about once every two or three weeks. It is difficult sometimes to get good crops from sowings made in June and July, as the aphid is so troublesome. In dry seasons the plants are attacked as soon as they are through the soil. The long pod varieties seem more robust than the Windsor's, so that where the ground is light these should be sown in preference to the others. Avoid sowing too thickly as this has a tendency to cause the plants to become weak.

BROCCOLI.—These should be looked over daily, and if any heads are likely to be exposed to the weather, these should have a leaf or two bent over them. Pull up the stalks as soon as the heads are cut or

they will rob the soil of much of its moisture. Any plants raised under glass with a view of being planted out, ought, if not already put in their permanent quarters to be transplanted without delay; for when allowed to stand close together for any length of time they are sure to suffer.

Pot out all tender plants such as *Capsicums*, *Egg Plants*, *Vegetable Marrows*, &c., before they get pot-bound that they may make a free healthy growth. There is a great advantage in having fine stocky plants for putting early in June, as such have a more favourable opportunity of ripening their fruit than small stunted ones that are not well rooted. Keep an eye to these while under glass as they are very liable to the attack of *Aphis*.—*F.W.J.*

Gleanings from the World of Science.

THE Scientific Committee of the Royal Horticultural Society had the undermentioned subjects before them on the 27th ult.

Fringed Cyclamen.—Dr. Masters exhibited from the collection of *Cyclamens* brought by the St. George's Nursery Co., Hanwell, to the Drill Hall, a leaf of their fringed *Cyclamen*, in which not only the flowers were fringed but the leaves were deeply lobed, and the lobes themselves were lobulate and hilobulate, the ultimate lobules being irregular in size, and, in some instances, shortly stalked, thus presenting an appearance similar to that of curled Parsley or of some of the varieties of *Scolopendriums*. It was stated by the raisers that the sub-division of the leaves was observed originally on plants bearing flowers of the ordinary character, and subsequently on those which had fringed flowers. Continuous selection through some seven or eight years had, at length, resulted in the production of plants in which the foliage and the corolla were equally deeply fringed.

Rose Leaves.—Some Rose leaves were sent for an opinion. They had been grown under glass, and presented no appearance of insect or fungus; but were thin in substance and partially destitute of chlorophyll, showing that the nutrition of the plants was impaired, but from what cause could not be ascertained.

Vine Leaves, Diseased.—With reference to the samples sent to the last meeting from *Gunneshury*, it was stated that in the opinion of Mr. Massee the appearances were consistent with the attacks of red spider or punctures of aphides; but reference to *Viala's Maladies de la Vigne* and Mr. Massee's Text-Book of Plant Diseases showed that the spots were probably an early condition of Grape rot (*Glaeosporium*). The leaf-buds were observed by Mr. Massee to be infested with mites.

Viburnum with Hypertrophied Branches.—A specimen was sent by Mr. Richard Dean, who stated that the whole tree was covered, at intervals of a few inches, with globose, nodulated, somewhat fleshy excrescences, the size of a large Cherry and upwards. It was referred to Dr. William G. Smith for examination.

The Story of our Downs.—"On the cretaceous escarpment, the white quarries in the chalk are everywhere in evidence. Here and there, pagan tribes and Christian imitators have scraped out great white horses on the slopes, which are visible, as geological signals, fifteen or twenty miles away. Sheep are pastured on the plateau, which is set with the little huts of their guardians, quaint affairs on wheels, resembling hatching machines escaped. At times a wood of Beech and Ash has been spared, and the road goes straightway through it, much as it did in prehistoric times. In the barer landscapes, where the forests were devastated, in all probability, by Britons and Romans for their camp-fires, we may see the tumuli, the graves of ancient days, forming grass-covered hillocks, ten, twelve, or twenty of them at a time, set upon the wind-swept sky-line. Even where the plough has made a brown patch in this open country, a gentle swelling in the field, even when the sun is low, often reveals one of these 'harrows,' which are doomed to disappear amid the farmland." So writes Prof. Cole, in *Knowledge for April*, as he conducts the reader across the Downs.

HINTS FOR AMATEURS.

The Season.—During the early days of April we may expect to see the small white butterfly winding on vacillating wings throughout the gardens, and a stray blackbird or robin's nest with three or four pretty eggs are sometimes to be found. The sociable rook begins to hatch her little fledglings up in the hard nests of the high, old Elm trees. The Primroses in shady glens, the Dandelions and Daisies on sunny banks, and the Ground Ivy, the Celandines and other plants, are in the first blaze of brightness, variously placed. This last winter of the century has been long drawn out. Though I think we do not now have the terribly severe weather which was the portion of our forbears in times gone by, still, the frost and snow has been severe and oft repeated during the past few months. Hardly a tree has hurst a leaf yet. Still, if warm and pleasant days continue to follow each other throughout the advancing weeks, Nature will soon awake and mantle herself, and we may forget these earlier cold days and weeks. Half a century ago, in the gardening papers of that time one finds interesting and somewhat amusing phenological references. Thus, in one of the old papers, under the weekly calendar for this time of year, we find that on Thursday, April 12th, the song-thrush lays; the next day is appointed for the stock-dove's laying; on the Saturday the redbreast is supposed to hatch, and so on, till, a few days later, frog tadpoles hatch, and the marsh tit-mouse's note ceases. Each day also has a flower dedicated to it. At present, Narcissus, Tulip, Saxifraga, and Stitchworts are selected and individually given a day. Such notices are very interesting to those living in rural retreats. Much is still being done throughout the country toward the advancement and building up of a reliable code of phenological events, that is, phenomena of the season noted and chronicled for future comparison and use.

Work for the Present.—Some folks have still delayed even such primary work as attending to the repair of walks and paths. The ground is now dry enough to allow anyone to carry through any necessary repairs in this connection. Some may only need to be top-dressed with gravel or brick-dust; others may require thorough breaking-up, re-arranging, and dressing with various grades of stone material. If the latter case predicts the needs of some reader, the work or proper renovation may be successfully and speedily executed simply by taking out a trench across the path to a convenient width and proceeding to fill up the back part while working forward. The principal is to pick out the rougher stones and solid material from the soil and clay of the path, to place these stones so as to form a bed or foundation for the line of path already picked or loosened, and to cart off all the soil and soft stuff. Then, after having gone over a path which had not properly been made in the first instance, we now should have one with a solid foundation of stones, etc., over which dressings, each of a few inches in depth, of machine crushed gravel, whinstone, Sussex-bean, cinders, or brick-dust may be placed, to be firmly rolled in. The full enjoyment of a garden is lost unless the avenues for locomotion are comfortable and good. The surface colour of paths should engage attention. Colours should be in keeping with other surroundings. Decided and pleasant contrasts are recommended, and warm colours, such as red, orange, or yellow should be chosen in preference to white, grey, or black.

Seed-sowing and Protection.—April in the outdoor garden is a busy month. So far there have been remarkably few sowings of seed made. Planting too has been backward. As has before been said, it behoves one little to plant such things as Cauliflowers and Cabbage or Spring Onions, unless the ground is warm and capable of sustaining a vigorous root growth. Plants put out in March have been surpassed in development by others only planted in April. All the protection in the world would not make the roots of the March plants lay hold of the land, but by inserting plants in soil which had become warmed by penetrating rains and heated air, the results have been convincingly in favour of the latter procedure.

Most of us have great difficulty and annoyance from the pesterings of birds or other things. In all such cases either wire or herring netting must be

placed over the beds or pieces of ground containing the seeds. If the ground is very scattered, some physical means for scaring off the marauders should be tried. Dusting the seeds with soot or red lead often proves effective. Sulphur is also used.

Pea Supports, trellises, and other things for the bracing up of either vegetable crops, or ornamental climbers, should by now be fixed upon, and whatever has been determined for use must be secured.

Tomatos.—Many amateurs have the desire to grow Tomatos for their tables. If they have a sunny corner and a good frame which they can devote to the purpose of protection, both good fruits and good crops can be relied on. It may be that at present the frames are used for Chrysanthemums or bedding plants. Such being the case, the Tomato plants must just be grown on in pots until the frames are fit to receive them. The sooner after the middle of the present month the Tomatos can be planted the better for them, and the greater return they will give. It is not necessary to have the frames empty before planting. If a narrow border can be made along the back of the frame (which should face so as to catch the sun), the Tomatos may be planted therein at distances of 1 ft. apart. Train them up the back and then forward underneath the sashes. Do not top dress nor give much water until after the first truss of fruits has set.

Cucumbers and Melons.—According to means, early Melons in pits, or later ones in frames, will be planted by those who care for home-grown Melons or who relish a Cucumber. Where heated pits are at one's disposal and good plants are ready to be put in, now is the time to plant. Where only a hot-bed can be relied on for upholding the warmth necessary to Melon or Cucumber growth the planting may for yet awhile be delayed.

Planting Trees and Shrubs.—One often wishes to write of some new subject or idea on the practice of gardening, but while there is such frequent evidence that primary principles are not followed the wish has to be subservient to homilies, homilies oft repeated. Many dozens of plants, trees, and shrubs are yet being planted. Among less careful planters who may undertake to arrange such work as pertains to villa garden planning or relief by planting, some salient needs or rules are often overlooked. Where the case happens to be that of laying out and planting a newly-made garden the depth or quality of the soil is quite neglected. Very often the surface strata of soil around new dwellings happens to be the soil thrown up from the foundation of the house. Such soil as a rule is entirely unsuitable for planting in. It requires to be mellowed and aired. Then before planting begins the ground should be deeply trenched. Often enough this is not the case. A space is taken out, and perhaps the "pan" is broken up around where the roots are expected to spread, but nothing further is done. The result is that if the plants are at all resentful at disturbance some that have cost much money gradually wither and succumb. The rules for success are briefly these:—Deep trenching, good soil over and around the roots, an open surface soil and one which is kept free from weeds, staking off tall trees or such as are exposed to winds, watering if need be when the soil is dry, and mulching soon after planting to prevent evaporation. The soil should be made firm, though if it be very damp less firming should be done. Under these conditions most shrubs should be successfully established. Pruning of Ivy may be done now.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Shattering Tree Stumps.—*A.M.:* Dynamite is the readiest material for shattering tree stumps. In using this agent for the purpose, the cartridge must have a fuse 2 ft. long attached to it. Bore a hole one or two ins. in diameter and into this insert the cartridge.

Spring Treatment of Gloxinias.—*Wm. Lawdlay:* A growing temperature suitable to young Gloxinias should range from 58° to 65°. Keep the atmosphere moist and supply water regularly. Young plants from seeds must be cautiously potted on. A light

position on a shelf a few inches from the glass, should be given them in the meantime.

Dahlia Cuttings Drooping.—*K.B.S.:* The temperature you have been maintaining is altogether too high. The weakly and flabby condition of the young Dahlia shoots simply result from the cause we name. As soon as shoots of 4 ins. in length are made, you may pull them off, trying while doing so, to secure a heel. Insert them either in boxes or singly in thumb pots filled with light soil. Shade for a day or two from strong sunshine and water moderately with chilled water. The temperature of the house or pit should not exceed 60° at any time. After the middle of May they will be perfectly safe in a cold frame.

Coelogyne cristata poorly.—*A.M.R.:* In many gardens the Coelogyne are not all they ought to be. One very frequent cause of decrepitude lies in the poor material used for top-dressing or potting. Good green sphagnum should alone be used and some pains ought to be taken in the proper placing of it between the bulbs. The very oldest bulbs which are not producing fresh young substitutes should be cut cleanly out. Sponge and otherwise clean the foliage, allow a brisk, moist temperature, and satisfy yourself that the drainage and other material is sweet and well placed, and your plants will then have a chance of rejuvenating their constitutions.

Deodorising Liquid Manure.—*T.S.:* Have you tried gypsum, sulphuric acid, or sulphate of iron? You notice Mr. Thomson mentions these compounds, and recommends them to be used with the manure to grasp and retain the ammonia found in liquid manures. It is the ammonia which causes the unpleasant odour, and by placing either of the agents which are noted alone, in contact with the liquid, chemical charges occur whose effect is to suppress the volatile elements, and so prevent the detection of any smell. For this purpose kainit and wood-ashes in hags dropped in the tub or tank containing the manure water affect in a lesser degree, a like change.

Dividing Hepaticas.—*W.L.:* Wait until after the flowering period. When that time arrives divide the plants with a sharp-edged spade and replant in good soil; or better still, shake away a portion of the soil, and pull the crowns carefully apart with the hands.

Planting hardy Ferns.—*W.L.:* The Shield Ferns, Polystichums, Scolopendriums, and Osmundas, may be planted in pockets of the rockery either now or any time during this and next month. See that the roots are kept as entire as possible, and finish off the surface around the necks of the Ferns in such a manner that the fullest amount of moisture will be caught for the benefit of the roots. The Royal Fern and the Shield Ferns (Aspidiums) ought to be placed well back, on account of their height.

Planting Daffodils, &c.—*E. D. M.:* You may order or take note of the most pleasing varieties to your taste, according as you see them at exhibitions or in gardens, but you cannot plant them until the proper season arrives for so doing, and that is October and November.

Daff. versus Narciss.—*Miss Smith:* The long trumpet Narcissi, of which our wild Daffodil, *N. Pseudo-narcissus* is the type, are the true Daffodils. All others simply are Narcissus. But the custom is to call all the Narcissi, Daffodils, though the bunch or Polyanthus Narcissi are not so termed.

Sweetest-scented Pelargonium.—*T. Smith:* The scented-leaved Pelargoniums are varied in their fragrance. The large-leaved and hairy *P. tomentosum* has an indescribable aroma, very strong, yet pleasant. *P. citriodora* is orange-scented, and *P. Lady Scarboro'*, which has small leaves, is as sweet as any. Indeed, the latter is the sweetest we know.

The Story of the Fuchsia's Introduction.—*Mable:* The story is authentic. Old John Lee, now sometime dead, happened once to be passing by a cottage in his peregrinations. In the window of the cot he saw a beautiful plant with pendent bell-shaped blossoms. Being an astute nurseryman he went in

and offered to buy the plant on the spot. The woman (she was a sailor's wife) demurred, the plant having been purposely brought from a foreign part to her by her faithful Jack, at this time once again on a voyage. But persistence and an offer of all he had in his pocket (about £8), at last won over the woman's trust, and she parted with that bell-

AMARYLLIS AT CHELSEA.

THE Amaryllis house in the nursery of Messrs. J. Veitch & Sons, Ltd., Chelsea, is now gay, and will be for some time to come. The plants are about three weeks later than usual, but that is only in accordance with the season. Everything is late both out of doors and under glass. In the latter case,

dwarf, and the foliage vigorous and good. The chief display is in the central bed, where the oldest bulbs to the number of 1,066 are plunged in the cocoanut fibre. The benches round the sides of the house are occupied with the younger bulbs, some of which are strong enough to throw up their first flower spike. On one side of the house 910 are



GOOD MODERN TYPE OF AMARYLLIS.

flowered plant. Mr. Lee went home, propagated this new subject of wonder and admiration, sold the young plants at £3 apiece, gave the woman a nice specimen to prove to her returning wanderer that she had still his presentation plant or "love-darg," and had looked after it to advantage; and so the story closes.

truly, extra heat can be applied by means of the hot water pipes, but artificial heat can never make up for the absence of sunheat and sunlight in the cultivation of plants. Sunlight is necessary to build up healthy tissue while growth is advancing. The Amaryllis at Chelsea have not been forced, however, so that, although growth is late, the flower scapes are

plunged in fibre; while on the opposite side are 1,250 pots of bulbs. Last week when we inspected the house a large number of flowers were still in bud, while the latest were only pushing up from the bulbs, so that the display will continue for some time to come. The present is the best time to inspect them, for everything is young, healthy, bright in colour, and highly attractive.

Walking round the house we picked out a few of the best and most highly evolved flowers. The old Empress of India, which was so much admired twenty years ago, or even more recently, now appears quite a puny thing by the side of the giant flowered progeny, of which it was one of the parents. It is only by comparing the past with the present that one can realise the splendid advance which has been made with these garden creations of the florist, who in this instance, is Mr. John Heal, V.M.H.

Thurina is a well expanded crimson flower, deepening to maroon in the throat. A very large and distinct flower is Cleopas, which may be described as greenish-white, heavily splashed with maroon crimson. An uncommon colour is presented by Francisca, an orange-red flower, shaded with violet. John Ruskin is one of the largest size, the huge flower being much flattened out, and of a deep orange-red. Of the delicately pale and almost white flowers, Lady Buller is, in our opinion, one of the most charming, because it is a large and shapely flower, well expanded, and white, except for a few lines of a soft red. The filaments are also white, and the very base of the flower of a soft Apple green. It deserves a place in the most select collection.

Quite of another type is Navius, with a heavy splash of bright scarlet on the clear white ground of the upper half of each segment. The contrast is bright and cheerful. Adrastos is also a large white flower, lined and netted with orange-scarlet, or even heavily splashed on the edge of the segments. Optima, on the contrary, is a huge, intense crimson flower, with a short six-rayed star. The prince of the new varieties, flowering for the first time, is James H. Veitch, the huge flowers of which are of an intense maroon-crimson, rich, lustrous, and intensifying somewhat in the throat. It is, moreover, the largest self-coloured flower ever raised here, and puts all others in the shade. The uppermost of the outer petals is 3 in. or 4 in. wide, so that they overlap each other beautifully. The flower scape is vigorous and of a dark bronzy-green, quite unusual among the Amaryllis. The usual rays forming the the star are here absent.

Syrens is a flower of medium size, with broad, widely recurving segments, of good substance, and crimson-red. Polias is white and lined with rosy-red on either side of the broad white rays of the star. The broad segments of Novatus are orange-scarlet, with white tips and a short, pale green star. Ios is a well expanded flower, with some crimson lines flaming out from either side of the midrib of the three upper segments, the rest being white. A chaste, pretty and well expanded flower is Ignacite, which is of a soft white with a few faint red lines on either side of the long rays. One of the most distinct in colour is Emita, which is heavily lined with rosy-purple on a white ground all over the flower except on the long-rayed star and the pale green base. Cupid is bright orange-scarlet, running into lines on the lower half.

In Feodora we have another very distinct type of flower, the segments ascending rather sharply in the lower portion, and then suddenly spreading out almost horizontally. The segments are as broad as to make a round and regular flower, which is white and delicately tinted with purple here and there. Altogether it is very pleasing. Ornatus is a large and deep crimson flower, with a short green star. Leo is of a clear white, lined with crimson-red on either side of the long white rays. It is a chaste and pretty flower of clearly defined colours. Heckla is a huge flattened flower, of a deep red, with a pale green throat. On the contrary, Lyso is a short, stiffly-built flower, with crimson bands on a white ground. Merula is of a bright and sparkling carmine, with white rays stretching half way down the flower. A strikingly distinct colour on the way to yellow was that which suggested khaki, and flowering for the first time it was named Khaki. The whole flower is of the colour indicated, with the exception of pale green rays which extend almost to the tips of the segments. The flower is by no means unattractive, and certainly strikingly novel.

Sagana is heavily lined with dark purple veins on a white ground, thus making a pleasing variety. Velica is a bell-shaped flower of a uniform, brilliant crimson-scarlet. One of the darkest flowers is Nazara, being of an intense crimson, deepening to maroon in the throat. Acacus is difficult of description, as the colours consist of a combination or mixture of orange, red, and rosy purple. Eudora, like

several of the above, is flowering for the first time, and is of an intense maroon-crimson, almost obliterating the rays. The bell-shaped flowers of Pera are orange-scarlet, and netted with that hue on a white ground, over the greater part of the flower. Gignonus is a huge flower of a rosy orange-red, with a pale green throat. The segments are very broad, overlapping one another considerably. The queen of the whites at present is Iphis, on account of its great size, and widely expanded character. It is the most nearly pure white in the collection, having only some faint tints of pink towards the edges of the flower. The throat is of a pale apple green, thus finishing off a chaste and beautiful flower. There is more colour in Lady Buller, as we stated above, but the shapely build of the flower will make it a rival for Iphis. Both of them will undoubtedly find many admirers.

Botanically these flowers belong to the genus *Hippeastrum*, rendered in English by Knight's Star. The latter word refers to the white or green band usually running through the centre of each segment, and as there are six segments to the flower this will explain the frequent occurrence of the term "six-rayed star." The accompanying illustration, p. 521, shows what we mean by a widely-expanded flower of the best modern type. The six-rayed star is here very short, but characteristic all the same.

NATIONAL FLORAL EMBLEMS.

THE recent burst of emotion, for it is probably getting more substantial, seen in connection with the wearing of Shamrock on St. Patrick's Day, naturally draws attention to the subject of national floral emblems. It is true that of Ireland is not floral, but it is enough for the purpose, as is the Leek, which the Welshman favours. But the English emblem, a Rose, is essentially floral; and if the Thistle of Scotland is far from being a desirable flower, yet it is floral all the same.

That of our neighbour, France, used to be the *Fleur de Lis*, or as commonly called Flower de Luce; but I think it went out of fashion as a national emblem with the Bourbons, and the favourite flower now is the Violet. What may be the floral emblems of other countries I do not know, but at least England with her customary bold assertiveness has adopted the Queen of flowers, and now none dare dispute her right to the Rose. But in spite of our having, as a nation, so beautiful and so universally grown an emblem, no one seems now to wear it as such, but only just as they would wear any other flower, because it is one so universally admired.

A society seems to have been recently formed with the object of popularising St. George's Day, April 23rd, as the national festival day of England's patron saint, and to induce all English people to follow the Irish emblem practice, and wear a Rose. It is unfortunat for this desire that Roses are far from being plentiful on that date. Unlike the Primrose, which has been made into a party political emblem, and which is abundantly blooming on April 19th, the Rose is flowering only just then, in warm houses or is found in the forcing trade or in Italian importations, and Englishmen would hardly care to celebrate the feast of St. George with the aid of flowers grown out of England.

If it were really desired, whether from mere transient emotion, or from some enduring patriotic or national feeling to have a national Rose day, then none would be better for the purpose than midsummer day, as just then roses are in great abundance everywhere. But it seems very doubtful whether English people, unless for some party purpose would care to establish any flower day, whether it be with a Rose or other bloom. It was most unfortunate that Primrose day was established for political objects, because it has done so much to render the wearing of this floral emblem distasteful; yet there should be in the nation enough pure patriotism to cause every right-minded, sensible person to gladly wear a Rose on some national flower day to show that he was for the time above party, and a pure Briton only. Of course, in such case it would be odd did the Irish people copy our doings as we did the other day, somewhat unfairly, over the wearing of the Shamrock, as by so doing we were stealing Ireland's long cherished emblem, and helping to kill what has, with Irish people, been for centuries a cherished national sentiment. We should, I think, soon find all pure nationality in floral emblems

killed. Probably, then the British Empire would have to be represented by a conglomerate emblem, the Rose, Thistle, Leek, Shamrock, and a dozen colonial products, making of a typical at least a somewhat huge bunch.—A.D.

GARDENIAS.

WHERE cut flowers for buttonhole and other purposes are wanted in quantity, a batch of these is invaluable during the spring months, when there is little to cut from besides bulbous plants.

As a rule, it is not profitable to grow the same plants of Gardenias for more than two or three years, as with each year they become more difficult to keep clean, being, as well, subject to attacks of eel-worm, where the latter are present in the soil, a season's labour may be thrown away by the sudden collapse of the plants from that cause. Indeed, many growers propagate all their stock each spring and discard the old stuff, after they have ceased flowering.

Cuttings should be inserted now in single pots in light sandy soil, choosing rather large but well ripened shoots with several points, and plunging in strong bottom heat in a close case. They will be well rooted in about three weeks, and should then be gradually given more air previous to their removal from the case.

As soon as the pots are filled with roots, the little plants must be shifted on so that no check is experienced by the roots becoming cramped.

Where the watering is done by skilful hands, it is a saving of labour to pot them straight into 32's, but generally it is safest to give an intermediate shift, viz., into 54-size pots.

A suitable compost for them may consist of equal parts of fibrous loam, peat, and leaf soil, with a liberal addition, of coarse, silver sand. A little bone-meal and soot may be added as well. Pot firmly and allow sufficient water space. Equally good plants may be grown in peat alone; but I am doubtful if they flower so freely as those grown in a little heavier compost.

The plants must be shaded for a few days from bright sunshine, the syringe used freely among them, and the utmost care taken with the watering until the pots are filled with roots. If the pots can be plunged and a good bottom heat maintained it will greatly assist growth. The night temperature should not fall below 65°, and with warm weather it should rise proportionately. During the hottest months of the year the temperature in the day-time may be allowed to run up to 90° or more at closing time, which need not be later than three p.m. at any season, as Gardenias delight in a hot saturated atmosphere.

A slight shading is necessary in bright weather, for a few hours during the summer months, removing it as soon as the house or pit is closed. Stopping of the shoots must be done once or twice during the season, but not later than the end of July. The plants must be supported by one central stake, looping the outer growths to it by neat ties of black thread.

Greenfly or bug may be kept down by fumigating with XL. All occasionally, and an emulsion of paraffin and soft soap, dissolved in warm rain water—using the former at the rate of a quarter of a pint to three gallons of water with just sufficient soap to absorb the paraffin, and mixing whilst a part of the water is boiling (the rest can be added after to lower the temperature to about 90° or 100° for spraying the plants)—will effectually keep scale from spreading. Where time allows, hand-sponging is the better method for the extermination of scale. After either operation, heavier shading must be used and kept on some hours longer as well, or scorching of the leaves may ensue. Weak manure water will help the plants considerably, but avoid strong doses when the buds are forming, or they will very probably drop off.

During the autumn and winter months a lower night temperature—say between 55° and 65°, is beneficial, but with the advent of the new year a few plants may be put into warmer quarters to produce a few early flowers.

Any old plants, which are intended to be grown on, should be cut hard back after flowering, and allowed to break, when the balls may be reduced slightly, and then potted into a size larger pots than those previously occupied, when they may then be given the same treatment as the others.—*Practical*.

EVERLASTING FLOWERS OR IMMORTELLS.

THE repeated writing upon the culture of these dry-flowered plants is in only a few cases disparaged. This may arise from the knowledge of how partial are the possessors of small gardens to the class of flowering annuals which, for little care, furnish their homes and other places with flowers from Nature, whose pretty tones fade not quickly. Year by year, the growers of immortelles increase in multitude; year by year, a greater variety of everlasting plants are chosen and cultural hints are in request. To the business man—he who caters for and supplies the seeds and plants to our cultivators—there is need for his energy to add to and increase the selection of plants, easy to raise and grow, and whose flowers are sweet and long-lasting.

RHODANTHES.—Well-flowered potfuls of these pink-coloured composites in a dwelling-house window provides a sight in every way satisfactory and pleasing. The seeds of *R. Manglesii* (also known as *Helipterum Manglesii*) may be sown thinly on the surface of rich and porous soil previously prepared and filled into 5-in. pots. A thin screening over them is all that they further require. Having watered the pots by the use of a very fine rosed-can, panes of glass should be put over the tops of the pots, and these then placed on a light shelf in a Peach house, a greenhouse, or any little glass-house (even a dwelling-room window case) which has a temperature of 58° and upwards to 62°. There is no need to detail more. If the usual precautions in airing, thinning, and staking are taken, and care specially given to prevent the young plants from becoming spindly, nice flowered plants will result in from eight to ten weeks from sowing. Seeds may also be sown in open air beds in June.

HELICHRYSUMS.—As a class, the fore-named are too tall and coarse for pot culture. For filling odd corners in the hardy plant borders, and for sowing between lines of ornamental shrubs, clipped Hollies and such like, which one at times may see used as divisional belts between borders, or for large beds, the *Helichrysums* are very suitable objects. A sowing should be made in shallow boxes at once, the seedlings which result being pricked off for planting out whenever the plants, the land, and the weather are deemed in a fit state. In June, an outdoor sowing may be made. Cut the blooms before they fully expand and hang them up (head down) in an airy shed to dry. When a number of flowers are on the plants and the season is advanced, the plants may be lifted root and stump. They are used for bouquets and are otherwise arranged. An annual sowing should be made.

ACROCLINIUM ROSEUM and its varieties *album* and *grandiflorum* may have the same outdoor treatment as for *Helichrysums*. An August sowing in pots supplies winter flowering plants. *Acrocliniums* grow 1 ft. or 2 ft. high, bearing their composite flower-heads terminally on separate stalks. They are suitable also for spring window boxes.

AMMOBIUMS.—Though not so pretty to my mind as the *Rhodanthe* still one likes to speak well of an old favourite. The flowers are borne in panicles, those of *A. alatum* being nearly pure white, and a variety of this named *grandiflorum* has larger blooms and is equally white. The *Ammobiums* are not quite so hardy as those previously mentioned. The plants reach 18 ins. high and are not fastidious in their demands.

XERANTHEMUM ANNUUM.—This purple bloomer reaches 2 ft. high. Seeds may be sown during May for planting out at the end of that month. There are now a few pretty varieties of this plant.

WAITZIAS.—Although this represents a genus of pretty flowering immortelles and affords plenty of nice species and varieties to pick and choose from, it cannot be said that they are well-known. It is, therefore, all the more necessary to make a citation. *W. corymbosa*, *W. aurea*, and *W. grandiflora* might be selected, and their culture resolves itself simply into giving the care in the raising, which should be under glass, and not until the end of June should they be placed outdoor for decoration. They make nice greenhouse plants for the summer. *Morna*, which used to be distinct, is now included with *Waitzia*. The plants are dwarf, that is, 1 ft. to 1½ ft. in height, the flowers being held in terminal corymbs and are in shape, rounded or head-like. The foregoing then, describes the chief genera of annual plants with lasting flowers.—D. K.

NURSERY VISITS.

MESSRS. KERR BROS., DUMFRIES.

THE nursery grounds of this well-known Dumfries firm are not extensive, but what there is of them is well stocked. Though the Messrs. Kerr are general hardy plantsmen and seed-traders, their specialities are Dahlias, Carnations and Violas. These, especially the former, they grow in liberal quantity and in such a way that they are enabled to offer collections of varieties to suit all buyers at a very moderate rate indeed.

On a recent visit to their grounds at Mildamhead, Dumfries, we had the satisfaction of seeing how thousands and thousands of Dahlias in all their sections are quickly propagated and grown on. The matured tubers which furnish the cuttings are laid closely together on benches, the cuttings being taken as soon as they are an inch or two long. The cuttings, of course, strike readily in sandy soil, these also being closely inserted. When rooted, they are potted off into 52-size pots, and are soon ready for the cold frames from which they are selected to furnish orders.

Among Violas, there were to be seen a number of new varieties, the result of crosses made by Mr. James Kerr, who superintends the nursery department. Upon the merits of these it is impossible at the present time to give an opinion. The only fact to be expressed is, that the entire stock of Violas is sturdy, healthy, and at present promises well. Double *Begonias* in their season are also a feature, the flowers having been noted from various parts as of exceptional size and quality.

Early flowering *Chrysanthemums* which are everywhere being more and more extensively grown, were seen in array second only to the Dahlias. Provided good plants are secured to start with, there is absolutely no reason why any one, amateur gardener as well as professional, should not succeed with early *Chrysanthemums*. And no class of autumn flowering plants surpasses them for brightness, freshness or floriferousness.

Then in other of the glasshouses were to be seen the usual supplies of popular decorative plants, such as Palms, *Araucarias*, *Aspidistras*, *Ophiopogon Jaburan variegatus*, *Asparaguses*, *Roses* (which are seen in considerable amount and good) and *Callas* with many other subjects. A brisk local trade causes active demand on the nursery resources to supply decorative pot plants and cut bloom for shop work and floral arrangements.

In conclusion, one must not omit to refer to Kerr's *Prizetaker Tomato*. This variety is of recent introduction, and everywhere it has met with approval. Being of exceptional size, good appearance, and fine flavour exhibitors largely adopt it as proved by its appearance at the most prominent of the west coast shows.

Among vegetables, the Messrs. Kerr have for long devoted themselves to the selecting and improving of Potatos, and their list of seed stocks is replete with the best of tried sorts besides having a yearly novelty or two to offer.

It is always a pleasure to notice the efforts of energetic firms, although, as has been said before, the present is not the most opportune time.

VEGETABLE GROWING IN A LONDON GARDEN.

DURING the last few years Mr. Kelf, gardener at South Villa, Regent's Park, London, has shown what fine fruit can be grown in a garden within four miles of Charing Cross, by the fine collections he has exhibited before the Royal Horticultural Society.

It is not my intention to illustrate this feature of the garden, but to show that good vegetables are grown here also. Although I reside in the West of England, I had an opportunity of seeing this garden twice during the last year—in May, and again at the end of October. In this way I had a good opportunity of seeing the crops.

At the time of my visit (end of May), there was a grand lot of dwarf Early Peas growing on a border facing south-west in full bloom. I never have seen Peas look in finer health, and giving promise of fine returns. The following were the kinds, and Mr. Kelf kindly promised to send me the dates of gathering, which he did as follows:—First dish, gathered from *American Wonder*, June 17th; *Sutton's Seedling*, June 23rd; and *Chelsea Gem*, June 26th. All were sown at the same time, and in bloom within a

few days of each other. As far as I could judge *Chelsea Gem* promised to give the largest crop. I was told early Peas were always a fine crop.

In the open were fine rows of *Pea May Queen*. Cauliflowers were very fine, giving promise of a good return. Lettuces and other salads looked well.

When I saw the crops again in October, I was surprised to see them giving such good returns. Celery does remarkably well. Roots were fine, as were many green crops.

No doubt green crops suffer during the winter from fogs, &c. It was most interesting to me to see what may be done by perseverance even in a garden so closely shut in as this one is. Some may think how can there be room in a thickly populated district for a garden, and may imagine these remarks apply to a small row of this and the other. This is not so, the garden being large enough to supply a good sized family. If my memory serves me the whole place is about 12 acres in extent.

There are many who have a small garden in large towns who would find vegetable culture interesting and a relaxation from their daily calling. It is a source of much pleasure to grow things even providing you can buy them as cheaply. Strawberries do well here in the open. It was most pleasing to see so many old border plants thriving in the grounds, and as you walked round you might have thought you were fifty miles from London had it not been from the noise in the streets.—J. C., F., Chard.

UNDER GARDENERS AND THEIR GRIEVANCES.

YOUR leading article on this subject, in your issue of the 7th inst., is teeming with facts which should be read and thoroughly digested, as it were, by head gardeners, as well as subordinates; and I think all readers of THE GARDENING WORLD will agree that the worthy Editor, whenever a chance crops up, is always ready to plead for the gardener, be he head or under, and at the same time endeavours to instil it into his mind that self-examination and self-improvement are real necessities at the present day if one wishes to reach the top of the ladder in horticulture.

All of us who have shared in both life well know it is not all honey, more especially in such places where one or other of the journeymen has to act as cook and scullery-maid during the week he is on duty, which time should have been spent in acquiring a fuller knowledge of his profession. Happily these are becoming less and less each year, and in their place departments are being put up more or less in conformity with the times; and in many instances bath-rooms, as well as libraries, are included in the scheme, with a woman attendant each day except the 7th. It will, I fear, be too much to expect in general, such comforts just mentioned, though there is plenty of room for improvement in a number of good private places even now, the writer of these notes having had to rough it in more than one place. After all, it is not so much a question of bothy as of £. s. d. with some of these young gardeners, I am afraid. Let the former be ever so comfortable and convenient, a good percentage of them are only too ready to leave it if they see a chance of an extra two shillings or so per week more, regardless of which is the best place to gain knowledge of their profession. As for the bothy, well, they never thought of that as long as there was a chance of swelling the exchequer. I know these are facts, several instances coming under my notice at different times. I cannot quite fall in with the young gardener's idea that they are underpaid in comparison with other trades or professions. What apprentices, except young gardeners, at the age of eighteen to twenty, draw a wage from twelve to sixteen shillings per week, added to this, bothy, milk, and vegetables free, which, at the lowest figure, is worth another three shillings weekly? Very few I am thinking. No, it is not the under gardeners that are underpaid, but the head one in the majority of places, on whom all responsibility rests, and the teaching of those under him as to the way he wishes the work carried out, no easy task with some who fancy they know best. As to unskilled labourers demanding a higher wage than journeymen gardeners, is feasible enough, the former knowing that there is but little chance of improving their position, while the latter, at the very outset, though working for a smallish wage up to about twenty-seven or so, plod on in high hopes of receiving a more remunera-

tive charge about that age. Then it is, I say, when the higher wage can be commanded by those who have profited by their experience and are capable of managing a garden where horticulture in general is expected to be carried out in the highest order.

I have made no mention of foremen, these, of course, getting pay from eighteen up to twenty-two shillings per week, bothy, etc., in some cases, are better off than a head gardener in many medium-sized places. As to the scarcity of young gardeners, this fact alone ought to raise the standard of wage for those left in the field, which I hope it will in an all-round manner.—*Devonian*.

GARDENING MISCELLANY.

SALPIGLOSSIS.

How it comes about is a hard matter to explain, but while many borders in our gardens are crammed with far less elegant annuals or perennials than *Salpiglossis* are, these find no place. They are second to nothing for graceful arrangement in vases, and it may be hinted here that narrow-necked, unornamented, and tall vases are far away the most suitable. The packets of seeds are as a rule mixed, so that some dull coloured varieties must be expected along with the lighter and prettier ones. Beds wholly devoted to them are advisable, yet, in small clumps here and there along the herbaceous border, they are helpful adjuncts in the summer display. A pinch of seed sown in a circular patch in May, or earlier, merely raking the seeds into the surface of the ground, is all the attention required in the raising of a supply. As soon as they are a few inches through the soil, thin out the seedlings to a few inches apart either way. Stake the single plants neatly when they are 9 ins. high.

THE GOOSEBERRY CATERPILLAR.

A CORRESPONDENT of the *Irish Farming World* recommends dry coal ashes as a dusting for Gooseberry hushes. Applied early in February before the buds break he has never known the preventive to fail. Another correspondent has found a strong solution of alum (7 lbs. to thirty gallons of water) a most efficient remedy for destroying the caterpillars on Gooseberry and Currant bushes, and has used it with great success for the past thirty years.

ARTICHOKE SOUP.

JERUSALEM Artichokes, 1 lb.; Turnips, 1 lb.; Onions, ½ lb.; vermicelli, 1 oz.; butter, 1 oz.; milk, 1 quart; salt and pepper are the ingredients of this dish. Peel the vegetables, just cover with water, and boil till tender. Mash altogether in the water in which they are boiled and pass through a sieve. Add the milk, butter, and seasoning, boil up, drop in the vermicelli, and allow to boil for ten minutes before sending to table. The addition of a little cream is an improvement.

SISYRINCHIUM GRANDIFLORUM.

THIS is probably one of our earliest *Sisyrinchiums*, flowering as it does in sheltered places from the middle of March till May. The flowers are modestly pretty, borne in clusters from one spathe, light mauve at first, deeper purple later. The leaves are in grassy tufts springing from the slightly thickened root or rhizome. A light humic soil with a position at the base of a rockery suits it well.

ARDISIA POLYCEPHALA.

OUR list of stove berried plants is by no means a long one and the plants we do possess are not so liberally grown as they might be. If flowers are difficult to secure, we should at least make an effort to have a supply of plants with coloured fruits, and even if they are black fruits as in the case of this *Ardisia* they yield an interest to the plant houses. They are usually increased and propagated by cuttings taken any time between March and September, but a stock may in the first instance be obtained from a spring sowing of the seeds or herries. In a few weeks the seedlings will have appeared. These should be selected and potted into 3-in. pots, using about equal parts of peat and loam. Shift them on as they require it, always allowing them a light and warm position. Dewings over the foliage may be given

twice a day, and this matter is more important just after the successive pottings. The plants are at a good fruiting stage when they are about 1 ft. high, in 6-in. or 7-in. pots and bushy. They can be pruned back late in the spring and can again be potted up for new growth.

WINTERING CACTI OUTDOORS.

FROM some years of trial it has been proved in a large London horticultural establishment that a collection of *Opuntias*, *Cereus*, &c., can safely be wintered out of doors with only the occasional protection of a canvas covering.

A NOVEL AND PRETTY CORNER BED.

IN Kew Gardens there are some strikingly novel arrangements of shrubs. For winter effect, a corner bed at the divergence of paths, which is filled with the dwarf, purple-leaved *Mahonia* and pegged down shoots of the yellow flowering *Jasmine*, make a charming combination of bright yellow and deep purple! The shoots of *J. nudiflorum* stand well above the *Mahonia*, the ends alone being fastened downward. —*Visitor*.

THE TEMPERATE RANGE AT KEW.

THE plants in the east division of the recently completed temperate range at Kew are wearing an aspect of established vigour; they appear quite naturalised. Arching upward from the borders on each side of the central path are the tall rods with their fading leaves of *Phyllostachys mitis*, and *Chamaerops excelsa*, giant *Camellias*, *Rhododendrons*, *Photinia japonica*, or *Loquat*, with dwarfier *Aralias*, *Liliums*, *Hedychium gardenianum*, and tree roots which make a fine home for *Primulas* and dwarf plants. The pillars are garlanded with the *Giant Rose of China* and other plants.

AGATHAEA CAELESTIS, OR BLUE MARGUERITE.

THIS blue-flowered Daisy or Cape Aster, which throws up numerous slender stalks and shoots bearing small but showy flowers, is a pretty subject for the greenhouse. A nice batch in 4 in. pots is at present enlivening a portion of the flower house at Kew. The plant is a herbaceous perennial, which strikes readily from cuttings at any period of the year, when cuttings can be obtained. It is a native of the Cape of Good Hope. It is closely allied to the *Asters* and succeeds under ordinary greenhouse treatment. The plants reach a foot in height.

FAST GROWING POPLARS.

FOR purposes of screening undesirable views from sight or as wind-breaks, the Black Italian and the Lombardy Poplars are very much in evidence in villa gardens. Their value for the purpose is well-known and has long been tried. *P. nigra*, from its being a widely spreading tree, is not so suitable as the erect growing *P. n. fastigiata* or Lombardy Poplar. Both grow very fast and succeed fairly well in a great variety of soils and situations. Young trees about 10 ft. high transplant well, provided a quantity of good fresh soil is given around the roots. The Canadian Poplar, *P. monilifera* or *P. canadensis* is also another quick growing species, sometimes employed for screens. Owing to the angled manner of growth of the branches, this tree bears the common name of necklace Poplar. The *Ahele* or White Poplars are all fast growing trees, though for the smaller confines of a suburban garden none of them approach the Lombardy Poplar.

SOCIETIES.

FALKIRK HORTICULTURAL.—March 30th.

THE spring show of the Falkirk Horticultural Association was held in the Town Hall on the above date. The number of entries was about up to the average of previous years. The show was considered very creditable to all concerned considering the backward and unpropitious nature of the season. The winning competitors were not, however, particularly numerous, the best growers securing the lion's share of the prizes. *Hyacinths*, *Tulips*, and other forced subjects constituted the leading features of the show, as far as flowering plants were concerned, these being plentiful and of a high order of Merit. *Azaleas*, *Spiraeas*, and other pot plants were also in

fine form. A new feature of the spring show on this occasion was the competition for the prizes offered for groups of plants arranged on the floor for effect. There were four entries, and the groups consisted of *Palms* and other fine foliage plants, brightened with bulbous and other spring flowering subjects. Cut flowers in the shape of bouquets were also tastefully set up.

The competition in the class for a group of plants, arranged for effect, was open to all, and the leading prize was taken by Mr. T. C. Sutherland, gardener to T. L. Learmouth, Esq., Park Hall, Stirlingshire. The second award was secured by Messrs. Wm. Murray & Son, Park Hall Gardens, on the same estate. Mr. Wm. Robertson, Bainsford, came in third.

In the classes open to gardeners and amateurs only Mr. T. C. Sutherland again led the way for two foliage plants, one specimen *Palm*, three table plants, *Deutzias*, two *Spiraeas*, four Chinese *Primulas*, three plants of *Primula obconica*, and a basket of cut flowers.

Mr. Wm. Robertson secured the premier awards in the classes for two greenhouse plants (flowering and foliage), one *Azalea*, *Mignonette*, six varieties of *Hyacinths*, three *Hyacinths*, best *Hyacinth* in the hall, two pots *Tulips*, *Polyanthus* *Narcissus*, *Crocuses*, border *Narcissi*, four British Ferns, best rustic Fern basket, and an *Epergne*.

Mr. Thomas Campbell, Camelon, took the lead in the classes for three *Azalea mollis*, two *Dielytra spectabilis*, one *Cytisus*, and two *Cinerarias*. Mr. James Jarvie, Falkirk, had the best *Imantophyllum*, *Lily of the Valley*, gold laced *Polyanthus*, bouquet of everlasting flowers, hand bouquet, and bride's bouquet. Mr. John Fleming, Falkirk, took the lead for the best hardy border plants, and had some second prizes in other classes. In the class for six vegetables, Mr. T. C. Sutherland took the leading award.

Some of the above competitors were amateurs, and in the classes reserved for such, Mr. Wm. Robertson took the lead for a greenhouse plant, table plant, *Deutzia*, *Polyanthus* *Narcissus*, *Tulips*, *Jonquils*, *Mignonette*, Chinese *Primroses*, *Wallflower*, exotic Fern, hanging basket Fern, and six and three *Hyacinths*.

Mr. James Jarvie took the lead for an *Azalea*, *Crocuses*, *Tulips*, *Lily of the Valley*, hand bouquet and bouquets of everlasting flowers. Mr. Peter Tait, Grahamston, took the lead for *Spiraeas*, and had other prizes. Mr. John Fleming was first for a British Fern, and twelve hardy alpine plants. Mr. Murdoch Horne had the best three buttonhole bouquets and took other prizes.

Messrs. Henderson and Co., Sunnyside, exhibited a collection of plants not for competition, consisting chiefly of table decorative subjects, and spring flowering plants of a seasonable and useful kind.

The secretarial duties, as on former occasions, were ably carried out by Mr. John Fleming. The judges were Messrs. Petrie, Stirling; M'Kenna, Norton, Ratho; and Glass, Carbrook, Larbert.

LIVERPOOL HORTICULTURAL ASSOCIATION.

April 4th.

The fourteenth spring show, held under the auspices of the above, in St. George's Hall, compared favourably with its predecessors as regards quality, although there was a distinct falling off in quantity. Interest, from some cause, is undoubtedly failing, both from exhibitors and visitors. This is to be deeply regretted, for the Hall has no more beautiful effect than when arranged with spring flowers.

In the open division, for a group of miscellaneous plants, W. H. Watts, Esq., Elm Hall, Wavertree (gardener, Mr. J. Bracegirdle), was the only exhibitor, but fully deserved the premier honour that was bestowed upon it, in which *Crotons*, *Palms*, *Caladiums*, *Dendrobiums*, in variety with spring bulbs, were most tastefully arranged.

For ten pots hardy herbaceous and bulbous plants, J. Smith, Esq. (gardener, Mr. E. R. Finch), was first; Col. Shirley (gardener, Mr. G. Eaton), came second. For a display of miscellaneous bulbs and foliage, Mr. Bracegirdle was again to the fore, winning by superior arrangement. J. A. Bartlett, Esq. (gardener, Mr. Thos. Gowen), followed.

In the three classes for *Hyacinths*, twelve distinct, six distinct, and six pots, with three bulbs in each pot, the first awards were secured by O. H. Williams, Esq. (gardener, Mr. T. Wilson). The finest varieties

were Mdme. Plimsoll, Czar Peter, Gertrude, Grandeur de Merville, Grand Maitre, King of the Blues, &c. For six pots Polyanthus Narcissus, W. P. Sinclair (gardener, Mr. J. V. Thomson), had the best.

For twelve pots single Tulips, Mrs. Thos. Wilson again scored, the best being Joost Van Vondel, Rachel Ruysch, Keizer Kroon, &c. For six pots, Mr. Thompson led the way. For six double varieties, Mr. Thompson again scored. With three greenhouse Azaleas, Mr. E. R. Finch won with small specimens, T. McClelland, Esq. (gardener, Mr. W. Bustard), following.

For six Amaryllis, some good bulbs were staged. Mr. E. R. Finch won by his excellent, fine, scarlet "Champion," Mr. F. E. Keightley also showing well. For a basket of cut flowers (the prizes being presented by the secretary), Mrs. G. Eaton was well ahead with a choice selection of Orchids. For one stove plant, Mrs. Eaton won with *Cymbidium lowianum*. For the greenhouse specimen, Mr. Bracegirdle had the best with *Imantophyllum miniatum*. For three Orchids, the same exhibitor held the coveted position, with *Dendrobium Ainsworthii*, *D. nobile*, and *Cymbidium lowianum*; Mr. T. Wilson was second. For the single plant the same exhibitor won with a superb *Angraecum sesquipedale*, with fourteen flowers. For two cool Orchids (the prizes being given by Messrs. John Cowan & Co., Gateacre), F. Cross, Esq. (gardener, Mr. C. Duke), won with *Odontoglossum nebulosum* and *Oncidium Cavendishianum*. For four exotic Ferns, Mr. Bracegirdle was again in front with *Davallia Mooreana*, *D. fijiensis plumosa*, *Microlepia hirta cristata*, and *Cibotium Schiedii*. He again upheld his position for the single with a grand plant of *Goniophlebium articulatum*.

For three distinct Azaleas, Mr. W. Bustard won with well flowered plants. For four bardy *Rhododendrons*, Mr. Bustard scored with telling plants, T. Hamilton Wilson, Esq. (gardener, Mr. F. Field) having the best single. For a single greenhouse variety Mr. Bracegirdle led with a grand piece of *R. Gibsonii superbum*. For six hardy forced plants he was again successful, including a very fine *Clematis*. For three Palms, and a single one, he was again invincible, winning with *Chamaerops Fortunei*, *C. humilis arborea*, *Cycas revoluta* and *Kentia canterburyana*. Mrs. Cope (gardener, Mr. T. Carling), was second for each lot. For six pots of Lily of the Valley, and for six table plants Mr. Carling fully held his own. For six *Cyclamen*, R. P. Houston, Esq., M.P. (gardener, Mr. J. Heaton) had the best. For four *Azalea mollis* (prizes given by Messrs. W. Rowlands, West Derby), and for the single, Mr. W. Bustard won with heavily flowered plants. Mr. Bracegirdle won for three Callas.

The trade was in strong form, showing collections of more than usual interest. Certificates of Merit were granted to Messrs. R. P. Ker & Sons, for some five dozen fine Amaryllis, forced Lilacs, *Azalea mollis*, and *Azalea indica*, a Certificate being granted for Mme. Jos. Vervaene.

Messrs. John Cowan & Co. contributed a large and varied group of Orchids; Messrs. Thos. Davies & Co., Acers, bardy forced plants and well-grown Mignonette; Messrs. Dickson's, Chester, cut Daffodils and other spring flowering bulbs.

The arrangements were carried out by Mr. T. Foster (chairman), Mr. H. Sadler (secretary), and a sub-committee. Mr. Guttridge, Liverpool Botanic Gardens, and Mr. W. Tunnington efficiently fulfilled the positions of judges.

ROYAL HORTICULTURAL.—April 10th.

The Drill Hall was better filled last Tuesday than it has been on any previous occasion this year. Orchids were present in considerable quantity and variety. There were also large groups and collections of Daffodils, Roses, *Azalea mollis*, Ghent Azaleas, cut trusses of *Rhododendrons*, grand trusses of zonal *Pelargoniums*, groups of Ferns, Camellias, stove and greenhouse plants, forced stuff, hardy alpine, &c.

De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, exhibited a group of select and special varieties of *Odontoglossums*. Very choice were *O. luteo-purpureum Mossii*, *O. triumphans Raymond Crawshay*, *O. t. rex*, *O. Rossii rosefieldense*, *O. R. rubescens rosefieldense*, *O. andersonianum* Mrs. De B. Crawshay, *O. a. Venus*, and various other distinct and beautiful varieties.

H. T. Pitt, Esq. (gardener, Mr. T. Burgood), Rosslyn, Stamford Hill, set up a varied and beautiful group of Orchids, including *Miltonia vexillaria gigantea*, *Dendrobium aggregatum*, *Cattleya Schroderae*, *C. Schroderae Pitt's* var. (which is powerfully scented and turned up in an importation made by Mr. H. A. Tracey, Twickenham); also *Odontoglossum crispum*, *O. andersonianum*, *O. triumphans*, *Thrixspermum Berkleyi*, *Cattleya citrina*, and various other useful things. (Silver Flora Medal.)

J. S. Moss, Esq. (gardener, Mr. C. Kench), Wintershill, Bishops Waltham, staged a fine variety of *Odontoglossum crispum*.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young) Clare Lawn, East Sheen, exhibited a large and interesting group of Orchids. Very well grown and flowered were such as *Eulophiella Elizabethiae*, *Epidendrum stamfordianum*, *E. aurantiacum*, *Dendrobium klingianum roseum*, *D. albo-sanguineum*, *Trichopilea suavis*, *Cattleya Schroderae*, *Phalaenopsis sanderiana*, and various other better known and useful subjects. A large number of them were grown in baskets. (Silver Flora Medal.)

Messrs. F. Sander & Co., St. Albans, staged a group of Orchids, amongst which we noted *Cattleya calummata Sander's* var., *Dendrobium Phalaenopsis schroderianum*, in light and dark varieties, *D. lituiflorum*, *Odontoglossum Adrianae*, &c.

A Cultural Commendation was awarded to J. T. Bennett Poë, Esq. (gardener, Mr. Downes), Holme-wood, Chislehurst, for a basket of well grown and flowered *Laelio barpophylla* Mr. H. A. Tracy, Orchid Nurseries, Twickenham, exhibited *Dendrobium atroviolaceum splendens* and *Miltonia Roezlii splendens*.

Messrs. Hugh Low & Co., Bush Hill Park, Middlesex, exhibited the new hybrid *Phalaenopsis Lady Rothschild*. J. Gurney Fowler, Esq. (gardener, Mr. Davis), Glebelands, South Woodford, Essex, showed *Cattleya intermedia Fowler's* var.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, exhibited *Laelia flava*, *L. f. Cowani*, *Dendrobium superbum*, *D. superbum Huttoni*, *D. aureo-wardianum*, *D. Rolfeae*, *D. nobile murrhinianum*, and *Polystachya laxiflora*.

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited a group of hybrid Orchids, including the showy and handsome *Dendrobium Sosius*, *D. wardiano-japonicum*, *D. Cordelia album*, and *Cypripedium J. Gurney Fowler*. The tube formed by the lip of *Laelia digbyano-purpurata* is magnificent; and *Cattleya Eros* and *C. Rosalind superba* are also particularly handsome and attractive.

Messrs. B. S. Williams & Son, Upper Holloway, London, N., showed a pretty lot of spring forced flowering shrubs. *Pyramidal Crataegus*, bush double-flowered Lilacs, *Kerria japonica fl. pl.*, Ghent and mollis Azaleas, &c. Of the Lilacs Mdme. Casimir-Perrier, a pure white double; Michael Bucher, lavender coloured; and the Persian Lilacs were very fine. (Silver Flora Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, London, arranged a long table of Narcissi and other hardy flowering plants, which included some very sweet and interesting plants. Among the Daffodils particular note was made by visitors of P. R. Barr, a deep yellow variety with a bright and slightly deeper coloured trumpet; C. J. Backhouse is still among the choicest; Princess Ida is pale and beautifully fringed; Ellen Barr is one of the finer of the Burbidgei type; Barrii conspicuus still holds good as a foremost favourite, *Glory of Leiden* will certainly not be surpassed if it has not been, in its section, for a long time; *Gloria Mundi* was also seen in perfection; a new seedling Minx with micro-corona of a canary-yellow and beautiful large pale primrose petals was yet another of the good varieties shown in this stand. Anemones, *Iris unguicularis*, *Erythroniums*, *Lachenalias*, &c., in pots added still further to the worth of the stand. (Silver Flora Medal.)

Purnell Purnell, Esq., Woodlands, Streatham Hill, S.E., set up a group of alpine plants. Plants of *Primula floribunda* were used for heightening effect and to give additional colouring. A number of *Sempervivums* such as *S. spinosum*, *S. valdensis*, and others were shown. *Gentianas*, *Primulas*, particularly *P. apennina* and *P. denticulata*, with a number of *Scillas* were included in the exhibit. (Silver Banksian Medal.)

Mr. John Russell, Richmond Nurseries, Richmond, Surrey, arranged a select group of spring-flowering

shrubs. The group included *Andromeda speciosa*, *Lahurnums*, *Viburnum plicatum*, *V. Opulus*, *Cerasus Watereri fl. pl.*, bardy *Rhododendrons*, Ghent, mollis, and hybrid Azaleas, *Spiraeas*, and *Crimson Hawthorn* in varieties, and all of the best. (Silver Banksian Medal.)

Messrs. John Peed & Sons, Roupell Park Nurseries West Norwood, S.E., showed bow effective and pretty our forced spring-flowering shrubs can be when arranged with good taste. Among the Guelder Roses, *Rhododendrons*, and *Acacias*, some very fine *Clivias* were interspersed. These were extremely strong, well flowered, and possessed the qualities of depth of substance, size of truss and individual distinctiveness of bloom. (Silver Banksian Medal.)

D. Henry Shilson, Esq. (gardener, Mr. R. Gill), Tremough, Penryn, Cornwall, made a very interesting show of hardy *Rhododendron* trusses. Coming as they do at so early a period, and from the open air, too, a fuller valuation of their worth can be formed. Mr. Gill seems to have busied himself in crossing a number of varieties. He had a fine lot of seedlings to show, notably fine being a pink or rose-pink variety with large trusses and flowers of an open bell-shaped form. The best of the older and known favourites were likewise shown. Some very good samples of the seedling were put up for certificate, and one named *R. Shilsonii* resulting from *R. Thomsoni* and *R. arboreum*, received an Award of Merit. Mr. Gill was a very successful exhibitor at Truro show early in the month. The Shilson collection of *Rhododendrons* is one of the most complete in the country. (Silver Gilt Flora Medal.)

Mr. John Russell also had a fine collection of Ghent and mollis Azaleas, and *Sinensis x mollis* hybrids. Some of the best varieties of these latter are:—*Sebastapol*, *Anthony Koster*, *Queen Victoria*, and others.

Mr. Geo. Mount, of Canterbury, was again strong in cut Roses, having splendidly strong blooms of Mrs. J. Laing, Capt. Hayward, Catherine Mermet, Gloire de Dijon, General Jacqueminot, and others. The fragrance and depth of colour is becoming more apparent in Mr. Mount's forced Roses as the season advances. (Silver Gilt Flora Medal.)

Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, arranged some dozens of fine blooms of Roses. *Souv. de Catherine Guillot*, Duke of Edinburgh, and *Rainbow* were varieties very fully appreciated. The first of the three is a very distinctive thing of an orange coppery colour. *Rainbow* is a garden Rose, of variable properties, rosy-cream in hue, and very fine. To produce such fine blooms as those of the Duke of Edinburgh variety requires some skill. It makes good wood and plenty of it, but pegging down greatly aids in a throw of good blooms. There was a wide selection of Teas and H. T.'s on Messrs. Cant's table. (Silver Banksian Medal.)

Mr. G. W. Piper, The Nurseries, Uckfield, Sussex, exhibited a duplicate arrangement of his beautiful Tea Rose, *Sunrise*. Messrs. Wm. Cutbush & Son, Highgate, London, N., set up a selection of *Epacris*, *Ercas*, and other flowering hardwoods. *E. delicata*, *E. diadem*, and *Erica candidissima*, *Erica coccinea minor*, *Erica Cavendishii*, *Erica persoluta alba* are varieties which anyone may secure and be confident of having something very showy. *Acacias*, *Magnolias*, and *Adiantums* were likewise arranged on the stage. (Silver Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, took some of the visitors to the Hall by surprise by their very brilliant stage of Zonal *Pelargonium* trusses. The best varieties of these were Gen. Wolseley, Andrew Lang, Ian McLaren, W. E. Corden, Crabbe, Cbaucer, Niagara, Mrs. Ewing, Lord Klitchener, Soldier's Tunic, a very brilliant scarlet, &c. (Silver Flora Medal.)

Messrs. J. Hill & Son, Barrowfield Nurseries, Lower Edmonton, showed thirty-five species and varieties of tinted and variegated Ferns. A list of the most highly coloured Fern shown includes *Adiantum scutum roseum*, *A. cyclosorum*, *A. farleyense*, *A. Legrandii*, *A. tinctum*, *A. macrophyllum*, and *Doodia aspera multifida*, *Lastrea erythrosora*, *Atyrium goringianum pictum*, *Pteris argyrea*, *Osmunda palustris*, and others. (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Ltd., Exotic Nurseries, Chelsea, showed some large flowered *Hippeastrums* in new named varieties.

Messrs. Wm. Paul & Son, Waltham Cross, Herts., exhibited a tremendous wealth of hard-wooded plants, &c., in flower. Camellias, which Messrs. Wm. Paul & Son seem to have taken in hand, were very fully shown. Some fine plants bearing a load of well-formed, full and strong blooms were to be seen. Genistas, Pyrus Malus, Lahurnums, &c., were also shown. (Silver Gilt Banksian Medal).

Messrs. R. & G. Cuthbert, Southgate, Middlesex, were strong in Azaleas, Staphyleas, &c. Azalea yodogama, a Japanese species of a lavender-mauve colour, was very attractive, then among the mollis and sinensis hybrids the following were very fine:—George Cuthbert, a buff-red; Mrs. A. F. Endtz, a deep yellow with a touch of orange; Pres. Carnot, Anthony Koster, and others. Of the pure mollis varieties Ernest Bach, a pinky-cream coloured variety; Emile, Consul Cerezole, and Alphonse Levallee may be selected as the choicest of the collection. Sambucus racemosa plumosa aurea added further freshness in colouring. (Silver Flora Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, showed Erythronium Hendersonii, Fritillaria aurea, F. pudica, Anemone blanda synthenaica, Tulipa kaufmanniana, and Iris stylosa speciosa.

Messrs. Paul & Sons, The Old Nurseries, Cheshunt, showed standard Rose Paul's Carmine Pillar, and other China and H. Tea Roses in pots. Hippeastrums, Azaleas, Valeriana Phu aurea and Anemones were exhibited.

Mr. John Jackson & Co., 17, Philpot Lane, E.C., exhibited a revolving barrel for the cultivation of Strawberries, Tomatos, flowers, &c. The framework of the barrel is drilled with holes through which the plants grow, their roots being in the soil inside.

Miss Fanny W. Currey, The Mall House, Lismore, Ireland, was awarded a Silver Cup presented by Messrs. Barr & Sons, King Street, Covent Garden, for a collection of Narcissi. The exhibit comprised a varied selection of many of the finest varieties, though the quality of the blooms were not quite so fine. N. incomparabilis Autocrat, N. Victoria, N. Viscountess, N. William Goldring, N. Johnstoni, Queen of Spain, N. maximus, N. Horsefieldii and C. J. Backhouse. (Barr's Silver Cup.)

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, exhibited a collection of Narcissi and alpine plants. A fine pan of Doronicum austriacum was much admired, Aubrietia deltoidea, Anemones, Primulas, Morrisias, &c., were well shown. Among the Narcissi, Barrii conspicuus was very well seen, Orange Phoenix and albicans, &c., were also in force and good. Sanguinaria canadensis major, a white star like flowering alpine, made a fine show. (Silver Banksian Medal.)

Messrs. B. S. Williams & Son, Upper Holloway, London, showed a number of fine tree Carnations.

Two baskets of Potato Syon House Prolific were shown by J. B. Joel, Esq., Northaw Gardens, Potters Bar, by Mr. J. May, the gardener in charge. Mr. May says of this variety, which was raised by Mr. G. Wythes, that it is one of the best Maincrop varieties he knows of, being of excellent quality when cooked, a good keeper and not subject to disease. A Cultural Commendation was deservedly given for the two fine lots.

Mr. D. Hazelwood showed a fine strong Cucumber, good for this time of year.

Mr. Geo. Wythes, Syon House, Brentford, exhibited a boxful of Strawberries Royal Sovereign variety. Mr. Wythes has been supplying ripe Strawberries since March 14th. The samples were of deep colour, firm flesh, large and well formed and of an appetising flavour.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, had a splendid display of Apples. The collection amounted to sixty dishes and included the following among others:—Carlisle Castle, Gascoigne's Scarlet, Worcester Pearmain, King of Pippins, Castle Major, Winter Queenling, Brownlee's Russet, Sandringham, Bess Pool, Alexander, Bismarck, Wellington and Chelmsford Wonder. Silver Knightian Medal.)

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticult-

urists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. S. Cooke, Rosefield Gardens, Sevenoaks, for his article on "Dipladenias," p. 502.

Would competitors please kindly read the first paragraph above, giving the stipulations and conditions which regulate the competition? Some of the competitors exceed the number of words allowed by a hundred or more. It is quite permissible to count the number of words in an article, and to draw the pen through as many as will reduce the same to 250. The least important words should be erased.

QUESTIONS AND ANSWERS.

Best Method of Writing on Labels.—*J. T. C. T.*: In the short articles which appeared on this subject in our pages a few weeks ago it was impossible to enter into all the details concerning labels. There is a considerable diversity of opinion, as you say, with regard to the end of the label from which the writing should commence. As far as reading them is concerned, we think it is a matter of little importance, because the reader must turn his or her head one way or the other in order to see what is written upon the labels in pots. Our opinion is that the name should commence at the top, or as near it as possible. The reason for this is that labels decay, and often break off at the point where they enter the pot. In other cases the name becomes unreadable there owing to the moisture rotting the label or causing the paint to come off. Then, when you want to renew a label, part of the name may be gone; but you can generally make out what the name is if you can get hold of the beginning of the words. On the contrary, if you can only see the tail end of the name it is more difficult to remember what the rest should be. This, we think, is a good reason why the name should begin at the top of the label.

The Bluebell of Scotland.—*E. C. H. D.*: This is Campanula rotundifolia, the round-leaved Bellflower, otherwise well known as the Harebell. It is common everywhere on dry banks by the wayside and on heaths, moors, &c., where the soil is not too wet for it. The Bluebell of England is Scilla nutans, but though this is found in Scotland in some abundance it is generally on private estates to which the public has access only on special occasions.

Scandix Anthriscus.—*E. C. H. D.*: The proper name of this plant is Anthriscus vulgaris. It is also known as Chaerophyllum Anthriscus, Lam. It is named Scandix Anthriscus in *English Botany*, t. 818. The older botanists are not in agreement with the modern ones, hence the different names often given to the same plant.

Isolepis setacea. *Br.*—*E. C. H. D.*: Under this name and spelling, the plant in question is given in *The Student's Flora of the British Islands* in the edition of 1870. There are newer editions but we do not have any of them at hand. Other authorities give the name as Scirpus setaceus, L., the plant being the same. The reason for the two names is simply a difference of opinion between two botanists as to the value of certain botanical characters possessed by the plant. What edition of the book in question do you happen to have; and what is the date of it? We cannot imagine that the plant has been omitted. *The London Catalogue* adopts the name Scirpus setaceus, Linn.

Scarlet Eschscholtzia.—*A. G. B.*: The name of the variety you want is most likely Eschscholtzia californica Mandarin which is deep red or scarlet on the outer face and orange internally. Another one approaching it, but quite distinct is E. c. crocea, with orange flowers; a double form of this, namely, E. c. crocea flore pleno, differs only in having a much greater number of petals.

Names of Plants.—*A. Soydel*: 1, Potentilla species (material insufficient); 2, Herniaria hirsuta; 3, Thesium linophyllum; 4, Euphorbia Helioscopia; 5, Fagopyrum esculentum; 6, not recognised; 7 and 8, Bunias orientalis.—*A. C.*: 1, Forsythia suspensa; 2, Spiraea Thunbergii; 3, Spiraea japonica; 4, Akebia quinata.—*D. M.*: 1, Anemone coronaria var.; 2, Anemone blanda; 3, Chionodoxa Lucillae; 4, Corydalis solida; 5, Erica carnea.—*A. G. B.*: 1, Dendrobium primulinum; 2, Odontoglossum Hallii; 3, Odontoglossum crispum; 4, Dendrobium crepidatum; 5, Dendrobium Phalaenopsis; 6, Odontoglossum Pescatorei.—*E. C. H. D.*: A variety of Narcissus Tazetta, known in gardens as the Polyanthus Narcissus.—*A. P. R.*: 1, Stanhopea eburnea; 2, Onychium japonicum; 3, Amomum Cardamon; 4, Skimmia Fortunei.—*T. A. R.*: 1, Crocus vernalis var.; 2, Erythronium Dens-canis; 3, Stachys lanata; 4, Lamium maculatum; 5, Scilla sibirica.—*R. M.*: 1, Sisyrinchium grandiflorum; 2, Cyclamen Coum; 3, Arabis albidia; 4, Helleborus viridis; 5, Narcissus

Telamonius plenus; 6, Saxifraga oppositifolia alba.—*H. T.*: 1, Sanchezia nobilis; 2, Pernettya mucronata; 3, Boronia heterophylla; 4, Coronilla glauca; 5, Acacia Drummondii; 6, Acacia lineata.—*A. C.*: 1, Dendrobium crassinode; 2, Oncidium sarcodes; 3, Oncidium maculatum; 4, Dendrobium primulinum. *T. H. W.*: 1, Iheris sempervirens; 2, Saxifraga Sihthorpii; 3, Euphorbia Cyparissias; 4, Pulmonaria saccharata; 5, Doronicum caucasicum; 6, Sedum lydium (the cold weather has made it red but the colour will disappear when growth recommences).—*E. C. H. D.*: 1, Poterium Sanguisorba (not confined to the sea-side); 2, Psamma arenaria (purely a seaside plant, hinding the sands).—*Sigma*: Lonicera fragrantissima.—*E. C. H. D.*: 1, Luzula sylvatica; 2, Anemone fulgens flore pleno; 3, Narcissus Tazetta var.; 4, Narcissus incomparabilis Orange Phoenix.

Time to Sow Salsafy and Scorzonera.—*W. E.* For the earliest crop you could have made a sowing at the end of March; but as the roots are liable to become woody and stringy at an early period, you had better not sow the main crop till the end of April. A late sowing may be made at the end of May, if you think it necessary. The ground for these crops should have been thoroughly trenched in the autumn to a depth of 2 ft. or thereby so as to ensure clean, tapering, and not forked roots. No fresh manure should be used as that would make the roots fork. Ground that has been manured for some previous crop would answer admirably. If the soil was not trenched in autumn you should now lose no time in accomplishing it.

Tulip Bulbs Decaying instead of Growing.—*Jos. Batty*: The bulbs you sent us were attacked by the too well-known bacterial disease caused by Bacillus Hyacinthi. The bacillus attacks the scales of the bulb when decay sets in, and then fungoid growths follow until the bulbs are completely destroyed. Tulips are very often much eaten and bored into by snails, especially about the crown during the period the bulbs are ripening off. They crawl down the opening in the soil made by the swaying of the Tulip stems when in full growth. These attacks by snails favour the entrance of the bacillus as well as the spores of fungi. After bulbs once become attacked it is impossible to save them, so that the best thing you can do is to burn all bulbs that are seen to be decaying. Some varieties seem to be more liable to the disease than others; at least, that is our experience. We have healthy bulbs growing in the same beds where they have been for years. Several varieties thrive and increase every year, while some others completely die out with the disease. As the disease (Bacillus Hyacinthi) lies or lives in the ground for some years after the bulbs have been removed, it would be a good plan to grow something else in that part of the border for a few years. You might try Daffodils or any other bulbs except Tulips, Hyacinths, and other members of the Lily family. We do not think that the old hay dug into the border was the cause. The renewal of the soil should have been a remedy, but perhaps you did not go deep enough.

Celery and Asparagus having a bitter taste.—*W. W.*: It is difficult to account for your experience with respect to the vegetables you name. We do not think the soil would be responsible for it, provided it is fairly well drained, either naturally or artificially. The Celery might not have been very well blanched in the first instance, or it may have been kept too long before use after having been sent into the house. Much of the Celery that came into the market during last autumn, was stringy and by no means well blanched or tender. Its tough nature may have been due to a long, droughty summer, which prevented free and fairly rapid growth, whereby the characteristic crispness of good Celery is ensured. Blanching should have rectified this, as far as the core or central portion at least of the sticks was concerned. We believe brown paper collars are often used, by exhibitors at least, for the purpose of blanching both Celery and Leeks. They keep the stalks of the Celery and neck of the Leeks clean, and in the dark, so that they become well blanched, clean, and white. You do not say whether the Asparagus is from the open ground, or whether it has been forced. If from the open ground, the harshness may be due to the long spell of cold sunless weather, whereby growth has been retarded, making the sticks really old before they are long enough for use. Then, again, it might throw some light upon the subject to ascertain whether the cooking process adopted had any prejudicial effect upon the Asparagus. Of course, green Asparagus (that is unblanched) would be stronger in flavour than the blanched article; but many connoisseurs consider the high flavour an improvement upon the blanched and relatively tasteless article.

Communications Received.—*W. B. Sowerby*.—*E. Beckett*.—*T. E. Henwood*.—*C. Macquarie*.—*M. Temple*.—*David Airdrie*.—*W. K.*.—*C. B. G.*.—*H. M. F.*.—*E. R.*.—*A. M.*.—*G. B.*

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, APRIL 21st, 1900

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 24th.—R.H.S. Meeting in Drill Hall, James Street, Westminster. At 3 o'clock a lecture on "Cultivation of Narcissi." Same day and place, National Auricula and Primula Society's Show (Southern Section).

WEDNESDAY, April 25th.—National Auricula and Primula Society's First Annual Show (Midland Section), at Edgbaston Botanic Garden, Birmingham.

THURSDAY and FRIDAY, April 26th and 27th.—Midland Daffodil Society's Exhibition, Edgbaston Botanic Gardens, Birmingham.

NEW MOVES OF THE ROYAL HORTICULTURAL SOCIETY.—Following up the renewal of their Charter last year, the Council of the Royal Horticultural Society have prepared a draft of new Bye-laws, in accordance with the new Charter and to supersede the old ones which have long been regarded as obsolete or not in accordance with the times, and the necessity of making provision to advance with the present day requirements. These Bye-laws will be brought before the Fellows and Associates at the general meeting called for the 25th April, as announced in our last issue, p. 517. They constitute a rather lengthy document of nine pages of printed matter arranged in 15 chapters, and 95 paragraphs, the subject matter or text of the Bye-laws. They are, of course, built up on past experience, so that they may be regarded as amended from the old ones and brought up to modern requirements, by omissions and additions, rather than absolutely new rules for the governance of the Society. We daresay the Council will have little difficulty in getting the Bye-laws confirmed at the general meeting of the Fellows, especially when it is remembered that any one of them may be altered, if found necessary, at any future general meeting, provided due notice is given. The Council themselves can alter or amend the said Bye-laws, subject to confirmation by the Fellows at a general meeting. It would be impossible here to give an idea of all these Bye-laws or their purport; but we presume that all Fellows and Associates will be put in possession of a copy in due time to consider the matter before the appointed day for the meeting, otherwise there would be little time to read, much less digest the contents of this lengthy draft of Bye-laws.

The second object for calling the Fellows together on the 25th inst., is much more important and far-reaching, affecting as it does every member of the Society. At the Annual General Meeting in February last, a recommendation was put forward and unanimously adopted to celebrate the centenary of the Society by the removal of the gardens from Chiswick, and laying out fresh ones on a new site to be acquired. The Council now comes forward with the proposition to purchase a freehold site in the parish of Limpsfield, Surrey. It is to be hoped that the forthcoming meeting is merely a preliminary one intended to obtain something like a general consensus of the opinion of the Fellows on the proposed venture. It would be unwise, if not altogether risky, to adopt and carry such a

resolution off-hand, until the whole matter has been sifted to the bottom, and the expediency and practicability of the scheme or otherwise has been fairly ventilated to the satisfaction of the general body of those interested in the same. Limpsfield is some miles south of Croydon as the crow flies, and much in the same latitude as Reigate and Bletchingley, but much further to the east. It is to be hoped the soil and neighbourhood are well adapted for the purpose of an experimental garden and School of Horticulture, being well beyond the influences of the smoke of the great Metropolis, and south of the great range of the North Downs, common to Kent as well as Surrey and some of the western counties. The probabilities are that the site is really too far removed from London, and not sufficiently central for the great body of Fellows who are so widely scattered over the country. Those to the north of the Capital would have to journey thither, and then change to carriages which run on the main line only part of the way, and may necessitate changing at the junction with the branch line, for some of the trains certainly do not complete the whole journey between the Metropolis and the proposed site. The situation is, no doubt, admirable, but this requires inspection and ventilation by a body of experts acting on behalf of the Society. Means of ready access by rail would certainly be greatly in favour of the proposed new Chiswick, otherwise it might be an Eden isolated from a great body of those most interested in the same on account of the time required for performing the journey. One day would hardly be sufficient for those at a distance to make the journey, inspect the trials, and then return.

We premise also that the holding of meetings and conferences in the proposed new grounds, such as have hitherto been held at Chiswick, would be out of the question, on account of the difficulty of easy and rapid transit for intended exhibits. From that point of view it might be necessary to retain Chiswick for conferences and meetings, while the site at Limpsfield or such other place as might be determined upon, could be devoted purely to experimental and instructional gardening. All the trials of flowers and vegetables could, with propriety and success, be conducted there; and there seems no reason why plantations of young fruit trees should not be made, including all the more modern varieties and such new ones as may, from time to time, be raised. Even in the event of the entire removal from Chiswick we should not think that the removal and replanting of the old Apple, Pear, Peach, Plum, Cherry and other trees are contemplated in the proposed scheme. The removal, transport, and reconstruction of the old houses now at Chiswick, would be an item of expense so great as to give pause before entering upon a scheme involving the outlay of many thousands of pounds. That is the reason why we recommend all concerned not to decide the matter at a sitting; but to get the general feeling of the Fellows, and to take such steps in the intervals between succeeding meetings as will enable those concerned to decide upon the advisability of further procedure in the matter. In our opinion the best part of the announcement calling the general meeting is that which deals with authorising "the Council to take the necessary steps for acquiring the said site, and for *developing* new gardens thereon." The word we have italicised would indicate a certain sense of precaution even on the part of the Council, and that the new gardens are not intended to be completely furnished at once, but gradually developed or evolved according to their prospects of answering the purpose. If such a surmise

is the correct one, it need not involve the removal of anything from Chiswick at present, with the exception, it may be, of young fruit trees, and the plants intended for trial. Furthermore, if it is intended to construct glass-houses there, only the newer ones should be removed from Chiswick, and their number augmented by the construction of houses on entirely modern principles, and such as have been proved best adapted for the cultivation of different classes of plants. Many of the old houses at Chiswick would not, we fear, pay for the cost of removal and reconstruction, with the exception, perhaps, of the glass itself.

An important item in connection with the new venture is the intention on the part of the Council to obtain the sanction of the Fellows and Associates to enter into negotiations with and obtain the co-operation of such bodies as the Board of Agriculture and Horticulture, the University of London, and County Councils, with the view of establishing a School of Horticulture under the auspices of the Society or in conjunction with some other body. All this is worthy of due consideration in order that the Society may be in full touch with modern requirements.

St. George's Day is on Monday next, April 23rd. What variety of Rose shall you wear? Covent Garden salesmen have sent orders to all parts for special consignments of Roses, which will undoubtedly be sold in great numbers on that day.

The Royal Gardeners' Orphan Fund.—The annual dinner of this charity will take place at "The Monico," Piccadilly Circus, W., on Tuesday, May 8th, 1900. The dinner is announced at 6.30 for 7 p.m., when the chair will be taken by the Right Honourable Lord Battersea. There are some twenty-seven stewards on the list for that evening.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, April 24th, in the Drill Hall, James Street, Westminster, in connection with which the National Auricula and Primula Society will hold their annual show, 1-5 p.m. A lecture on "The Cultivation of the Narcissus" will be given by the Rev. S. Eugene Bourne, M.A., at 3 o'clock.

The Agricultural Holdings Bill.—The attention of the Utility Poultry Club has been drawn to this Bill which passed the second reading on the 9th instant, and will probably, after some amendment, eventually become law. The Bill provides that where a tenant has made on his holding any improvement mentioned in the schedule, he shall, subject to certain conditions, be entitled on quitting his holding to obtain from the landlord, as compensation, such sum as fairly represents the value of the improvement to an incoming tenant. Among the many improvements mentioned in the schedule as coming within the province of the Bill is "Consumption on the holding by cattle, sheep, pigs, or horses, of corn cake, and other feeding stuff." It will thus be seen that no provision whatever is made for improvements arising from the keeping of poultry on the holding, although the benefits accruing to land from poultry, especially when kept in large numbers and on modern principles, is very considerable. However, it seems probable that poultry would be inserted in the schedule of the Bill during the committee stage if a strong enough case was made out to justify its inclusion, and Mr. A. W. Soames, the member for Norfolk (South), has kindly consented to bring the matter before the House if sufficient evidence is forthcoming. The club is therefore anxious to have accurate information on the subject from farmers and small holders who can speak from practical experience of the need of such amendment. Forms are being prepared indicating the information required, and will be sent to any applicant enclosing a penny stamp. For the convenience of those unable to obtain the Bill I shall be pleased to include a copy if two additional stamps are sent.—B. W. Horne, Hon. Sec. & Treasurer, 49, Gloucester Gardens, Hyde Park London, W.

Early Cauliflowers.—In market gardens, skirting London, Cauliflowers for early planting are grown to a large size in 3-in. pots before they are planted out. A well rooted ball for planting is one of the chief advantages thus gained.

Insect Legislation.—From a transatlantic paper, we learn that the following eleven States have enacted laws compelling an entomologist's certificate to accompany all nursery stock shipped to them:—Georgia, New Jersey, Wisconsin, California, Oregon, Washington, Illinois, Iowa, Maryland, Colorado, and Kentucky.

Weather in London.—Four days out of the past seven have been hoisterous, showery, and not at all pleasant for Easter holiday-keepers. On the whole the weather is mild, and the overcoat which one has had to wear till now is being dispensed with. Horse-Chestnuts have half expanded their leaves in the more favoured parts.

Holiday Keepers at Kew.—Though the weather during the Easter recess was unsteady and almost continuously boisterous, thousands upon thousands of Londoners braved the uncertainties of the elements and bled themselves to various of the resorts in touch with the Metropolis. The Royal Gardens at Kew had its full share of partisans. The plant houses, notably the greenhouse, were packed with admiring visitants who thronged the paths in like manner to people issuing along the aisles of a church.

Woolton Chrysanthemum Society.—The first annual meeting of the above was held in the Mechanic's Institute on the 12th inst., Mr. G. Haigh presiding. The report speaks highly of the initial venture, and with a determination to endeavour to foster a keener love amongst the cottagers for the productions of their gardens. The statement of accounts is highly satisfactory, showing a balance in hand on the first year's working of £21 16s. Mr. J. G. Learoyd, Woolton, Liverpool, was re-elected hon. sec. A vote of thanks to the chairman terminated the business.

American School of Practical Horticulture.—In New York a committee has been formed for the purpose of acquiring land and of taking the necessary steps for the founding of a horticultural school. The object is to provide an opening in life for many of the poor of New York. A further purpose of the movement is to demonstrate the value of horticultural work in its practical application as a means of relieving much of the agricultural distress of to-day, and at the same time to train up a race of expert practitioners. The movement has already obtained a footing, and is supported by a large number of influential gentlemen.

Retailers as Educators.—The following gleanings from the spring trade edition of *The Florists' Exchange* seem so worthy of being followed that we offer them for the benefit of florists and sellers of flowers in our own land:—"With nearly every florists' business window decorations are now a most important part. Much time and money are used for this purpose. With the material on hand the entire season through there is no good reason why the retail florists' store should not always be decorated well enough to catch more than a passing glance. The fact that the druggist and even the boot-store make a more effective display seems to cast a reflection on the decorative ability of the retailer of flowers. The retailer should take the lead in matters floricultural, and be always on the look-out for interesting things and chances for displaying his goods whenever and wherever possible. In many cases the indirect returns are greater than the direct one. It always pays a man to have his business advertised by being talked about. Do not consider it enough to exhibit a few scaly Palms and dissipated-looking Primroses, or a few Roses and Carnations the worse for wear to draw custom. If your business is to sell fresh flowers, keep the artificial ones out of the way. It would be interesting to the public and profitable to yourself to exhibit at times, well-grown plants of Stephanotis, Clerodendron, Bougainvillea or Allamanda in 12-in. or 16-in. pots, as a change from the ordinary floral designs. Many people dislike to admit ignorance in floral matters. Would not the names and prices clearly marked help these customers, and be appreciated by them? The retailer has in many cases to awake from his lethargy before he becomes a public educator."

Camellias and Clivias are plants which are attracting a good deal of attention from the gardeners and nurserymen of England.

"Gouk's aits."—A correspondent to *The North British Agriculturist* asks what are "Gouk's aits." These are oats sown on or after the 1st of April—that is "Gouk's Day." "There will be a large acreage of 'Gouk's aits' this year."

The desire of a Doctor.—"I wish," said a doctor the other day, as he saw a group of school children troop out of a confectioner's where they had been spending their pennies, "that I could form a society among the little folks in which each member would take a pledge to spend all his pocket money for fruit instead of candy." An Apple or a Banana or an Orange can usually be bought for the price of a little candy, and the fruit is generally much better in everyway than the sweet.

Australian Coffee Cultivation.—The north-eastern and semi-tropical regions of New South Wales are remarkable for the possession of soil and climatic condition, which have made practicable the successful production of crops not popularly associated with Australian agriculture. At the present time there are 24,759 acres under Sugar Cane, last year's crop producing 289,206 tons. Silk cultivation is also carried on at a place called New Italy. Coffee is one of the crops which have been tried, the berries being equal to the best which are imported. Official report has stated that around the Richmond, Clarence, and Tweed river districts, the soil, climate and quality of existing Coffee plants are all that could be desired for the extending of the industry.

The Pastors of the Steppes.—Prof. Alfred C. Haddon, in his series of articles on "The Evolution of Simple Societies," in *Knowledge* for April, gives us an interesting glimpse of life among the Kalkas. "One can understand that in a country so clearly circumscribed its inhabitants can more easily retain their primitive character, foreign influences penetrate with difficulty, and the whole people will preserve their homogeneity and similarity of customs. The altitude determines the peculiar climate, which is inordinately cold, snow persisting on the ground during a greater part of the year. Thus we have the two characters of a steppe—(1) the production of grass; (2) the more or less complete exclusion of other vegetation. This is caused by a short season of humidity regularly intervening each year between a barren winter and a summer, the dryness of which stops the growth of all vegetation. . . . Le Play has pointed out that the snow persists on the plain, after it has disappeared on the slopes of the same region, owing to the heat of the sun in early spring melting the superficial snow, and the water filters down into the deep layers, when it freezes in the night and forms a more compact and resistant layer. At length the time arrives when the snow has vanished, the soil, thoroughly soaked with water, is suddenly exposed to an already elevated temperature. The grass grows immediately with an extraordinary rapidity on the incomparably fertile plain. . . . Winter extends for three-fourths of the year, there is practically neither spring nor autumn, tropical heat succeeds without transition to arctic cold. Huc states that in the country of the Kalkas the cold is so terrible that during the greater part of the winter the mercury of the thermometer freezes. . . . The second aspect of the pastoral life explains the agility and remarkable suppleness which, in all times, have made the nomads the finest horsemen in the world. The daily necessity of pursuing animals in flight has given muscular vigour and insensibility to fatigue which is astonishing. . . . There is no government external to the family. The patriarch combines the functions of the father, teacher, magistrate, priest and sovereign. The sole grouping above the family is the tribe; but it is more a union of several families of common origin than a fixed territorial grouping. The tribe is mobile like the family. The central government has not a more real existence. It is at most a kind of nominal and vague protectorate that is exercised, partly by Russia, and in part by China. . . . Peace reigns among the pastors. These men, so dreaded in the numerous raids they have made in other countries, are quiet, sociable and hospitable in the steppe, where they have no foreign competition to fear."

Narcissus Poetaz.—This Narcissus results as a hybrid between *N. tazetta* and *N. poeticus*. The bunch flower habit of the *Tazetta* is still retained, and the poeticus element comes in to give increased size to the individual blooms. The opinions about the merits of *N. poetaz* are varied. However, something finer may evolve from this as a start. Messrs. Barr & Sons showed specimens at a recent Drill Hall meeting.

PRIMULA SINENSIS ALBA PLENA.

WHERE a stock of this is at command no time should be lost in removing the lowermost leaves with a knife, and mounding up the plants with a mixture of finely sifted leaf-soil and plenty of sand, with a little chopped sphagnum, keeping the same fairly moist with a fine rose can. In about a month's time they should be ready to part up, preserving every new root that is possible, potting the offsets into 2 and 4-in. pots, according to size. Use as a compost, loam, leaf-soil, peat, and plenty of sand that has been passed through a $\frac{1}{4}$ -inch sieve, placing the plants in a partly exhausted bottom-heat, which should have just the desired bottom-heat to give them a start. Keep them near the glass, lightly dewing overhead according to the weather, and shading from the sun. Keep here until the roots are playing nicely down the side of the pots, giving a little air after the first fortnight. Give them their final shift into $4\frac{3}{4}$ -in., $5\frac{1}{2}$ -in., and $6\frac{1}{2}$ -in. pots respectively, using similar soil just advocated, but a trifle rougher, with the addition of a little charcoal. They can then be placed into a cold frame on a bed of ashes, and kept as near the glass as practicable, allowing a good space between each plant so as to avoid elongated foliage, affording plenty of ventilation when once established. Shade will be necessary from about 9 a.m. until 3.30 p.m. when bright, unless stood under a north wall or hedge; but I always think in these places plants are more likely to get drawn up than if placed in an open position where light and air can reach them from all quarters. As regards watering, great care is necessary ere the pots become fairly full of roots that it is not overdone. A light dewing overhead is beneficial in hot weather about mid-day, and let your shading material be as thin as practicable, to the welfare of the plants.—*J. Mayne, Bicton.*

GARDENERS' GRIEVANCES.

YOUR suggestion in your sympathetic editorial on gardeners' grievances in *THE GARDENING WORLD* of April 7th of giving cottages to heads of departments (and I might suggest to some of the rank and file, for all men are not born to lead), would greatly help to prevent the leakage that is going on from the ranks of the profession, and would help to retain many clever men that would be otherwise lost to it, for it is very often the clever and enterprising that leave the profession. One of the greatest causes of young gardeners leaving the profession after they have been a few years at it is not more the poorness of their pay than the very small chance they have of getting a head gardener's situation. All journeyman gardeners can never hope to get head gardeners' situations. Their chances are about four to one. With a few years' experience and a little reflection they come to see it, and decide to try some other occupation before they get too old to learn.

The poorness of the journeyman gardener's pay is also sufficient reason for them to try some other occupation, and the fact that a tax is put on the journeyman's knowledge, and a premium put on the labourer's ignorance in many places by giving the latter a higher wage than the former gives point to the journeyman's decision to try some other occupation where knowledge and skill are better rewarded. It would raise journeymen gardeners' pay, if being a journeyman was looked upon as a consummation in itself (they cannot all be masters) in much the same light as a journeyman joiner or mason is looked upon, and given a wage according to their knowledge and skill which would be far above that of an ordinary labourer if the same ratio was maintained as between journeymen and labourers in other occupations.

With this change and cottages given to any that wanted to settle down a great many experienced men would be retained in the profession. Horticulture would be the gainer and consequently the employer, for after all is said or written experience is the most

important part of a gardener's knowledge. I would fain hope that employers are dealing more generously with their gardeners than in past years; yet that attitude of mind which makes men generous is of slow growth. Ask a street musician which part of a city or town he finds the most generous, and he will tell you "the poorer parts." People do not accumulate money by giving it away, and the habit of holding on is not easily got rid of after they have got as much as would enable them to be generous.

I am afraid gardeners will never be able to form a union, and consequently will never be so well paid as workmen that have unions. When their pay is raised and their housing improved it will be when the trade of the country is brisk, and large numbers of them are attracted to other occupations as at present, then better pay and better conditions will be offered to retain their services. This occurred in the west of Scotland about 1877 or 1878, when wages were raised two to three shillings per week, and hothies were improved.—*W. K.*

TRANSATLANTIC "LINERS."

THERE is in a certain part of Florida a very peculiar variety of Rose, which has a romantic story attached to it. The petals curve slightly inward, and are the colour of bright arterial blood, while the odour is pungent and fascinating, yet slightly sickening and unpleasant in a marked degree. The dew that drops from the blossoms is of a pinkish hue. It is called the Grant Rose, and was first discovered on the spot where a whole family of that name was massacred by the Indians some sixty years ago. A few years afterwards this Rose was discovered, a vigorous bush, growing on the spot where a pool of blood had collected. It will not grow outside of a circumscribed area.

During a grand army encampment at Washington the flower beds at the Pension Office grounds presented a most striking and pleasing appearance. Coleus, red, brown and green, were employed; in the centre of each oval were designs of the badges of three organisations in oblong beds of foliage.

The centre-piece was a gigantic reproduction of the Grand Army of the Republic badge, flanked on either side by that of the Loyal Legion and of the Woman's Relief Corps.

Above the trio of badges was a semi-circle of letters, a yard tall, in dark red, forming the words, "Welcome, Grand Army of the Republic." The colour chosen stood out boldly from the green background. The badges of the Army Corps were also reproduced in Coleus, the whole forming a unique display of landscape gardening.

The Golden Gate Park, of San Francisco, received some years ago from Queen Kapiolani, dowager of the Sandwich Islands, the gift of a Coconut Palm, said to be the largest ever successfully transplanted. It took eleven men three hours to unload it, and move it into its quarters. It was fairly well supplied with young fruit, about 30 ft. high, including fronds, and weighed about five tons. Previous efforts in transplanting those have failed.

From Savannah comes a thrilling tale of gigantic frogs which attack unwary fishermen. One of the fraternity thought he saw a large sack filled with "summut" on a river bank, but on closer inspection found it to be one of these frogs, which seized him by the coat tail, which, along with the coat it belonged to, he had to relinquish in order to make his escape. He is still alive, and so is the frog.

Mummy Peas have turned up again, this time in California. A man there has a friend who purchased a mummy and found a packet of seeds in the shell around the body. Four of them were planted, and three grew, producing a plant resembling a Sweet Pea, but without leaves, and with a corrugated stem. It grows tall, and at the top is a pod just like a Pea pod, and the flowers are exactly alike. The utilitarian owner intends some day to feast on Pea soup from the land of the Pharaohs.

A Louisiana writer looks upon Ramie as the most valuable fibre in the world for manufacturing purposes if a machine to decorticate it can be invented. He expects then to paralyse the silk and flax industries at one blow, and cripple cotton also. It makes a lovely fabric, cool as linen, soft as silk, far more durable than either, with an iridescent lustre. There will shortly be a trial of Ramie decorticators at New Orleans.

Rotting tree stumps are easily removed by boring

a hole in the centre of the stump, 18 in deep, with an auger $1\frac{1}{4}$ in., putting in 20 oz. saltpetre, filling the hole with water, and plugging it tight. In the spring the plug is taken out and half a pint of crude petroleum is poured in and set on fire. The stump will burn and smoulder to the end of the roots, leaving nothing but ashes.—*C. Macquarie, Chicago.*

REGAL PELARGONIUMS.

THESE useful plants deserve well of every gardener, yet how often does one see badly grown specimens, leggy plants, and too little flower. Propagation by cuttings is the way mostly adopted, but they can be grown from the rootlets, the same as the Bouvardia. It is with cuttings I will deal with. Secure some good short-jointed cuttings as soon as they can be spared from the old plants; if in April so much the better, as it is a great advantage to get them as early as possible. Strike them in 48-size pots placed around the side in a good mixture of two parts fibrous loam, one part leaf soil, one part nice sharp silver sand, and a sprinkling of sand on the top of the pot. They can also be struck, and struck well in a bed of sand in a spare corner of the greenhouse. Place the pots on a shelf or stage, fully exposed to the sun, and when well rooted pot on into 60's in the same mixture as before. Put them in the greenhouse or cold frame, with full exposure to light and air, and when well established in these, pot them on into 48's, using the same mixture as before, with some slight addition of a good chemical manure or dry cow dung. Place them in the same position as before, always on a dry bottom. They will soon get established in the 48's, and will stand the winter in them in a temperature of 45° at night, rising to 50° during the day. Be careful they do not get too warm. About the middle of February, pot them on into 24's, using the same soil as for the 48's, with a few $\frac{3}{4}$ -in. bones on the top of the crocks, or a slight sprinkling of soot. Always keep well pinched into shape, and, when established, feed at least three times a week.—*H. A. C., Tettenhall.*

MIRABILIS JALAPA (MARVEL OF PERU).

THIS charming old fashioned plant was introduced from Peru about the year 1596, and its name, *Mirabilis*, means wonderful or marvellous. Few plants can contend with them in the summer for beautifying the sub-tropical border or dotting about in the shrubbery; they make very handsome beds when grouped together and they certainly deserve to be grown very much more extensively than they are at the present time. The flowers are produced in great profusion, forming a dense mass of bloom, the colours ranging from pure white to deep purple, also striped and heavily flaked yellow. The seed should be sown in spring in a hotbed and hardened off, planting out in June in well prepared soil. Place a stake to each plant and tie neatly with bast. The shoots should not be crowded together to give them too formal an appearance. After the flowering season the plants can be lifted and the tubers stored in sand or cinder ashes and placed away securely against frost. Abundance of water should be given in the summer and during spells of dry weather. It is generally supposed that the flowers only last one day, and as a rule this is so; but the cause of it is that the bees have a particular liking for them, and to extract the honey they pierce the tube of the flowers on the outside, which causes their premature decay.—*A. E. Thatcher, Aldenham, Elstree.*

PEAS.

OFTEN we read of the amount of work associated with raising of early Peas. The ancient system of sowing in November—risking the attack of mice and exposure to many other evils—is seldom in evidence in these days. They very seldom (under such conditions of culture) were earlier than those planted out from boxes, pots, &c., or even when seed was sown during the latter part of January or early in February. We notice that much unnecessary trouble (by many) is expended by the means adopted in raising early Peas under glass; and much mischief is also done by coddling the young plants when they are growing. The greatest success we have ever experienced has been by raising the plants in boxes without the aid of glass, simply by protection of mats fastened to a frame work and placed over them

when weather was severe. They were short in growth, strong and healthy, and planted out from the boxes, in tufts, about the last week in March, with some kindly soil placed carefully with the roots, which were put in rows by the use of the spade, cutting deep enough to allow the roots to fall down their full length and preventing the doubling of them up during the process of planting. Rough leaf-mould or turfy loam placed in the bottom of boxes induces a mass of roots to form, and the plants are inserted with no check. At present (April 7th) we have a quantity of Peas ready for planting. They are short and green like box edging, in good condition. They have had lights placed over them during severe weather; but air is on at all times when it can be admitted with safety. Sweet Peas are also ready for planting out. They are growing in rows across the boxes, and each sort can be removed from the soil without any check. When grown in this way they are in flower several weeks before those sown during February in the open ground. One of the most successful growers of early Peas was by a well known gardener near London, who sowed in wooden boxes and covered the seed with charcoal dust or old mushroom manure. He (rightly, I think) considered that by using pots or furves to sow the seed in was labour in vain.—*M. Temple, Carron, N.B.*

GYMNOGRAMMES.

THE very mention of that continent, separated from us by the "herring pond," has usually an intoxicating effect. One expects to hear of a dowered heiress, millionaire, large corners, anything, in fact, with the ring of gold. What then could be more appropriate than amongst its many golden productions, it should be the habitat of some of the Golden Ferns, whose lovely rich appearance impresses the mind with thoughts of the so-called "filthy lucre"? The true Golden Fern, *G. chrysophylla*, which wins golden opinions from all beholders, is not, however, a native of that favoured continent but of the West Indies. This is a plant subject to considerable variations. The true plant is a form with broad pinnules and spreading fronds, heavily coated with a rich, golden farinose powder. Another form, frequently supplied for that species, named *G. laucheana*—in honour of Lauche of Potsdam—is a strong grower, and more erect in habit; the segments are also narrower, but like the preceding, the fronds are heavily clothed with a rich yellow powder. *G. Martensi*, a taller growing species which hails from South America, is likewise supplied in place of *G. chrysophylla*. Where sufficient heat and moisture can be supplied to them their cultivation is comparatively easy. The difficulty experienced by most cultivators is that of bringing them through the winter. This difficulty is obviated to a great extent, if seedling plants are secured during the summer. These if pricked out round the sides of a pot and placed on a warm shelf, will pass the winter without much inconvenience to the grower. Potted up singly in March, in a sandy compost of equal parts of peat and fibrous loam, these will form excellent specimens superior to old plants kept over the winter.

GREENHOUSE RHODODENDRONS AT TRINITY COTTAGE, EDINBURGH.

SEVENTEEN years seem a long while to devote without intermittence to a hobby. But, perhaps, it is not true in this case to term Mr. MacMillan's work merely a hobby. Auld MacMillan o' Trinity, as he is in friendship called, has worked with greenhouse Rhododendrons for the number of years stated, evolving new varieties and combining the best attributes of one parent with those of another, to the greater perfection of their resulting offspring. At the present time Mr. MacMillan has a large, span-roofed, teak wood house, 50 ft. long by 24 ft. broad, completely filled with Rhododendron plants. For various reasons there are no stages in this house. The central portion contains the taller and standard plants, while around the narrowed side border, plants of bushier habit and dwarf stature find room. One and all are grown in pots, these standing upon an ash bottom. Relative to the training of his plants, Mr. MacMillan has a number of cut-backs, which are now forming nice bushy plants. Others are left to Nature, and, if Mr. MacMillan will excuse me, I would say Nature produces pleasingly

graceful and quite floriferous enough specimens. Those which are allowed to grow untended by the pruner develop a tree-like form, having along the length of the erect growing stem lateral branches, which subdivide and bear clusters of blooms. And again, we have others like standard Roses, possessing a clean stem of four or more feet before the first break occurs. The plants are of all heights, from seedlings of one inch to adults of 8 ft. or thereabouts.

There are altogether 17 different crosses represented in the house. Very great differences are evident among seedlings, even from the same seedpod. For instance, as was shown on the stand at the spring show in Edinburgh on the 4th and 5th inst., from *R. Countess of Haddington*, crossed with *R. fragrantissimum*, three distinct varieties resulted. All three had the form of the Countess (which was the mother), yet they clearly differed in colour. One was pure white, a second was primrose, while number three was most nearly the type of the mother, though still different. Other seedlings from the same cross are coming into bloom, so that there are still hopes of yet wider variation.

In all of the crosses a family likeness is traceable, yet sometimes a most decided break appears, which differs in form of leaf, colour of flower, and habit, from both parents. It is waiting for and experimenting with these which run off with the time. A seedling *Rhododendron*, tried in all the styles of growth which Mr. MacMillan has attempted, cannot be flowered either in one year, two years, or three. Some seedlings are four and five years old, and are only showing their flower-trusses this season. Talk about the patience of Job, recommend me to a *Rhododendron* hybridiser.

A very fine seedling named Mrs. Currie (Mr. MacMillan's employer) was figured in *THE GARDENING WORLD* in April of last year, p. 553. This is considered to be one of the finest of the crosses. *Countess of Haddington* was here again the seed-bearer, the pollen-bearer being a large unnamed white seedling. At the same time most of the crosses have been made between *R. veitchianum* and *R. Lady Fitzwilliam*. These two varieties are considered to possess, conjointly, the best qualities of a good greenhouse *Rhododendron*.

Fragrance is a notable quality in most of the seedlings. *R. veitchianum* largely influences or imparts this merit. As a rule, the prepotency of a parent is generally stamped upon the whole of a batch of resulting seedlings of any plant. A rather curious division was, however, in prominence among six seedling *Rhododendrons* from the same seed pod. The white seedling above referred to was the mother, *R. Nuttallii* being used as the male; and of the six seedlings four were very much like *Nuttallii* in habit and foliage, while two were duplicates of the mother. The two parents are strikingly distinct and so, in like manner, were the sections of the seedlings.

Almost all of the crossbred seedlings are pure white, but they vary greatly in form, habit, fragrance, in lasting quality, time of flowering, and in other points. If more can be done to improve, while yet preserving the size and purity of the blooms of the white-flowering varieties, then we hope Mr. MacMillan will continue to work with them. Still, it would at the same time be a great step to secure a range of beautiful colours plus the same excellence of form, among the *Rhododendrons* already evolved.

Hybridisation has been tried between greenhouse and hardy *Rhododendrons*, yet with little or no success. The game is certainly well worth the candle even though a great many drawbacks and failures have to be reckoned upon and overcome. Mr. MacMillan promises to let me see more of his seedlings at a later date, when I may be able to give further remarks in reference to their individual differences and parentage.

It may here be noted that Mr. MacMillan received a Silver Medal as recognition for his exhibit at the recent Edinburgh spring show. But he is, or has been, famous in other phases of gardening, as the following list of awards won by him at various times goes to prove. He has the Medal of the Scottish Horticultural Association, the International Horticultural Exhibition, London, 1892; Gardening and Forestry Exhibition, 1893; and a Banksian of the R.H.S., London. Four Cultural Certificates and four Certificates for new varieties of plants are also in his possession. Most of the above honours were for *Chrysanthemums*.—*Harrison, D.*

BASKET FERNS.

ADIANTUM LUNULATUM.—We have in this Fern a subject of singular habit. Placed in small wire baskets, when it has developed fully, the top, bottom, and sides are all draped in fronds. These are borne on short stalks, and spring from creeping, rhizoid-like, wiry stems, which ramify in all directions, looping, binding, and arching up, as the case may be. Some of the "elbows" of these creeping, wiry stems by contact with the soil send out roots from below and fronds above. When very much confined and starved the pinnae are much smaller than when vigorous young plants have plenty of nourishment. It is a stove species.

ADIANTUM CAPILLUS-VENERIS IMBRICATUM.—Here again we have a dwarf leaved basket Fern. It has all the dwarfness of *A. Capillus-Veneris*, and heavily fringed, incised, and imbricated pinnae, resembling those of *A. tenerum farleyense*. Fresh young plants are beautifully green in colour, and as the fronds mount up one above the other like a fountain of liquid green, the value of this little subject may be imagined. A light position in a warm or cool house suits it.

POLYPODIUM LONGIFOLIUM.—In this Polypodium we have rather a different style of basket Fern. It is of undoubted merit all the same, possessing fronds 1 ft. to 2 ft. long and 2 in. or 3 in. broad. The fronds are entire, curled inwards, and gradually narrow downward toward the base to form a stalk. The rhizomes are short, creeping, and woody. When suspended from an altitude, and after full development, that Fern is handsome in its way.

ADIANTUM CUNEATUM.—So large is the demand for the fronds of this universally grown Fern that though very generally seen as a pot plant it may be of interest to point to its more extended culture in baskets. Many a back corner of warm stoves could be made useful and prettier at the same time by suspended basket Ferns of this description in such places. As often as not the inconvenience is not at all excusable, and when the stages are crowded it behoves one to grow plants where we can. Care should be taken in the first instance not to be rash in watering until the baskets are well filled.

DAVALLIA BULLATA VAR. NAGATA.—This is the variety which the Japanese gardeners cultivate and export as the well known "Fern-balls" in such large quantities each season. In general appearance the variety resembles the specific form, and is remarkably like *D. i. griffithiana*, having long, gray creeping rhizomes. The fronds are serviceable for cutting purposes.

GRAFTING OF FRUIT TREES.

GRAFTING at one time was almost exclusively the art of nurserymen, men who raised trees by the thousand for sale. But this no longer is a trade "patent," the active private gardener with his eyes open, and who follows the signs of the times perceives it to his advantage to prune back many a good old orchard tree and to place a young head (of a new variety probably) upon the old shoulders. By grafting, old and hitherto useless trees have been made good bearers by the judicious selection and affixing of a newer or probably tried variety, the old tree being merely pruned back and used as a stock. As soon as growth begins to be apparent, and sap has started to rise and descend, grafting should be commenced. Apple and Pear trees are mostly grafted, while Cherry and Plum are more generally budded. Some varieties of Pears are peculiar in this that one graft or working is not enough; they refuse to grow satisfactorily unless a previous graft has been made between the stock and a scion, they themselves, that is, these "peculiar" varieties such as Beurré Bachelier, &c., being then grafted on to the first scion once it has taken hold of the primary stock. There are thus two grafts, the top graft, the intermediate scion and the fundamental stock. What calls up such complexity is a matter of great interest, but puzzling to the ordinary practical man.

Of the various styles of grafting each practitioner is more beholden to one form than to another. Common whelp-grafting for all general purposes is liberally practised. As it is a simple means, and one of the surest, we may expect it to continue in favour for as long yet as it has done previously. Saddle-grafting is popular. It is a splendid method to adopt with young maidens where stock and scion are of an equal diameter. The union between

clean-cut and carefully fitted surfaces, fuses speedily and strongly by a saddle graft when the plants are in good condition.

To insert vigorous young scions upon cut-back branches, one has to adopt the cleft graft. There are objections to this form, especially if the stock is firm and well developed, and a chisel has to be requisitioned. But this method, the cleft graft, need not be adopted unless for special reasons. We do a lot of rind-grafting, that is, grafting the young shoots, having a long tapering cut close to the shaved-off bark. This is rind or crown-grafting. There are, of course, other means of grafting for various purposes, as side grafting of branches to supply young wood to otherwise bare trees, and inarching whereby stems growing healthily are placed in juxtaposition along their cut edges and firmly bound together.

GRAFTING CLAY.—The question of grafting clay has to be considered. Before any grafting is done at all, the materials of every description, knives, hones, saws, chisels, ligatures, and the above-noted clay or grafting wax. A home-made clay is composed of two parts clay, one of cow dung and some chopped hay. These ingredients should be well mixed together, and should be pliable for use. The use of the clay is for the exclusion of air. A spindle-shaped dressing should be moulded around the broad ligatures which fasten the graft at the working. In about three weeks the clay may be removed. —*J. Harris.*

THE FLOWER GARDEN.

MENDING and top-dressing garden paths is one of the duties with which many of us are busy. Mowing, too, occupies our time. Surface hoeing, when time can be spared for it, greatly improves the appearance of beds and borders, helping the plants at the same time. The summer bedding plants must be propagated with rapidity, that is, such dwarf and quick-growing plants as *Lobelia*, *Alyssum maritimum variegatum*, *Alternantheras*, and *Harrison's Musk*, *Pelargoniums*, *Begonias*, *Violas*, *Calceolarias*, *Fuchsias*, and other taller plants may from this time become more and more hardened previous to planting them out at the end of next month.

The following few notes refer to handsome border plants, some of which may even yet be planted to bloom this year:—

EREMURUS ELWESI.—Here we have a giant for the border. It succeeds in the North of England and in sheltered spots in Scotland. A good flower-spike will sometimes attain a height of 8 ft. Good loam and porous subsoil, not a dry one, however, produces the strongest plants. The crowns should not be too deeply planted. Planting may be done immediately. The crowns start into growth about the second week in March, and nice spikes can be had by the end of May. Some attention is required to secure these earlier spikes. As water is apt to collect in the axils of the broad basal leaves, and so hinder the upgrowth of the flower, a cup, a glass cup supported by stakes, should be fitted over the apex, to be raised as the flower-spike develops. In winter the crowns should be protected by a top-dressing of leaf mould. Most hardy-plant dealers can supply it.

SISYRINCHIUMS.—These *Ixia*-like, hardy flowering plants, especially the early and popular variety, *S. grandiflorum*, do well in a moist, humic soil at the base of a sheltered rockery. They can also be grown in pots for spring conservatory use. The flowers of *S. grandiflorum* are of a pale purple colour; the leaves are green, narrow, and erect.

HYDRANGEA PANICULATA.—In pleasantly-situated areas, given a good soil and careful treatment in the planting, this fine *Hydrangea* can be flowered in handsome style. A winter protection around the base of the plants should always be given, but unless the ground is sheltered, and the bed or border a warm one, the chances of flowering this plant in the open much to the north of London are not very certain. The old stems should be cut hard back just before growth starts in spring.

SOME COMBINATIONS OF PLANTS FOR SUMMER BEDDING.—To be prepared and ready insures half the success of an enterprise or action. Gardeners who have large spaces to fill with plants for summer display are often taxed to provide anything effective or fresh. It is an easy matter to invent a novelty in

gardening bedding design, but not at all so simple to provide, often on limited means, the necessary amount and variety of stock to carry out any elaborate scheme. At the same time, beds can be produced, whose beauty, gracefulness, and apparent novelty impresses one, by the simple use of greenhouse plants which are none too handsome for a further indoor display. Thus, tall, old *Pelargoniums* and *Fuchsias*, if taken in hand in good time, will furnish very suitable plants for a large bed. *Bougainvilleas* are at times specially grown and flowered for the flower garden. *Manettia bicolor* also comes in useful. *Plumbago capensis* is unsurpassable when it flowers well. Many cultivators can scarcely get the Coral-tree (*Erythrina crista-galli*) to succeed, even with careful pot culture. Others, again, who have a suitable border, or made-bed, can secure fine displays out of doors. Scented *Pelargoniums*, as *P. tomentosum*, *P. radula major*, *P. quercifolium*, and others which grow dense and large, are very serviceable for large beds. The *Eucalyptus Globulus* is a first-rate plant for tall central beds. Plants can be grown for years and years, being used out of doors all summer, only to be removed when the evenings of mid-autumn begin to become sharp and chilly. Standard *Heliotropes*, *Iresines*, *Epilobiums*, &c., as well as a selection of Palms, can all be prepared and used as the skill of the gardener may direct.

J. H. D.

The Orchid Growers' Calendar.

CATTLEYA MENDELII.—Our plants I note are fast pushing up their flower spikes, and also putting forth new roots from the newly made up pseudo-bulbs. We shall in consequence place some nice fibrous lumps of peat so that these new roots may take hold of it, this will help them greatly during the flowering period and afterwards, too, when the repotting has to be done; for whilst you may have to remove all the old material you still have a nice lot of clean white roots running through the new lumps of peat put for that purpose, which enables the shift to take place with scarcely any check whatever.

Laelia tenebrosa may be treated in like manner, for although the flowering season is later than the preceding *Cattleya*, the plants are rooting from the new growths all the same.

ONCIDIUM TIGRINUM.—After the long season of rest the plants have been subjected to, they have commenced to grow again. They may not appear to want repotting but we find it much the best to turn them out of their pots annually. You can remove the decayed moss and any sour peat, also woodlice, which are sure to be in evidence. Then fill in with some fresh material, dressing it rather firm about them. The size of the roots is a good index to the solidity or otherwise of the compost. We grow ours at the warm end of the cool house always, which seems to suit them admirably.

DISA GRANDIFLORA.—The chief cause of failure with this beautiful Cape Orchid, is growing it in too much heat. Grown as cool as possible without really letting frost get at them, they do excellently. They should be potted in peat as used for *Azaleas*, with some live sphagnum moss, bits of sandstone and coarse sand well mixed together. The potting should be done soon after they go out of flower. Afford good drainage as they delight in copious supplies of water during the growing season. During the winter months when they are resting there is no better place than the north end of the house devoted to *Heaths*, *Azaleas*, &c. Here they should be stood on an ash bottom in company with your *Cinerarias* if you like. In the spring time when they show signs of activity remove them to a cool brick pit facing south. Stand them on inverted pots so as to be fairly near the glass, to be lowered as the spikes advance, keep the walls and all available space damped down twice a day. Afford air by tilting the lights at the back, and shade rather heavily from strong sunshine. There is a little red thrip that infests them, if grown warm, which must be kept under by the use of the vaporiser, if it should appear. But if grown cool as indicated these will be very little trouble, I feel sure; and the grower will be amply rewarded for the trouble bestowed on this now neglected Orchid.—*S. C.*

HINTS FOR AMATEURS.

Crown Imperials.—The true Crown Imperial is that tall herbaceous "Lily," botanically named *Fritillaria imperialis*. There are numerous dwarf and medium-sized *Fritillarias* some of which are very beautiful. *F. aurea* is one of the smallest and one of the prettiest. Crown Imperials are favourites with the cottager and with the lords. What history and associations are attached to them we need not trouble to detail here. It is briefly a notice of their cosmopolitan phases of position and treatment, in all of which they seem to succeed, that the present lines are written. One sees them in shady borders growing tall and strong; in sun-warmed stretches they also are in their element, and wherever the soil is rich enough and in good heart, there may Crown Imperials be planted, and the incumbent anxiety which so often attends the selection and placing-out of fine plants by amateurs in their gardens is seldom felt for the success of these. A deep, rich staple brings out their fullest proportions. They bloom in spring; their flowers lasting for fully a month, given favourable weather.

The flowers are very interesting besides being handsome and attractive. If their drooping chalice is lifted up, a bead of pellucid moisture will be found glistening at the base of each petal. When the flowers are fading or just past their full flush of maturity these drops disappear, but at the bases of the petals are found white spots or blotches known among country folks as "toad's tears." Owing to the pungency of odour imparted by the Crown Imperials they are not usable in dwelling-rooms. Clumps of half or a whole dozen, should be planted together. In beds by themselves at the edge of lawns or shrubberies they are highly desirable.

Chionodoxa Luciliae sardensis.—The Glory of the Snow has found its way to all gardens, and is quite as much a glory to the rich brown earth as it was upon that white alpine mountain when first seen by the discoverer. The specific form, *C. Luciliae* has a laxer habit of growth, and has a white centre giving it a starry caste. The variety *sardensis* is entirely blue, grows closer, and is altogether more effective for massing purposes. The blue is deep and clear, yet differs from that of *Scilla sibirica*, which gives us another spring gem, in being of a brighter dazzle.

Sweet Peas in Pots.—To have Sweet Peas in bloom by the 1st of March savours of the phenomenal. Yet Sweet Peas can be had at so early a date. A month later is still very smart work, and those few growers who may try to grow Sweet Peas for commerce can get a long price for a few bunches. But apart from their value as a selling commodity, while we are deluged with blazes of Azaleas, Camellias and types of the Heath family few of which can be used as cut flowers, there is a lack of something sweet and fragrant which is of easy growth and altogether useful. Roses in pots are superb, but then to do them well and to grow them in sufficient quantity demands more from the amateur than we know the amateur to be able to give. Zonal Pelargoniums are ever popular favourites, still they have been blooming all the winter and with the Primulas have been used for ornamentation times and again during the winter. It is now too late to sow in pots. Those who made their sowing when previously advised in these columns will now have plants which will be in need of staking. Train them to pillars or to rafters; they will do well in such positions. Feeding should be resorted to when the first display of blooms has been got. An autumn sowing yields the earliest return of blooms in spring.

Daffodils and other Bulbs in the Grass.—Nothing more truly represents typical English gardening than those dells, knolls and meadows which are covered with a selection of flowering bulbous plants. First come the Crocuses and Snowdrops and they bloom at a time when the grass is not long enough to hide, or overwhelm them. Then the *Chionodoxas* and *Scillas* keep time with the earliest Primroses and Cyclamen. The Narcissi or Daffodils begin to come into bloom close upon the first glow of the above named, and from the time the fore-runners appear until the last of them withers and disappears some of our well ordered gardens are like

little regions of fairy blessedness. It is really a charming sight to see a rising knoll, no less than a far stretching dip of riverside margin, crowded with Daffodils nodding their heads in "sprightly dance" and truly appearing "a jocund company."

Bulbs now-a-days can be bought for a song, plenty of them being perfect, for naturalising in such a way as I have just been noting.

The Star Cinerarias.—Though to me these appear most welcome and very serviceable greenhouse plants, it is remarkable how very few gardeners even know at all about the race. They are slowly making headway and in a year or two we shall expect to see a batch of them in all gardens. They can be used for a variety of purposes. One of the chief merits in the eyes of many is that the flower heads can be cut and used in vases. We can hardly do this with the dwarf greenhouse strains of *Cinerarias*. *Cineraria stellata* (or Star) was sent out a few years ago by Messrs. Sutton and Sons. They are in the pink of perfection at this time of the year. It is better to stage them on the ground floor because of their great height. This indeed may be an objection with some cultivators. Still, we hope all will give them a trial!

Sowing Annuals.—Most of the hardy annuals can now be safely deposited in the ground. Those which may have been held over till now embrace *Bartonia*s, *Calendula*, *Calliopsis*, *Gaillardias*, *Abronia*, *Alonsoa*, *Clarkias*, and things of this kind.

Carnations.—Those who wish to raise Carnations from seeds may do so by a sowing at this time. Additional sowings should be made as required right on throughout the summer. Real good soil must alone be employed. It should be sweet, porous and rich, but above all it should be free from wireworms. The soil may be warmed to a high temperature, or boiling water may be passed over it. Wireworms are difficult to exterminate. Hard rolling sometimes has the desired effect. A compost for Carnations should consist of three parts of good fibrous loam, one part of cow dung, and one of leaf mould, with some charcoal and sharp sand. Good drainage is another essential. Prick off the seedlings whenever they are fit to handle, and place the pots in a cool shaded pit having a temperature of about 55°.

Cyclamen.—Plants which have been flowered this last winter for the first time and which are to be grown on to maturity for another season, should, from now, be gradually rested. I do not believe in very severe drying off. The finest plants are got by simply gradually diminishing the water supply until the plant is almost in a dormant state. It must never be entirely inactive all the same, for if so the same size and vigour of plant never can be attained. Rest them only for a period of from four to six weeks, after which gently coax them to increased growth. Any flowers which appear should be nipped out until well on in the autumn.

Young plants for next winter's show are mostly now in 3-in. pots. Keep them clean, be careful in the watering, ventilate cautiously to prevent checks to growth or the generating of a blight, and on any bright occasions slightly shade the young plants.

Dahlias.—Young plants in thumb pots must be shaded from strong sunshine. We have not had much of this so far but still vigilance ought to be exercised. A warm, growing, moist atmosphere should be maintained for the benefit of the Dahlias. Do not so cultivate that weak and spindly plants result. Firm, short-jointed plants are always preferred.

Pansies and Violas.—Violas which are supposed to be somewhat harder than Pansies are already being put out into their summer flowering quarters. In the southern counties, March is the month for planting out Violas; but in the northern counties of England and Scotland they may safely be put out in April. Pansies are not so vigorous in some cases, particularly the show varieties, so that they may be sheltered for some time yet in the frames.

Gladioli.—Having prepared good, rich beds or borders in a sunny position, planting of these very handsome Iridaceous garden decorators may now be undertaken. A depth of 4 in. beneath the surface is quite enough on any kind of soil. If the soil is very heavy a less depth will do well. Place some sand and charcoal around the base of the corm when planting. A distance of 15 in. or 18 in. apart in the rows may be allowed.

Miscellaneous Work.—Petunias which are grown on for autumn flowering in pots must now be

shifted into 4-in. size. They do not like to be root-bound. Pinch and stake them as they develop. A nice frame carefully ventilated and shaded may be accorded to them. Ten-week Stocks should be sown in boxes. All bedding stuff should be inured to as much of the weather as it is safe to expose them to.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Dwarf-coloured shrub.—*M. Todd*: For a corner strip of land we would recommend the dwarf purple-leaved Mahonia, named *Berberis Aquifolium purpureum*. This plant succeeds often in exposed positions. It likes a good stiff soil. For cutting to supply decorators with material, some growers are able to obtain a good return for shoots of this plant. As a close growing covert plant, it is also one of the best.

Callas not flowering.—*W. Miller*: Sometimes these go profusely to leaves and stems, but patience is needed, as good blooms may yet be thrown up. Starving will not produce flowers, and high feeding is not often necessary. If the plants are too thick in the pots or tubs shake them out when growth has finished, repotting only the strongest crowns.

Greenhouse Rhododendrons.—*W. McM.*: You may train your plants into almost any form you fancy if you but take time and care. We think that naturally grown seedlings are the most graceful style of Rhododendrons there is. When you get hold of such as *R. veitchianum*, *R. Lady Fitzwilliam*, and those of the large pure white bell-flowered type, few things are handsomer for spring decorations. Certainly you should try to cross the hardy varieties with those of the greenhouse section. We have heard that a cross cannot be effected. Such, however, should not be impossible.

Wall Plants.—*Rusticus*:—The finer kinds of wire netting may be loosely "bagged" against the wall to be stuffed with good loam and leaf mould. The plants can be planted on the perpendicular surface of this wall garden. Such plants as *Saxifraga longifolia*, *Ramondia pyrenaica*, *Sedum tabulaeforme*, *Echeveria secunda glauca*, and all flat-growing, leaf-spreading plants which often do better growing from a perpendicular surface than they do on the level soil, may be used. *Aubrietias*, *Arabis*, *Alyssum saxatile*, *Phlox subulata*, *Primulas*, *Ericas*, *Veronica Hecctori*, *Saxifragas*, in some variety, *Funkias*, *Hepaticas*, *Iberis*, *Forget-me-nots*, *Violas*, and other things we have known to succeed growing from a perpendicular surface.

Ferns for a Fern-case.—*L. F.*: Good drainage is the most important item to successful culture with Ferns in small cases. They are planted out in a soil which has every chance to become sour and nasty, unless the water which one applies is able to freely pass away. The compost itself should be a good fibrous loam, having a quantity of leaf mould and sand in it. Only dwarf and comparatively hardy Ferns should be chosen. The following are good types:—*Pteris cretica*, *P. argyrea*, *P. serrulata*, and *P. s. cristata*, *Adiantum Capillus-Veneris*, and its variety *imbricatum*, *Polypodium vulgare omnilacerum*, *Trichomanes radicans*, *Athyrium Filix-foemina crispum*, *Asplenium fontanum*, *Scolopendrium Baxterli*, and *Polystichum angulare*.

Tomatos Weakly and Spotted.—*H. Nelson*: Weakly plants generally result from an over-crowding in the young stages, too high a temperature plus an over-abundance of nourishment or moisture. Disease or "blights" naturally follow upon and attacks a delicate constitution. Failing the actual inspection of your plants we can only advise you to maintain a temperature not exceeding 55° by night or 62° by day. Keep the plants on the dry side till they harden up a bit. Only top dress or feed them when it is seen that they are failing in their vigour. If the leaf-spotting shows signs of spreading, let us have a portion for inspection.

Primula Sieboldii.—*W. D.*: No dwarf plants are more worthy of cultivation than are these pretty Primroses. The varieties are even handsomer and finer than the *P. obconica* strains. Their culture is simple, although to develop very fine plants some amount of extra attention is necessary. The seeds should be sown as soon as they are ripe on the surface soil in shallow pans. A medium temperature in which to germinate, and a cool house for after growth, is what they respond to. Care should be taken not to pot the seedlings too deeply; and from first to last, allow them good light and freedom. *P. Sieboldii* gives us some very distinct varieties.

Calla, &c.—*A. M.*: *Richardia africana* or Lily of the Nile has also the following synonyms: *Calla Arum*, *Richardia aethiopica*, and *Trumpet Lily*. The first name is correct. Lily of the Nile is the most popular appellation.

Propagating Osmanthus.—*J. G.*: Cuttings take a long time to emit roots even when struck in pots in close warm pits. A correspondent of experience says *Osmanthus* grafts successfully with young saplings of the common Ash, *Fraxinus excelsior*.

Dressing for Clematis.—*J. Williams*: Incorporate

CULTURE OF DENDROBIUMS AT LARBERT HOUSE.

Dendrobium nobile and *Dendrobium wardianum* are, by reason of their free flowering qualities, combined with the ease in which they can be grown to perfection, the two most popular species of Orchids in cultivation. Where an incessant demand for cut flowers and decorative subjects is in request they stand unrivalled, and deservedly so, as there is no class of plants that I am acquainted with that will repay the cultivator better for any extra trouble entailed in their cultivation. Of these two species alone we grow nearly 400 plants for decorating purposes, and perhaps a few words on our mode of cultivation might be of some use, at least, to those amateurs who are about to start, or have not been successful in their cultivation.

We grew the bulk of our plants in pots and pans, and the largest plants are grown in the ordinary square Orchid baskets. I am bound to say I fail to see but little difference in growth either way. The variety of *D. nobile* I would recommend is the type known as the Lang Tang type. There are a great variety of shades to be found in a lot of these newly imported. I do not favour extra large pieces when buying new stock. Plants that have from four to

shelves, others suspended, and on the stages in a temperature ranging from 70° to 85° during the growing season. The atmosphere should never be allowed to become arid and dry, or else red spider will rapidly appear and do an immense amount of mischief; indeed, it frequently attacks the young growing shoots of *D. wardianum*, growing in a saturated atmosphere. Whenever it makes its appearance it should be immediately sponged off, using clean water only. Plenty of water at the roots, and the paths and stages frequently damped, are the only essentials to their successful cultivation.

We frequently give our large established plants a watering with Kirk's Vine and Plant Manure, using about a teaspoonful to a gallon of water. I know this practice does not obtain in many places where these are grown; but the profuse way in which our plants bloom abundantly proves the wisdom of supplying manurial substances.

After the plants have finished their growth for the season they are taken to a much cooler place. Some growers place their plants in a vinery that is finishing off its crop. This I have never done, but, all the same, it is an excellent place, were it not for the risk of carrying in insects that would prove very troublesome. We generally place our plants in a greenhouse, gradually drying them off dust dry, but never



DENDROBIUMS AT LARBERT HOUSE.

some lime rubble with the soil. Use good loam with a quantity of sharp sand added. Plant very firmly. A firm soil suits Clematis. As a dressing to establish plants place on a goodly layer of old lime rubbish. A winter mulching with dung should always be given.

Good Keeping Apples Wanted.—*J. Friars*: We cannot do better than refer you to our report of the Drill Hall meeting of April 10th.

Forced Bulbs.—*Mrs. Whithorn*: Certainly, if due care is taken, as we have often advocated, forced bulbs and forced plants of many kinds can be matured and well developed afterwards to be planted out. The bulbs grown in glasses are not so nice to deal with. They can only be put out into the soil and left to establish themselves as best they may. The pot forced bulbs on the other hand can be shifted to cool quarters under glass, and be somewhat dried off before they need be ultimately planted. A warm border and well drained rich light soil should be given to them.

Galtonia candicans.—*W. S.*: The plant you refer to as *Hyacinthus candicans* is now known by the above name. Plant now. It is quite hardy.

six bulbs are quite large enough, and are most serviceable. They soon make handsome specimens.

The first thing to do on the arrival of the newly-imported plants is to go over them carefully and cut out any dead and decaying matter, and sponge with soap diluted in tepid water, in case any insects are lurking about. Then proceed to hang them up on the edge of the stages in the stove, heads down and syringe frequently every day until new growths spring from the base of the old bulbs. Roots and growth generally start simultaneously, and when they have grown about 4 in. in length we proceed to pot them up in pots according to the size of the plants, filling the pots two-thirds full of potsherds. Before using the potting material place a stake down the centre of the pots; the potsherds will keep the stake firmly in position. Tie the previous growths to this and proceed to pot; using a mixture of peat fibre, sphagnum moss and broken potsherds about the size of Peas. This is an excellent rooting medium and the young roots soon find their way to the edges and fix themselves. I do not believe in covering the whole of the surface of the pot with sphagnum. Placing the live sphagnum in patches and allowing it to grow and spread is the better way.

We grow our plants in the plant stove, some on

allowing the bulbs to shrivel, if possible. I find it a good plan at this stage to tie the growth of *D. wardianum* in an upright position. I think a longer spike of bloom can be had than when allowed to hang down. I prefer to grow the later species in baskets, suspended from the roof. This species is deciduous, and flowers on the previous year's growth.

Dend. nobile is partly evergreen, and flowers on the two-year old growth, although sometimes, if the plants are over dried, they will flower on the current year's growths. This is most injurious to their well-being, and should be carefully avoided.—*David Airdrie, The Gardens, Larbert House, Stirlingshire.*

[The accompanying photograph shows three plants of *Dendrobium nobile*, with a plant of *Lycaste Skinneri* in front, merely to fill a gap between the Dendrobiums. Mr. Airdrie has about three dozen pans and baskets of a similar size, and equally profusely flowered, besides many smaller pieces. They prove of much service at Larbert House, where flowers of various kinds are required. Mr. Airdrie is also a well known Chrysanthemum and Grape grower, having some well stocked vineries, the Vines bearing bunches of exhibition size that have made their presence felt at many a show.—Ed.]

ARISTOLOCHIA ELEGANS.

THOSE of us who have seen and have grown the above stove climber know how very interesting it is. Regarded as a decorative plant without the flowers, to me it does not appeal. True, well-grown plants, like anything else which is really well done, may be regarded from one point of view as beautiful. The leaves are reniform, or, perhaps, rather heart-shaped, with rounded corners, and of a nice though pale-green colour. They are produced thickly, much in the fashion of wall Ivy. They are not very large, being a few inches, either way. The stems are slender, and grow fast. The flowers of *Aristolochia* are commonly called the Dutchman's pipe, from their resemblance to such an article. The top part of the corolla widens out greatly and is richly ornamented with purple and white in a chequered sort of way, the centre being very dark. It contracts towards the throat to form a narrow tube, expanding a little lower into a bowl to which the flower stalk is attached. The "bowl" part is pale coloured. The attractive entrance is supposed, and very reasonably too, to act as a guide for visiting insects which crawl down through the narrow tube in quest of food in the "bowl." Inside the tube there are downward pointing hairs, which, of course, are more a help than a hindrance for the insect when getting in, but the insect, alas, discovers at an irrevocably late period that egress cannot be gained that way. The prisoner becomes alarmed, and in bustling about becomes dusted with pollen. As the flower fades, the hairs drop down, and the insect escapes only to repeat the operation in another flower, which it unconsciously fertilises with the pollen with which its body is covered. For the sake of the story, the interest, and the beauty, such plants are surely to be recommended.

The sprays of *A. elegans* are pretty subjects to use in decorations, especially where the flowers can be arranged in the same manner as that in which they grow. Seeds may be sown in small pots in spring-time, placing the pots in a warm, moist-propagating case. During the first season the object should be to secure strong and vigorous plants. Small shifts, moderate heat, and careful attention will all be items for the cultivator to consider. Insects hardly ever do any harm. After well ripened long shoots have been secured, it is necessary to cut back to within 2 ft. from the pots, which should be of the 8-inch size. Winter rest is another point that must have due attention. Some growers, indeed, take their plants to a cooler house, and re-stage them in a stove when they want them to break.—*H.D., Edinburgh.*

GRAFTING THE MONOCOTYLEDONS.

THE art of grafting as applied to dicotyledonous plants—Pear, Apple, Plum, Rose, &c.—is familiar to all gardeners, but as regards the Monocotyledons, the process of joining two individuals has been regarded as an impossibility. M. Lucien Daniel, a French experimenter, from investigations and practice has seemingly succeeded in securing a complete union between the two lips of a comparatively deep, longitudinal incision in the stem of the Lily, Iris, Canna, *Funkia cordata*, and in the pseudo-bulbs of *Laelias*, and even in the very young state of *Selaginella arborea*. The work is the outcome of long and laborious work, the fruit of which has but recently shown itself. The grafts were made at a very early period.

Cleft grafting was tried with some other Monocotyledons, and inarching was attempted with *Caladiums*, but all were eventually unsuccessful. The conclusion came to on this point was that the methods were unlikely to succeed from the fact of a too limited surface for union. In order therefore to increase the surface as much as possible he tried the splice or whip-grafting, cutting very obliquely through at a point near to the apex. The top of the severed *Vanilla* shoot (the subject tried) was again carefully replaced and ligatured. A *Phelodendron* was also tried. In both instances success attended the effort. The operation was performed during the month of May last, and the union of the grafts in question is now quite complete. The nodes are observed to have elongated, new leaves have been produced and aerial roots in one instance have been developed. M. Daniel now concludes that all depends on the nature of the plants, the length of surface for contact, and the mode of grafting prac-

tised with Monocotyledons, in proving the practicability of uniting a scion and stock.

ROCKWORK BUILDING.

WE have evidences on all sides of the widely diffused taste there is for rockwork among both owners of gardens and those who follow gardening as a profession; and I may add a great variety of taste and opinions respecting the same. Although rockwork is so frequently attempted, the really satisfactory examples met with are somewhat scarce, it being one of those things which are far more difficult to execute in an artistic and satisfactory manner than is generally supposed. There are almost numberless gardens where the attempts made in this direction end finally in nothing much beyond a confused heap of stones or brick burrs, with a few hardy Ferns and the most common of alpine plants struggling for existence.

In many small places anything approaching a fair resemblance to natural rock is, from the circumscribed space and the nature of the surroundings, well-nigh unattainable. At the same time, with a little practical experience and taste, an arrangement may be carried out which can be made not only ornamental but a very interesting adjunct to the smallest establishment, and at the same time afford their owners an opportunity for the successful cultivation of a large number of interesting and beautiful plants in, it may be, a somewhat circumscribed space, thus adding very considerably to the interest and delights of the garden. The initial cost of rockeries in many instances must necessarily be relatively high owing to the distances from which suitable material can be obtained; otherwise, where natural stone exists in the neighborhood, or brick fields are in close contiguity, it will be an easy matter to carry out designs of rockwork cheaply and well. Where, as in some neighbourhoods, there are but few gardens without some steep banks, which afford extra facilities for doing it, good imitations of natural rocks can be carried out far more readily and at less expense than where level surfaces have to be dealt with, because the raising of artificial mounds may, to a large extent, be dispensed with by taking advantage of the natural inequality of the ground.

Where space admits, large boulders should be made to project from the natural banks, accompanied by masses of fallen stone below them, and crevices separating the rocks, which should be bold and angular in outline, and abut from the side hills at various elevations, and the paths taken by a variety of twists and turns among them to the higher portions of the arrangement and down again by steps of ever varying dimensions. The summits should be planted with the view of securing an outline agreeable to the rest of the formation, so that, as far as possible, a natural effect may be produced. Where space is ample, intervals of a few feet or yards in accordance with its extent may well be introduced and be grassed over, with a few large boulders just projecting to preserve the appearance of continuity in the rocks. In these intervals, *Narcissus*, *Lilies*, and other large flowering bulbous plants may be suitably introduced, not forgetting a provision for the *Meadow Saffrons* in the hollows, where, in damp spots, they will flourish, and, when in flower, produce a most charming effect.

Where a sufficient supply of water can be secured and introduced at the higher levels of the work, cascades and rapids may be initiated and various shallow pools of dimensions, commensurate with the space at command, be formed for the cultivation of aquatics. The overflow from these will serve to supply those portions of the arrangement destined for the cultivation of bog plants, where, for instance, some of the mosses, *Sarracenias*, and *Iris*, especially the bearded Japanese, which will not flourish long unless planted under favourable circumstances. It will add most considerably to the interest attached to a garden of this kind if a shady glen can be contrived as an approach and exit; the effect will be more pleasing and natural. At the same time, for the cultivation of a very large proportion of rock plants, an open space free from the drip of overhanging trees is essential. On the other hand, if Ferns and other shade-loving plants are to be introduced, shady aspects must be provided. Where the opportunity affords a ravine should be made by cutting through a natural bank, the shady side of which will form a

suitable home for many of the Ferns; and the pathway through it should be constructed to give the appearance of walking over natural rock, even if gravel has to form the prevailing material.

By conducting water along the sides and among the rocky stones the effect will be more natural. All pathways connected with rockwork should be winding. The sinuosities thus created will give a most varied number of aspects. One thing of the utmost importance to many alpine plants is efficient drainage; for they will not thrive in soil with stagnant water. Therefore, when building up a home for them see that it is carried out so that this will be efficiently secured for the parts of the work destined for plants impatient of stagnant water. Obviously there is a large number of plants to which these remarks do not apply, and which are not at all fastidious in this respect.

A few words respecting the placing of stones and building up of large boulders may not be out of place, because the stability of the structure and well-being of the plants is largely dependent upon how this is done. Supposing, for example, we are putting a large flat stone into position, at the back of which it is contemplated to place material for planting in, it should be fixed firm in the solid earth inclining inwards, because if otherwise fixed the weight of soil behind it will sooner or later push it over. Then again, if it is sought to execute a bold overhanging piece of work, dig out a slanting trench in the solid ground and upon the outside surface place a large flat stone so that the centre of gravity is within the base on which it is to rest, at the same time protruding beyond its base sufficiently to allow the building upon it of other layers of stone to bring it to the desired height. Every succeeding stone may be made to project further forward provided that the same rule as to the centre of gravity is adhered to in every successive layer. By these means and by filling up the work with stones and soils as it progresses, a bold projecting rock can be built without any fear as to its stability. It may well be remarked that these overhanging crags ought not to be overdone, because they will form dry corners which the rain will seldom reach, thus rendering extra attention with the water pot necessary.

These remarks are equally applicable to both large and small rockeries, for upon their having a good foundation depends the stability of the structure, however extensive or diminutive it may be. As it frequently happens that builders of this work are restricted to brick burrs or similar material, a few words respecting the method of dealing with them may not be out of place, remarking at the same time that from a cultural point of view they are possibly of the least value, because of their hardness. Neither rain nor the roots of plants can penetrate much of this stuff. Natural stone absorbs more or less moisture according to its character. Some kinds appear to afford various plants nourishment; at all events they root well on them, and seem more at home than on any artificial productions which are serviceable in building up a home, but contain no storehouse from which the plants can serve themselves.

Hitherto I have been dealing with a slide bank on which to construct rockwork. I shall now turn to where a flat surface has to be dealt with; and if it is purposed to raise it much above the surrounding level more than ordinary care must be taken to secure its stability, because as is well known that however firm freshly moved earth is made by treading and ramming, it will sooner or later subside and cause rockwork erected upon it to tumble in all directions, so that what at the outset presented a very creditable appearance may ultimately become just a confused heap of stones. For this reason every part of the structure should have either a direct or indirect bearing upon the solid ground. This can easily be managed, either by rough arches or iron girders being introduced to form bearings as the work is carried up. In many instances it will be found best to fill up with earth and draining material as the work progresses, leaving sufficient space for the soil in which the plants are to be grown till after the completion of the structure.

I now propose to deal with brick burrs or similar material, and as strength is required to hold the mass of material together cement will be the best article to use. When the whole thing is complete, with its fissures, pockets and ledges, in or upon which the various plants are to find a home, daub it over with

cement mixed up with coarse red or gray sand. It may be coloured slightly with soot to make it darker if thought desirable. If left to the weather it will in time get more or less discoloured, so that it will ultimately assume a close resemblance to real stone. Rockwork carried out on the lines I have tried to indicate will have a far more satisfactory appearance than the disjointed productions so often called rock-work.

When this outer covering of cement is well set proceed to fill up the spaces for plant growing with suitable soil. Where Ferns, dwarf Rhododendrons, Heaths, Gaultherias, Vacciniums and other peat loving plants are to be introduced that material must be provided for them. There are numerous alpine plants which will do well in almost any ordinary garden soil, or better still in a mixture of leaf soil and decayed friable loam with a good dash of coarse sand in it. During dry weather watering must be attended to, and a sharp look out kept for snails and slugs. Plant the smaller subjects in close proximity to each other; and be ever on the watch against any plant being overrun by its more robust neighbours.—W.B.G.

PRUNUS DAVIDIANA.

THIS Peach is considered to be a variety of the common Peach (*P. Persica*), but it is much earlier and ought to be planted in sheltered shrubberies on that account. In selecting a position for it, wind swept areas should be avoided. At the same time a sunny position facing the south would encourage the early development of a display of blossom, when that is scarce in the open. There are pale rosy and white varieties of it, both quite distinct from the Almonds now flowering much behind time. As a pot plant in the conservatory it would come in early, practically without forcing, and without exposure to frost and wind. The accompanying figure shows two sprays of blossom.

THE TUBEROUS BEGONIA.

BEGONIAS, especially the double-flowered varieties, are yearly finding more favour among professional and amateur horticulturists. They are a most beautiful class of plants when properly treated, but if a few cultural points be overlooked, or due care be not taken, the plants which result are often poor enough through no fault of their own. To be really acceptable, they must be done well.

The propagation is by seeds, cuttings, or by division. Seeds are far to be preferred, but they are exceedingly small, and some care must needs be exercised in the sowing, so that they may not be sown too deeply. Pans of 3 in. in depth are the most serviceable, and the crocking of these must be thoroughly well done. The drainage hole should be covered with one large crock over which smaller ones should be placed. Then to prevent the drainage from becoming choked, place a layer of rough loam, fibre, or aught else over the top of the crocks. Light soil should be used to fill the pans with. Half an inch of space should be left at the top, the soil being made firm. Water the pans through a fine roset can, leaving them for an hour before sowing, after which operation only the lightest covering should be given to the seeds which may then be sown, and pieces of glass put over the pans to prevent evaporation. If a hot-bed or bottom-heat can be given to the pans then let them have it. If not, the warmest part of the propagating pit should be their position. Pieces of paper may require to be put over the glass to protect the young seedlings from the sun's rays. In a fortnight or three weeks the seedlings should appear, and as they grow gradually lift the glass little by little each day until it can be dispensed with altogether. It is now that the closest attention should be given. The plants do not up to this stage require much or any water; and when water is given, the leaves should not be unduly beaten down. Only the very finest rose-can should be used. Constant care as to shading is also to be seen to. In half an hour the sun's hot rays can spoil all previous efforts, and destroy all future hopes of having first-rate plants.

As soon as the seedlings are large enough to handle prick them off either widely apart into other pans, or directly into small pots. Two parts of loam, one of leaf-mould and one of sand, will answer in this respect. Place the newly pricked off plants

on the shelf of a somewhat cooler house, allowing them good light, and so treat them that they become gradually hardened, firm, and robust. When propagating Begonias from cuttings gardeners often take part of the tuber as a heel, along with the shoot. Increase by division is a very simple and sure method. When the old tubers become too large, which they do, shortly, it is a simple matter to split them into four or five parts, each section having an eye or two.

After having finished a summer's growth, as those from the spring sowing are supposed to have done, they should be dried off and rested in the pots or shaken out and stored in boxes of cocoanut fibre. In April they may be selected and re-potted, one important point being to get them started evenly. The first stages of growth should not be neglected on the

ing and lifting them again after the season's growth is finished. The surface of the beds will have to be kept stirred, as this is a great and helpful item in the treatment. In dry seasons the beds should be mulched with fibre or short manure. The soil has to be thoroughly well prepared for their reception, and it ought to be kept moist to allow them to start strongly.—D.

Experiments in the Growth of Sugar Beet.—At a recent meeting of the Sugar Beet Committee of the Central Chamber of Agriculture (Colonel Victor Milward, M.P., in the chair), it was decided, says the *Irish Farming World*, to make arrangements for a series of not less than twenty experiments in the



PRUNUS DAVIDIANA

score of nourishment, for starved young plants cannot be worked up satisfactorily afterwards. This, of course, does not mean that manures and high feeding are to be too freely applied. Good soil, however, ought to be used. A compost for this later potting should consist of one part each of leaf-mould and cow manure, two parts of turfy loam and a fair quantity of sand.

On no account should the Begonias be coddled. For good large blooms disbudding will have to be attended to. When the plants have formed good specimens and are showing flower nourish them by frequent applications of weak manure water. Begonias are becoming more and more used for summer bedding. Once a good stock has been raised the after trouble and care amounts to that of plant-

growth of sugar Beet in different parts of Great Britain and Ireland during the forthcoming season, each experimental plot to be at least one acre in extent. It is proposed that of the twenty experiments about twelve should be located in England, four in Scotland, and four in Ireland. As in certain cases previous experiments have demonstrated the value of sugar Beet for the feeding of stock, independently of the value of the root for the manufacture of sugar, this point will be specially kept in view in connection with the proposed experiments of the present year.

The Annual Revenue derived from the national roads of Saxony planted with fruit trees, rose from £1,800 in 1880, to £8,400 in 1892, furnishing a total sum of £68,000 for thirteen years.

PLANTS RECENTLY CERTIFICATED.

THE awards hereunder mentioned were made by the Royal Horticultural Society on the 10th inst.

Orchid Committee.

CATTLEYA INTERMEDIA FOWLER'S VAR.—The sepals and petals of this chaste and beautiful variety are of the most delicate blush-purple, the curved tube of the lip being similar in hue. The side lobes of the lip are creamy, and the terminal lobe of a rich crimson-purple. (First-class Certificate.) J. Gurney-Fowler, Esq. (gardener, Mr. Davis), Glebelands, South Woodford, Essex.

ODONTOGLOSSUM LUTEO PURPUREUM MOSSII.—The sepals of this variety are of a dark chocolate, with yellow tips. The petals are similar, but have some brown spots on a basal yellow blotch. The lip is obovate, much fringed and white, with a large cinnamon band in front of the crest and a few blotches round the sides of the same. The white lip makes this grand variety quite unique in the species. (Award of Merit.) De B. Crawshaw, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks.

EULOPHIA TRISTIS.—The small flowers of this plant are produced freely in panicles. The sepals are blackish brown externally, the petals paler, and the lip golden yellow. (Botanical Certificate.) A. H. Smee, Esq. (gardener, Mr. W. E. Humphreys) The Grange, Hackbridge, Surrey.

BATEMANNIA BURTH PITT'S VAR.—The great, fleshy sepals and petals are spread out horizontally, of a rich shining brown as if varnished in the upper half, passing into a yellow band below the middle, and then into white at the base. The petals have in addition a blackish-crimson blotch at the base. The broad triangular lip is brown in the upper half and white below, including the claw and crest. The claws of the latter are tipped with violet. (First-class Certificate.) H. T. Pitt, Esq. (gardener, Mr. Thurgood), Rosslyn, Stamford Hill.

CATTLEYA SCHRODERAE PITT'S VAR.—The sepals are palest lilac, the petals darker, and the lamina of the lip of a dark purple with lilac edges. There is a small orange blotch well down in the tube, the base of which is pale purple. The strongest feature of this variety is its strong and agreeable scent. It came out of an importation made by Mr. H. A. Tracy, Orchid Nurseries, Twickenham, but was shown by H. T. Pitt, Esq. (First-class Certificate).

POLYSTACHYA LAXIFLORA.—The stems of this species are about 6 in. to 9 in. high, and bear at the apex a short cluster of white flowers lying on their back. (Botanical Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

PHALAENOPSIS LADY ROTHSCHILD.—This has been derived from *P. intermedia brymeriana* × *P. sanderiana*. The oblong leaves are deep green. The flowers are white, shaded with soft purple along the middle of the sepals and petals. The terminal lobe is ovate-triangular and carmine-red, with short, incurved and hooked tendrils; the lateral lobes are purple on the inner face. (Award of Merit.) Messrs. Hugh Low and Co., Bush Hill Park, Enfield, Middlesex.

LAELIO-CATTLEYA ROSALIND SUPERBA.—This bigeneric hybrid was derived from *Cattleya Trianaei* (female) crossed with the pollen of *Laelia dominiana*. The sepals are of the palest lilac, but the ovate petals are several shades darker. The lip has a large, orbicular, crimson-purple lamina, and a large orange blotch in the throat, below which the tube is closely and finely striated with purple. The side lobes are purple on both sides. The lip is large and certainly very handsome. (Award of Merit.) Messrs. J. Veitch and Sons, Ltd., Chelsea.

CYPRIPEDIUM J. GURNEY-FOWLER.—The parents of this hybrid were *C. barbatum* Crossii × *C. Godefroyae*. The upper sepal is orbicular and rosy, the spatulate petals being similar, with a few dark spots on the lower half. The lip is considerably darker in colour. The leaves are tessellated with dark green on light greenish ground. (Award of Merit.) Messrs. J. Veitch and Sons, Ltd.

EPIDENDRUM CLARISSA.—This hybrid was derived from *E. Wallisii* × with *E. elegantulum* (male). The stems are 12 in. to 14 in. high. The sepals and petals are closely marbled or spotted with purple.

The lip is 4 lobed, and deep purple with white edges. The flowers are produced in a short terminal raceme. (Award of Merit.) Messrs. J. Veitch and Sons, Ltd.

Floral Committee.

AMARYLLIS TITAN.—The campanulate flowers of this variety are white, and heavily marked with red on either side of the midrib of the three upper segments, on a white ground which is very pure. (Award of Merit.) Messrs. J. Veitch and Sons, Ltd.

AMARYLLIS ZEPHYR.—Picotee-edge varieties are very scarce, and this is a very handsome one. The broad segments are bright scarlet overlying a white ground which shows itself here and there, with a broad, pure white margin. (Award of Merit.) Messrs. J. Veitch and Sons, Ltd.

RHODODENDRON H. ELLIOTT.—Here we have a hybrid greenhouse variety with large pure white flowers, and a cluster of yellow spots on the upper segments. The elliptic leathery leaves are about the size of those of *R. Edgeworthii*, which must have been one of the parents, but the lower surface is not rusty-woolly. The flowers have a strong spicy fragrance. (Award of Merit.) Messrs. H. and J. Elliot, Courtbushes Nurseries, Hurstpierpoint.

POLEMONIUM CONFERTUM MELLITUM.—The flowers of this remarkably distinct *Polemonium* are white, with a long, creamy tube, and are gathered together in a dense, more or less interrupted cyme. The narrow leaves are pinnate, each pinna having a solitary segment on the lower and basal edge. The variety grows at a lower altitude than the type, and is much more easily cultivated than that. It is an admirable and elegant plant for a choice collection on a rockery. (Award of Merit.) Messrs. G. Jackman & Son, Woking Nursery, Surrey.

RHODODENDRON SHILSONI.—The flowers of this hybrid are campanulate, deep crimson-red, and borne in a dense truss, surrounded by a tuft of oblong oval leaves of a dark green above, and paler beneath. (Award of Merit.) D. H. Shilson, Esq., Tremough, Penryn, Cornwall.

PYRUS MALUS AUGUSTIFOLIA FLORE PLENO.—The leaves of this handsome *Pyrus* are oblong, and doubly dentate-serrate, or sometimes slightly lobed. The flowers are of large size, double, rose in bud, and pink when expanded. They are produced in clusters, each bloom being on a long stalk. Asa Gray, the distinguished American botanist, considered it a variety of *P. coronaria*. Some horticulturists apply the name *P. Parkmani*, but we fail to find a record of that name. The tree is a native of North America. (Award of Merit.) Messrs. Wm. Paul & Sons, Waltham Cross, Herts.

AZALEA DUCHESS OF WELLINGTON.—Sprightly, attractive, and distinct are the terms we should apply to this hardy Ghent Azalea. The flowers are in large trusses, pink and marbled with brownish-red on the upper segments. (Award of Merit.) Messrs. R. & G. Cuthbert, Southgate Nurseries, Middlesex.

AZALEA MOLLIS × SINENSIS MRS. A. E. ENDIZ.—The flowers of this handsome variety are large, and of a beautiful orange-apricot, being much darker than those of the well-known Anthony Koster. (Award of Merit.) Messrs. R. & G. Cuthbert.

ROSE L'INNOCENCE.—Here we have a hybrid Tea, with pure white, conical flower buds, becoming looser when fully expanded. The blooms are moderate in size, and though pretty, are not very strongly scented. (Award of Merit.) Messrs. Paul & Sons, Cheshunt.

Narcissus Committee.

NARCISSUS ALMA.—The blooms of this Trumpet Daffodil are of large size, and of a beautiful, rich, canary yellow. The trumpet is wide, strongly revolute at the mouth, rather deeply lobed and crisped. It is a shade or two darker than the segments. The canary yellow colour of the variety is its most distinctive feature. (Award of Merit.) G. H. Engleheart, Appleshaw, Andover.

NARCISSUS ODORUS DOUBLE CAMPERNELLE JONQUIL.—In this we have a double form of *N. odoratus*, with large (for the species) double flowers, the crown being well-developed and conspicuous. Each scape bears one or two flowers. For cut flowers or ordinary garden decoration it is highly suitable. (Award of Merit.) Messrs. W. Mauger & Son, Bulb Growers, Guernsey.

Green arsenoid is said to be very much superior to Paris green as an insecticide.

THE IVY.

IN the genus *Hedera* we possess a decorative class of plants, mostly climbers, whose growth seems able to advance under various conditions. What is more suitable than the common old Ivy for the dry ground beneath trees, for edgings, or vases, pillars, arbours, dry banks, and dry walls? By a judicious selection of the various kinds of Ivy, one may have quite a contrast as regards form or colour. Another of its uses, most effectual, and for the purpose of which Ivies are unique in their merits, is that of covering rails surrounding a sharply sloping terrace.

Ivies pay for any extra care which may be given to them, and they are plants of a close, steady, and moderately fast growth. An increase can be made by means of cuttings taken for preference in autumn. They may be inserted in pots, for these can afterwards be shifted about or placed within shelter. For villas in the suburbs of cities the golden-leaved Ivies are more favoured than any others of the selections. Contrasted beside a medium-leaved dark green variety, the good effect is much enhanced. For the purpose of affording a varied selection, ample variety will be found in the following descriptive list.

H. HELIX ARBORESCENS.—This is the well-known "tree," shrubby, or upright Ivy, whose shoots are stout, much branched, and whose leaves are leathery, dark green, ovate-acuminate in form, and numerous borne on petioles a few inches long. Its strong feature is its capability of producing berries, the green, and afterwards black, umbels of fruit making it conspicuous and interesting. We find it growing upon the stems of trees, mounting very high at times. It also revels in the support and exposure of a wall top. It should only be used where less vigorous Ivies would be out of place. As a hushy plant for the shrubbery, given a central support, it becomes exceedingly handsome. For the purpose of making lawn beds it is also well employed. In these two last instances the yellow variegated variety might be more serviceable. It may be as well to state that this is simply the "tree" form of our native Ivy, *H. Helix*, so pretty upon the ground under trees in woodlands.

H. H. ALGERIENSIS.—The leaves of this variety vary considerably as do most others. A well-developed leaf may be described as ovate-acuminate, with an entire edge. It is a strong grower, being very serviceable for pillars and walls. The foliage is yellowish-green.

H. CINEREA.—This partakes of the style of *H. elegantissima*. The foliage is long and narrow, clean cut, and drooping; suitable for walls.

H. H. CANARIENSIS NOVA.—The foliage here is broadly heart-shaped, large, deep shining green, and even. It is a close growing variety, fine for carpeting or for training to pillars.

H. H. CANARIENSIS FOLIIS ARGENTEIS has clean cut, moderate sized leaves, some of which are bright yellow, others are creamy; suitable for a sunny wall.

H. H. CRENATA.—The foliage is small and deeply segmented, the lobes being rounded. The wood is long and somewhat straggling.

H. CORIACEA.—So far as I know, this variety has been straggling and, in many parts, bare. Owing to this fault it lacks suitability for walls, though for pillars it may be made to answer better. The leaves are deep green, heart-shaped, 3 to 4 ins. long, and broad.

H. H. CHRYSOPHYLLA.—The foliage here is 4 to 5 ins. long, but not so broad, being green, with breadths of yellow colouring. The leaves are heart-shaped. It is a very pretty and useful Ivy.

H. H. DIGITATA.—For clothing tall trees of little worth, or for stumps, and also on walls, this is a nice variety. The incised leaves are peculiar from the fact of having rather prominent grey veins of an incurving character. The habit is neat and close growing. Altogether this is a handsome variety.

H. H. DONERAILIENSIS.—In this we possess a very pretty and delicate leaved Ivy. It grows closely. The foliage is deeply and cleanly incised. It is pretty and useful for open walls in a sheltered part.

H. H. DENTATA is very large and handsome, taking after the type of *H. H. grandifolia*. It is, perhaps, just too heavy and strong to be always adaptable for walls or buildings, but, trained to pillars or posts at the back of rockwork, it is very fine.

H. FLAVESCENS.—This differs from *H. chrysophylla* or from *H. H. gracilis*, in being larger, besides being more sharply pointed, than in the case

of chrysophylla. The shoulders are rounded, and the apex on each side is lobed, forming a three "tongued" leaf.

H. CINEREA.—We have here a graceful Ivy. The foliage is clean-cut, drooping, long and narrow, and the habit close and compact, very adaptable for the walls of buildings.

H. GRANDIFOLIA is said to be a synonym of H. H. canariensis, already described.

H. H. MACULATA.—A three-lobed, grey-spotted Ivy, with rounded lobes, and a close growing habit.

H. MARGINATA MEDIA.—A peculiar Ivy, having leaves which curl from the edges inward. They are generally of small size and closely arranged, the veins and edges being broad and white. It is adaptable for walls along with other small-leaved sorts, but in sooty districts the leaves catch and hold the "blacks," after which they lose all sprightliness.

For all general purposes of planting for covering, the foregoing is descriptive of quite a varied enough list. It is a very easy matter to cultivate a regard for Ivies, their healthy and pleasing form and colour being sufficient recommendation. The tree varieties are chosen from the stronger growing sorts, and grafted on any tall variety. An occasional mulch to the roots, and care otherwise, such as syringing them in dusty weather, more so if they are upon villa walls, aid their freshness and vigour. The young wall plants should, in the first instance, be as carefully trained as fruit trees, cutting out leaders which are unnecessary, or pruning back others which are too strong. Every season, just at the time fresh foliage is seen to be developing, the old leaves may be pruned off with shears. Very soon the wall again assumes a pretty greenery, and the growth becomes stronger than ever.—*Vividis*

GARDENING MISCELLANY.

NEW VARIETIES OF TIGRIDIA.

SOMETHING like seven species of Tigridia are known

to science, but with the exception of the large flowered T. Pavonia they possess little interest outside of botanic gardens and herbaria. Of T. Pavonia, however, there are many varieties, all more or less splendid flowers for garden decoration, but remarkably short lived as far as individual flowers are concerned. Two remarkably handsome new varieties are figured in the *Revue de L'Horticulture Belge*, for April. These are Tigridia Pavonia immaculata alba and T. P. i. lutea. The former has flowers of the usual size, but pure white, and entirely without the spotting characteristic of the type and the older varieties. The second one mentioned above might have been named T. P. immaculata aurea, judging by the coloured representation, for the flower is deep golden-yellow, almost orange. These two novelties were practically inaugurated about five years ago, when a variety turned up without any spotting, the ground colour being white. That was the variety T. P. immaculata alba. The yellow one is of more recent origin.

BEGONIA MANICATA.

A CAPITAL use for this fine Begonia was observed by me at Ferguslie House on a recent trip there. It was used below the stages in an intermediate house, and the manner in which the large green leaves and strong lengthened stems arch up to fill what would otherwise be an empty void, is truly pretty and handsome. The plants were likewise flowering freely, an additional factor to an already effective screen. The plants were in good soil, and had been planted for a number of years. By the simple means of a string slung loosely along the outer edge, the possibility of the stems breaking down may be averted.—S.

CROCUSES ON GRASSY MOUNDS.

If only the authorities of our public parks and some other open spaces, besides many owners or superintendents of private gardens, could but realise how bright and cheery and how much more pleasurable their gardens or spaces could be by liberal plantings of Crocuses and Daffodils in the grass, I feel sure

that thousands of extra corms and bulbs would be planted yearly. Good stock can be had for a mere song, and it is about time that our parks followed the lead of such places as Kew, &c. Colours should not be mixed in the planting, but the massing system should be adopted. In private gardens I know that a great deal of waste occurs yearly among forced bulbs, through their not being taken care of after having served their first mission.—J. Harris.

RESTIO SUBVERTICILLATUS.

IN the Begonia house at Kew can be seen a plant of this extremely graceful South African subject. Slender stems are sent upward, and these branch numerous, ending in fine grassy foliage which droops like a fountain of fallen waters. Large plants can be developed in a single season. Propagation may be effected by division. A warm house is necessary, and care in watering, otherwise the plant is of easy management. If the plant comes into commerce it will be worthy of attention, for green and feathery stove plants might well be increased.

SOCIETIES.

MANCHESTER SPRING SHOW.—April 10th.

THE highly satisfactory results that were shown in the Town Hall on the 10th inst. must have been most gratifying to the executive of the Manchester Botanical Society and the Manchester Orchid Society, who for the time being brought in a combination of forces which produced an exhibition of Orchids not hitherto equalled in this famed Orchidaceous city. As there were no schedules provided each exhibitor had the opportunity of introducing and staging as he thought most desirable, which added to the general effect of the exhibition.

Mr. A. J. Keeling had an effective display of Dendrobiums, Laelias, Cypripediums, &c. First-class Certificates were awarded for Cypripedium selligerum majus, and for Laelia jongheana

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No. 3 size—6 oz. " " " 12,000 " 4/6 "	

Please see that all bottles bear the word "NICOTICIDE," stamped on the side, without which none are genuine. In order to measure the contents of a greenhouse, etc., multiply the length in feet by the breadth in feet, and then by the average height, also in feet—the result is the number of cubic feet contained therein.

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After the lamp is lit and the cup containing the compound placed over it, the person should leave the house, and should not re-enter for at least two hours, as the lamp will die out shortly after the compound has all evaporated. Any part of a fumigator lost can be replaced for a small sum. In a large house we recommend the use of one fumigator to each 5,000 cubic feet, distributed evenly over the house and using all simultaneously.

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Keelingii, and another for an unnamed plant. This collection received a vote of thanks.

Messrs. Backhouse & Sons, York, received a vote of thanks for a fine bank of miscellaneous Orchids, the following receiving First-class Certificates:—*Odontoglossum elegans* St. Albans var., *O. crispum* Mrs. F. Sander, and *O. cuspidatum* var. nobilior.

Mr. T. Baxter, Morecombe, was awarded a Silver Medal (M.O.S.) for a valuable group. First-class certificates were given for *Dendrobium splendidissimum grandiflorum*, and an *Odontoglossum* unnamed. Mr. O. V. Wrigley was awarded a vote of thanks for a beautiful lot of cut blooms, including *Dendrobiums*, *Cypripediums*, *Laelias*, &c. Mr. W. Duckworth received a First-class Certificate for an unnamed *Dendrobium*.

Messrs. Charlesworth & Co., Heaton, were the recipients of a Silver Medal (M.O.S.) and a Gold Medal (M.B.S.) for an imposing group amongst which *Odontoglossum crispum* Duke of Connaught gained a First-class Certificate.

Messrs. Cypher, Cheltenham, fully deserved the high honours accorded them—the Gold Medal of the M.B.S., the Silver from the M.O.S., First-class Certificate for *Sophrontis grandiflora* (fine type) and for *Dendrobium rubens magnificum*. Many other rare kinds figured in this telling group.

Mr. John Robson, Altrincham, also secured the Gold Medal (M.B.S.) and the Silver (M.O.S.) for a large collection chiefly of *Dendrobiums*. A First-class Certificate was awarded for *Cattleya Schroderae*.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, Middlesex, gained a vote of thanks (M.B.S.) and a Silver Medal (M.O.S.) for a beautiful collection of Orchids. First-class Certificates were gained for *Cattleya speciosissima Lowiae* and *C. Trianaei*, Empress of India.

John Leeman, Esq., Heaton Mersey, fully deserved his awards of Gold Medal (M.B.S.) and Silver (M.O.S.) for a brilliant lot, First-class Certificate for *Zygopetalum Perrenoudii*, with two Awards of Merit for unnamed varieties. W. Thompson, Esq., Stone, Stafford, secured a Gold Medal (M.B.S.) and Silver Medal (M.O.S.), and First-class Certificates for *Odontoglossum excellens* var. *luteum*, and *O. andersonianum albo-maculosum*. Mr. A. A. Wrigley, Bury, was awarded a Silver Medal for some good types of *Clivias*.

Messrs. R. P. Ker & Sons, Liverpool, well deserved their Gold Medal for a grand display of *Amaryllis* interspersed with suitable greenery. An Award of Merit was given for *Midas*. The collection was a distinct attraction to the hall and generally admired.

Messrs. Dicksons, Ltd., Chester, received an Award of Merit for a comprehensive display of spring flowering plants. Mr. Jos. Broome, Llandudno, staged an interesting collection of out-door flowers found in his North Wales garden, for which he received an Award of Merit.

Mr. P. Weathers, curator of the Botanic Gardens, deserves special thanks for the highly creditable display. The only regret must be that the patrons of horticulture were not present in far greater numbers.

ROYAL BOTANIC SOCIETY.—April 11th.

WHAT the real objects the Society has in view in having these exhibitions we do not know. If it is to encourage a higher system of culture among professional or amateur exhibitors, then the object is not attained by a very long way. Much as one likes to speak well of such enterprises, one cannot refrain from honest criticism. In some of the competitive classes in this show at Regent's Park, the entries could scarcely have been of poorer quality.

COMPETITIVE CLASSES.

For twelve *Cinerarias* in bloom, A. W. Young & Co., Stevenage, Herts. was the winner. The display of Tulips was not great though some very fair samples were on view. For twenty-four Tulips in pots, Mr. Geo. Kelf, gardener to Mrs. Abbot, South Villa, Regent's Park, came first, his best being *Keizer Kroon*, and *Prince of Austria*. For twenty-four *Hyacinths* in pots not less than twelve varieties, Mr. Geo. Kelf also won first.

Mr. G. Kelf came also in for the six table plants with fine *Dracaena Fraseri* and *Cocos weddelliana*. The first prize for six *Azalea indica* was carried off by Mr. T. Abbot, The Holme, Regent's Park, he having splendidly flowered specimens. For six *Azalea mollis*, Mr. Geo. Kelf was the prize taker.

For a collection of flowering and foliage plants arranged for effect, Mr. Geo. Kelf won the premier award with a very tasty and varied collection of plants. Palms, *Caladiums*, *Azaleas*, *Roses*, and spring bulbous plants were all seen in good form. Mr. T. Abbot was second. The group in this case was smaller and rather too crowded. Some fine *Anthuriums*, *Azaleas*, and *Maples* were included in the group.

Forty-two *Cyclamen* in bloom Mr. G. Bowles, Church Road Nursery Co., Hanwell, beat the St. George's Nursery Co., though between the two entries there was but little to make comparison.

MISCELLANEOUS EXHIBITS.

Mr. John Russell, Richmond Nurseries, Richmond, exhibited a collection of *Azaleas* and flowering shrubs. Very fine was *Andromeda speciosa*, and various of the hybrid *Azaleas*, crosses between the *mollis* and *sinensis* types, of which many good new varieties were staged.

Purnell Purnell, Esq., Woodlands, Streatham Hill, S.E., set up a varied and effective group of alpines. The collection of *Primulas* in flower was complete and very interesting.

Messrs. Frank Cant and Co., Braiswick Nursery, Colchester, exhibited a number of cut *Roses*, which, for size and general excellence, were very fine. *Teas* and *H. Teas* were largely represented.

Mr. James Williams, 4A, Oxford Road, Ealing, made a pretty exhibit of table decorations, brightened by flowers and *Asparagus*.

Messrs. Wm. Cutbush & Son, Highgate, London, N., had a fine display of hard-wooded plants, including *Epacris*, *Ericas*, *Boronias*, *Lilacs*, and *Magnolias*. The stage was edged with *Maidenhair Ferns*.

Messrs. R. & G. Cuthbert, Southgate Nurseries, Middlesex, had lots of fine *Azaleas*, *Staphyleas*, and other flowering plants. *Ferns* and *Palms* were interspersed among the flowering stock.

Messrs. John Peed & Sons, Roupell Park Nurseries, West Norwood, had a fine collection of *Clivias*, *Ericas*, *Azaleas*, *Genistas*, and other things.

Messrs. John Laing & Sons, Forest Hill, London, S.E., set up a very fine and varied group of flowering and stove plants, among which were some good *Hippeastrums*, *Cytisus*, *Clivias*, *Cyclamens*, and other things.

Messrs. Morle & Co., 152, Finchley Road, N.W., had a very nice lot of *Mignonette* in pots, a fine dwarf strain of well flowered plants.

Messrs. B. S. Williams & Son, Upper Holloway, London, arranged a splendid lot of flowering hardy *Rhododendrons*, *Azaleas*, *Viburnums*, *Hawthorns*, and *Negundos*.

Messrs. Wm. Paul & Son, Waltham Cross, Herts., were strong in *Camellias*, *Lilacs*, and the like. These were very fine, both in shape and flowering quality.

The St. George's Nursery Co., Hanwell, exhibited their famous strain of *Cyclamen latifolium*. Their new *C. fimbriatum* was also shown.

Messrs. Barr & Son, King Street, Covent Garden, London, exhibited a select and representative collection of cut *Narcissi*. Of these Sir Watkin, Mdme. Plomp, Cynosure, Stella, Emperor, Henry Irving, incomparabilis plenus, Grandis, and Glory of Leiden were conspicuous. *N. poeticus* and *N. Tazetta* was also on show.

Mr. W. Rumsey, Joyning's Nurseries, exhibited some fine cut *Roses*. *Niphetos*, *Marechal Niel*, *Gloire de Margottin*, *Queen of Queens*, *La France*, and others were very strong, and in all points excellent.

Mr. R. Mount, of Canterbury, also showed a fine collection of cut *Rose* blooms. His *Catherine Mermet*, *Capt. Hayward*, *La France*, and *Gloire de Dijon* were exceedingly fine.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. W. Waite, Southfields, for his article on "Tomato Culture" p. 577. Several excellent articles were much over the 250 words given in the rules for the competition.

QUESTIONS AND ANSWERS.

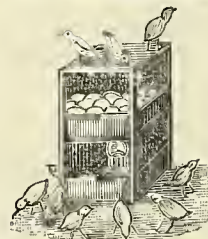
R.H.S. Examination in Horticulture.—D. McGregor: The date of the examination was originally fixed for Tuesday, the 17th inst., but that, upon reflection, was found to be Easter Tuesday. The date was, therefore, changed to Wednesday, April 25th, that is, next Wednesday.

Articles for Competition.—H.A.C.: We thank you for your suggestion, and have the matter under consideration. There are difficulties in the way of an article, of the length you suggest, both on account of the space it would occupy in those weeks when space is at a premium. No doubt it might be suggested that the successful articles only might be inserted; but as the time for closing the competition is on the day before going to press, there are many occasions on which there is no time to examine and compare the relative merits of the essays except in a rough and ready fashion, while they must be got ready for putting into type at once not to hinder the printing. We admit there is difficulty in getting the right meaning of many articles into so short a compass as 250 words; but that would suggest that the competitor should select subjects in which the pith of the story can be put into such small compass that most readers would have time to read it, and mayhap feel interested. A short article may be made very suggestive and set many to ponder over the subject, and see the matter in a different light from that when the story is a long one and more or less involved or complicated. Of course the more obvious details might be omitted, particularly those items with which most people are familiar. For instance, a new and successful method of treating some plant or class of plants would always be interesting to those who had not tried it, or possibly had not heard of it before. Such cases frequently occur in gardens, and the recording of them helps those who are striving to get a proficient knowledge of the profession. Gardeners could thus help one another to their mutual benefit.

Names of Plants.—R.M.: 1, *Barberis stenophylla*; 2, *Spiraea Thunbergii*; 3, *Pyrus japonica*; 4, *Acacia ovata*; 5, *Acacia Drummondii*.—T.M.W.: 1, *Dendrobium crassinode*; 2, *Dendrobium findlay-anum*; 3, *Dendrobium crepidatum*.—A.L.: 1, *Retinospora plumosa aurea*; 2, *Retinospora obtusa*; 3, *Thuya orientalis*; 4, *Nuttallia cerasiformis*; 5, *Hyacinthus azureus* (not *Muscari*).—W.M.: 1, *Pelargonium Radula*; 2, *Pelargonium citriodorum minus*; 3, *Primula floribunda*; 4, *Scilla sibirica*.—A.L.: 1, *Pteris Wimsettii*; 2, *Pteris serrulata cristata*; 3, *Selaginella Martensii robustum*; 4, *Adiantum formosum*; 5, *Lastrea aristata variegata*; 6, *Asplenium bulbiferum minus*.—E.C.H.D.: 1, *Saxifraga tridactylites*; 2, *Ranunculus hederaceus*.

Book on Table Decorations.—J.M.D.: There is a book on the subject, but it has been out of print for some years; and the only chance is that you might be able to obtain a second-hand copy by applying to various booksellers. Some of the libraries might have it, which you could ascertain by consulting the catalogues or librarian.

Tomatoes in a bad way.—G., Fairburn: From what we can see of the specimen sent, by the naked eye, you are keeping the atmosphere of the house too close and moist. You must give more air so as to strengthen the tissues. They may appear to be making fine progress, but in the absence of air and sunshine the tissues are soft and without stamina. We shall examine the specimen more closely and report next week if we find any enemy upon the foliage.



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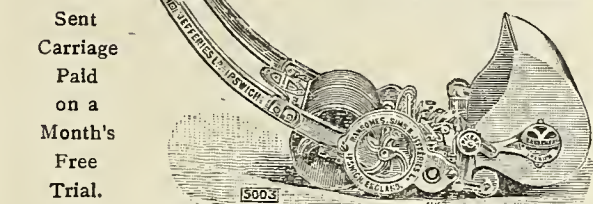
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, APRIL 28th, 1900.

BUCKLEBURY PLACE, WOOLHAMPTON, BERKS.—Seven years ago there was no house and no garden at Bucklebury Place, Woolhampton, Berks, as the ground on which these have been established was then part of a farm. A. W. Sutton, Esq., of Messrs Sutton and Sons, Reading, selected the site for a private residence on account of its healthy situation, and the magnificent views obtainable over the counties of Berks, Hants and Surrey, the sky line or horizon being determined by the nearest hills of sufficient height to shut out the view. One of the most distant determinable scenes to the south-east is The Hog's Back, a high, round-backed ridge running from Guildford westwards almost to the borders of Surrey. Splendid views are obtainable from almost every window looking towards the west, south and south-east, though from the roof of the mansion the eye can see something in every direction. Pasture and arable fields, dingle, gully, copse, wood, and the valleys in which are meandering streams, finding their ways to larger streams and rivers, are some of the pleasant rural scenes over which the eye delights to wander. Oaks and Elms are the principal trees of larger size which give character to the landscape. To the north where the extensive Bucklebury Common occupies the high ground, the eye catches glimpses of clumps of Scotch Firs very much at home if one is to judge by their tall, straight boles, and healthy head of branches. Occasionally they assume the outline of a tall, narrow pyramid with much of the same spiry habit of the Norway Spruce, which is remarkable for Pinus sylvestris. Various other British trees occur in the district, including giant specimens of Beech, and Lime, some of which we intend to put on record later on. The Holly grows wild in quantity on Bucklebury Common amongst the Furze, now flowering freely, and which was the subject of discussion recently in our columns. The gullies are generally, if not always, the fountain heads of small streams, and being wet are occupied by Alders, Willows and Hazels, utilised as copsewood generally is by being cut down at intervals of six to ten years.

The mansion itself is of that style of architecture known as domestic gothic which seems quite native to the district, as cottages and villas on a smaller scale may be seen showing a similar style of paneled building through on a simpler plan. The estate extends to 50 acres, and the site of the mansion is nearly on the southern edge of the plateau, but entirely surrounded by its own grounds. Judging by the yellow ferruginous sands, layers of flint pebbles, and coloured clays all this high plateau belongs to the geological formation known as the Middle Eocene. In any case it is the outcrop or edge of the Eocene formation, for about two miles to the northward is the village of Bucklebury on the River

Pang which has cut through the Eocene and flows over the Upper Cretaceous formation. The springs of crystal water known as the Kimber head in the neighbourhood of Stanford Dingley, are the largest we have ever seen, and evidently bubble up from the chalk bringing with them white sand, probably calcareous; but as the bottom of the principal spring is said to be 30 ft. to 40 ft. in depth we did not try to sample the sand, but were satisfied with the blue colour of the water as to its relative depth. It waters some acres of clean and vigorous Water Cresses before joining the Pang whose volume it must double or treble. The collecting ground of this water must be the high plateau of which we have been speaking, and which forms the watershed between the Pang and the Kennet.

Several gardens have been laid out on different parts of the estate, but by far the most interesting is The Dell Garden formed in one of the aforesaid gullies, southward from the mansion, and commencing just below the level of the plateau, from whence it dips down to a considerable depth. Until last autumn this gully was occupied with Alders, Hazel and Willows with a few tall Oaks. Most of these have been cleared away with the exception of the Oaks, and a belt of the others for temporary shelter until more ornamental subjects have been planted and reared. A shady walks runs along the top, overhung by Elders on one side, and Hazels on the other. At the end of this walk a charming and extensive view of the landscape is obtained, across a deep and wide valley till the horizon is shut in by a ridge of hills in Hampshire, the intervening country being laid out like a map with the physical features shown in relief.

All the central area of the slope has been put into proper order and sown down with grass. Around this are borders for ornamental flowering shrubs and flowers of various sorts; while on the grass are large beds, with a few Deodar Cedars and other subjects standing singly. A winding walk, nowhere straight, encompasses the garden near the outskirts. Towards what appears to be the bottom of the gully the eye is arrested by a pond, with apparently an island on which stands a rustic summer house of elaborate design, and communicating with the mainland by a rustic bridge. The outer thatch of the house consists of heather and the inner covering of clean straw. Some interesting panels have been worked out upon the sides of the octagonal house. Upon nearing this house we were surprised to find it standing only upon a peninsula; and had to appeal to Mr. A. Wright, the gardener, who planned the garden and has been busy upon it during the past winter and spring. He intended to make an island, but after much hard labour and failure, had to admit being fairly beaten. Below a certain level water oozes out everywhere, and when the soil beneath that level was removed, the whole mass above came slipping down. Piles were driven in to a considerable depth and the work of excavation recommenced, only to be stopped by a further landslip, for Nature would have her course. The gully indeed had been scooped out by the self same means, the high ground slipping down as water removed the earlier slips. The peninsula is to be planted with the taller and finer Bamboos, with some specimens of the Maidenhair Tree.

A further descent brought another pond in sight at a considerably lower elevation. Both will be fed by a perennial stream and several lesser springs. Mr. Wright is busily engaged building imitation conglomerate rocks, in the converging gully of which will be a cascade. Around the margins Iris Pseud-acorus, I. Kaempferi and other aquatic

plants will be planted. Beds of suitable rock plants will overhang the water from behind the rocks.

Some of the large beds on the upper slopes are planted with Ghent, mollis and other Azaleas and English Irises; Erica mediterranea and other hardy Heaths; Azaleas and Crown Imperials; Berberis stenophylla and other species; Montbretias, &c. Some 800 Lilies have been planted, and must be productive of a glorious effect when in bloom. A pound of seed of St. Bridget Anemones was sown in one large patch. Many seeds have been sown under glass to be planted out later on, including hybrid Aquilegias, Iceland Poppies, dwarf Nasturtiums, to form masses of one colour by themselves or to form a groundwork to shrubs. Hyacinths and Daffodils are now in full display; and great banks and masses of Tulips will take up the succession presently. Winter Aconites, Snowdrops, including Galanthus Elwesi and a yellow variety of it, Scilla bifolia, S. sibirica, Chionodoxa Luciliae and C. gigantea are gay, or the earlier ones just over. Muscari botryoides album, Scilla nutans and others will be the feature presently. The last named is native to the soil, as are Primroses of remarkable size, the tiny Adoxa Moschatellina and Orchis latifolia, the purple markings of whose leaves are magnificent. A long border planted with standard Prunus Pissardi, Negundo aceroides variegatum and other subjects is to be further embellished with plantations of Cactus Dahlias, early Chrysanthemums and other showy and popular subjects. Along the front a collection of Daffodils is to be planted in clumps between the shrubs. The intention is to add to the number now established till the collection amounts to a trial of all the best of the different types.

It will thus be seen that the transformation of this wild gully into a smiling garden has been rapid, extensive, and if not complete will be so in the course of a few years, during which time great progress will have been made by the newly planted trees, shrubs and flowers, the latter including bulbs and hardy herbaceous subjects. The situation, slopes, undulations, dips, ponds, rockworks, trees, &c., must in the course of a few years make this a romantic spot. Space compels us to defer notice of the glass ranges and other gardens till another occasion.

Black Fly.—A correspondent speaks of the black fly being a terrible pest to eradicate, so much so as to try the temper even of a "gentleman of the cloth."

Synanthry of a Primrose.—A curious form of Primrose was picked up some years ago by Mr. W. Matthews, The School House, Midgham, Berks., and which has remained constant. In the first place the common peduncle would seem to have become elongated, carrying up the flowers somewhat after the style of a Cowslip. The pedicels do not arise from one point like an umbel, however, but they start off irregularly at irregular intervals as if it was really a case of the pedicels having become amalgamated. Yet each separate pedicel is subtended by a bract, at whatever level it is given off. All the flowers are normal except the middle or terminal one, which has a short and very stout pedicel, and something like 12 to 14 segments to the corolla, as well as a similar multiplication of the parts of the calyx. It is, therefore, a case of synanthry, consisting of the complete amalgamation of three flowers. Abnormal conditions of the flowers are not uncommon amongst garden varieties of Primroses, but here we have synanthry that is constant in a wild Primrose, and which Mr. Matthews, the schoolmaster, picked up and planted in his garden some years ago, and where the plant now has many crowns, all bearing similar arrangements of the flowers.

The Petals of the Common White Lily, L. candidum, when steeped in brandy may be used with conspicuous success in the healing of wounds such as cuts and bruises.

Use of the Hose in April.—We guess the men of Kew are almost alone in the employment of the hose in the rock garden and herbaceous grounds for the provision of moisture at so early a date as mid-April, and in such a season as the present. But we must remember that the Kew soil is scarcely a soil, but nearly pure sand, and that each season sees a lot of re-arranging and planting done. It is mainly for the refreshing and safe establishing of shifted plants that the lengths of hose are just now kept at work.

National Physical Laboratory.—The director of the National Physical Laboratory, Mr. R. T. Glazebrook, F.R.S., Old Deer Park, Richmond, Surrey, has issued a circular letter respecting this newly-formed establishment. Two years ago a treasury committee, with Lord Rayleigh as chairman, recommended the establishment of such an institution as has now been formed. The object and work of the laboratory shall include the standardising and verifying of instruments for testing materials, and also the determination of physical constants. An executive committee has been appointed to manage the laboratory. The work of testing scientific instruments has hitherto been carried on at the Kew Observatory. Articles sent for testing should be addressed the Director, National Physical Laboratory, Richmond, Surrey.

St. George and Roses.—Who St. George, the patron saint of England, really was, is a matter of much controversy. One account depicts him as a being who embodied all that was bad. His partisans deny such a biography, and have chosen a character of more amenity in manners and methods, and he is their Saint George. How Roses came to be associated with him, and through him as the national floral emblem, is a point equally disquieting. The Roses of St. George's period (vaguely stated at between the eighth and eleventh centuries) were none other than those found indigenous in our land. The first exotic Rose introduced to our country, or what was then exotics to us, seems to have been the Damask Rose (*Rosa damascena*), from Syria. This was so early as 1573, a period of 327 years ago. Since then, other species from various parts of the world have been brought to England. Their joint variation has by careful hybridisation, cross-breeding, selection and development given us the fine Roses we now admire. And though we may wear Maréchal Niel, Niphetos, La France, or any other fine Rose on St. George's Day, we must not suppose that the saint ever viewed Roses like these in the England of his time. The York and Lancaster Rose is a variety of *R. damascena*.

Royal Dublin Show.—At the recent show of the Royal Agricultural Society, Dublin, a number of firms well known to horticulturists, arranged exhibits. Messrs Sutton & Sons, the Queen's Seedsmen, Reading, had an attractive office and a display of grasses, seeds, roots, Potatos, &c. Messrs. Hogg and Robertson, the Queen's Seedsmen, 22, Mary Street, Dublin, set up an extensive display of cut Narcissi, Tulips, and Hyacinths. In the exhibit was a new variety of Narcissus, *N. incomparabilis* Cloncurry. This is a handsome variety, having a rich orange chalice and large creamy white perianth, three of the divisions of which are flat and broad, the other three narrow and twisted. Messrs. C. Ramsey & Sons, Ballsbridge, staged a fine collection of foliage and flowering plants. Messrs. E. and F. Browett, Valetta Nurseries, Kingston, set up an exhibit of garden sundries. Messrs. A. Shanks & Son, Ltd., Dens Ironworks, Arbroath, had a splendid exhibit of lawn mowers in all sizes. Messrs. Ransomes, Sims, and Jefferies, Ltd. Ipswich, had also an exhibit of lawn mowers together with a large display of agricultural implements and machinery. Messrs. Barford and Perkins, Queen Street Ironworks, Peterborough, showed a large collection of their famous lawn mowers for hand and horse power. Messrs. C. and W. Bushwell, Victoria Works, Torquay, had garden seats, hammocks, awnings, tents and garden shelters in great variety. The Permanent Nitrate Committee were also represented.

The Old Stems of Snapdragons and Pentstemons if left as they are till spring, when they may be cut down, serve as protection to the snicker shoots.

Mr. Harry J. Veitch, senior partner of the Chelsea firm, is expected to arrive in London this week, having visited, with his wife, parts of northern Egypt and the Holy Land.

Maidenhead Chrysanthemum Fruit and Vegetable Society.—It seems that the Maidenhead Society has not to be dropped just yet. Good luck to it, and may it not go down. The third exhibition of Chrysanthemums, Fruit, and Vegetables, will be held in the Town Hall on Thursday and Friday, November 15th and 16th, 1900. The secretary's report of last year's work is of a satisfactory nature, and there is a balance of over £8 to go on with. With such an energetic hon. secretary as Dr. J. W. Stone, everything that can be done to aid and promote the society will be done.

R.H.S. Meeting of Fellows.—A large number of Fellows of the Royal Horticultural Society met in a room above the Drill Hall, James Street, Westminster, S.W., on Wednesday, the 25th inst., to hear the propositions of the Council in reference to the new site of a garden. The proceedings were of a very interesting character. Sir Trevor Lawrence, Bart., president, occupied the chair. We cannot give more at this time than the ultimatum of the meeting. Exception was taken to the fact that copies of the Rules and Bye-laws had not been distributed to the Fellows. It was resolved that the meeting be postponed until this matter was effected. An amendment was made to Sir Trevor's proposition that "This meeting confirms the recommendation of the Council, that the centenary of the society be celebrated by removing the society's garden from Chiswick." The amendment adds—"Subject to the Council being able to find a site which recommends itself to the Fellows of the society."

Stanley Park, Liverpool.—The beauty and utility of this park has been enhanced by the opening of the new "Gladstone" Conservatory, opened on the 23rd inst. by Alderman Ball, Chairman of the Parks and Gardens Committee. A full, illustrated description was given in our pages for February 3rd. The building, the second presented to the City by the kind donor, Mrs. Yates Thompson, is 120 ft. long, 50 ft. wide, and 30 ft. high, the cost being £8,000. The gift was accepted on behalf of the corporation by the Lord Mayor, who previously had entertained Mr. Yates Thompson and an influential company to luncheon. At the entrance is a fine bronze bust of the late William Ewart Gladstone. A magnificent presentation 18 carat gold key was presented to Alderman Ball. The Right Hon. Walter Long, M.P., moved a vote of thanks to Mrs. Yates Thompson, the Lady Mayoress, and Mrs. Ball for their presence. Alderman Ball, in seconding the motion, announced that Mr. J. Reuben Grant had promised an aviary for Sefton Park, similar to that he had already given to Stanley Park.

Orchids at the Sale Rooms.—Amongst the Orchids in bloom, which turned up at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside, on the 20th inst., were some choice and showy varieties and hybrids. A richly spotted variety of *Odontoglossum Mulus* was quickly run up to 27 gs. Four pieces of *Cymbidium lowianum-eburneum* ranged from 3½ gs. to 8 gs., according to size. Very pretty were the uniformly rosy flowers of *Odontoglossum crispum roseum*, which fetched 8 gs. Some Cattleyas, including C. Mendelli, with a dark lip, and the nearly white C. *Schroderae albens* fetched 4½ gs. apiece. The dark and showy C. *Mantini nobilior* brought 6½ gs.; C. *exoniensis*, 9 gs.; the pure white C. *intermedia Parthenia*, 20 gs.; and C. *Trianaei delicata*, 5½ gs. *Miltonia vexillaria Leopoldi* brought 14 gs. A large flowered, light coloured hybrid *Dendrobe* of the D. *Ainsworthii* type was run up to 14 gs. Many choice *Cypripediums* came under the hammer, including C. *Memoria Moensi*, 12 gs.; C. *insigne Sanderæ*, 18 gs. and 20 gs.; C. *Norma*, 5 gs.; C. *Annie Measures*, 9½ gs.; C. *sanderiano-superbiens*, 14 gs.; C. *tessellatum porphyreum*, 6½ gs.; C. *Wm. Lloyd magnificum*, a very dark and richly coloured flower, 21 gs.; C. *insigne citrinum*, with the brown colour mostly washed out of the flowers, 9½ gs.; C. *i. Harefield var.*, 19 gs.; C. *i. statterianum*, 7½ gs.; and C. *i. Ballæ*, 6½ gs. Most of the above are fit to adorn a very select collection.

Weather in London.—The weather of the past week has been typically British, we have had a number of samples. Towards the close of last week and beginning of this we seemed to have the conditions which prevail in the torrid zones. But on Monday we once more shivered, and as we prepare for press a steady rain falls. But still with Cowper we will say:—"England, with all thy faults, I love thee still . . . though thy clime be fickle, and thy year most part deform'd with dripping rains, or withered by a frost."

Luncheon of the National Auricula and Primula Society.—Members of the above body joined together at luncheon in the Windsor Hotel, Westminster, at 1.30 p.m., on Tuesday, the 24th inst. The society's show was held in the Drill Hall the same day. At the luncheon most of the faces well known in connection with the culture and raising of these pretty spring and summer flowering plants were to be seen. Mr. James Douglas, of Great Bockham, occupied the chair, and members of the official list, judges, exhibitors, and others supported him on right and left. The loyal toasts were proposed from the chair, and a toast for the continued prosperity of their society was also drunk to. The general expression of the members was that this year's show was very creditable and satisfactory after such a season.

National Chrysanthemum Society: Annual Report.—The report of the executive committee for 1899 is before us. The position of the society's affairs is satisfactory, and the quality of exhibits at the society's show has at least been maintained and certainly improved upon in quantity. Thus the real objects of this body are being upheld, and the good work is developing. Their financial position is decidedly encouraging—the balance sheet statement for the year showing the substantial balance of £76 4s. 6d. in hand. The committee recommend that the reserve fund be increased by an additional £50, which will then make £100. Competition among affiliated societies for the possession of the Challenge Trophy is maintained with spirit. It is yet desirable that still more societies should take part in the annual contest. A sub-committee have had under consideration the relations existing between the N.C.S. and affiliated societies, and have reported that it is desirable certain amendments be made to the privileges enjoyed by affiliated societies. Such alterations will be proposed for adoption at the annual general meeting. The committee expresses its appreciation of gratitude to all who have lent their counsel or services towards the advancement of the society's interest.

Croydon and District Horticultural Mutual Improvement Society.—The monthly meeting of this society was held on Tuesday evening, April 17th, at the Sunflower Temperance Hotel, George Street, Mr. W. J. Simpson (The Gardens, Falkland Park, S. Norwood) in the chair, Mr. M. E. Mills (Coombe House Gardens), vice-chair, when over forty members were present. Mr. Green, chairman of the Ealing Gardeners' Society, gave an interesting paper on "How Plants Feed." The lecturer introduced his subject with an account of the structure and function of roots, stems, leaves, and various organs of plants, and the mode of taking up the constituents of the soils, manures, &c. Mr. Green was listened to with considerable interest, and a very pleasant and useful discussion followed, in which Messrs. Mills, Blogg, Good, Lusch, Simpson, Gregory, and others took part, on the conclusion of which a hearty vote of thanks was accorded Mr. Green. The pleasure of the evening was further enhanced by the exhibition of two dozen show and alpine Auriculas by Mr. F. C. L. Wratten, the treasurer. Mr. Blogg showed a fine plant of *Gasteria maculata* with a very fine spike of bloom. Mr. Reddon, West Wickham, brought a spike of *Richardia* with two well developed spathes; Mr. Mills, a fine mass of roots of *Ipomoea Horsfalliae*, which had been grown among the shingle used on the stages. A vote of thanks was given to the gentlemen named. Five new members were nominated. The chairman announced that the next meeting would be on May 22nd; subject, "Walks and Talks in Kew Gardens," illustrated by a series of lantern slides and photographs by the secretary, Mr. John Gregory, when ladies will be specially invited. The meeting closed with a vote of thanks to the chairman. The hon. secretary is Mr. John Gregory, 60, Canterbury Road, Croydon.

Rubbish of all sorts, such as gathers about a garden during winter and all the pruning season, should be periodically smother-burned. The residue is a good fertiliser.

Arrival of Avian Visitors.—Cold weather or warm weather, the cuckoo seems to arrive in this country with great regularity. At Maidstone it arrives on or about April 13th, and on this occasion the date was kept. The nightingale arrived on the 18th, and the house martin on the 19th. The 13th inst was Good Friday which was a blustering and windy day, but otherwise fine. The 15th and 16th were very cold days and more or less windy.

Barr's Daffodil Catalogue.—At this time when Daffodils are in their season, the catalogue of this foremost firm of bulb merchants becomes an invaluable possession to all those who grow these loveliest of spring flowering bulbous plants. The catalogue contains inside the front page a synoptical list of all the finest of our present day Narcissi and the class to which they belong is also bracketed by the side of the name. Thus at once it is a work for ready reference. There are some good illustrations of outstanding types of Narcissi, and lists of new varieties with their prices. The varieties are kept strictly into their properly classified groups and sections, each variety being carefully described, and notes appended which tell where or how best this or that variety succeeds.

The James Martin Memorial Fund.—It will be remembered that a fund was started by the Reading and District Gardeners' Mutual Improvement Association in memory of the late Mr. James Martin, of Messrs. Sutton & Sons, Reading, for the purpose of placing on the Royal Gardeners' Orphan Fund a child to be known as "The James Martin Memorial Orphan." The late lamented Mr. James Martin was known to and beloved of a wide circle of friends all over the country. Nor is this to be wondered at when we recognise the man who was ever ready to impart information on any horticultural topic coming within his scope, but particularly in regard to the many subjects of which he was so successful a cultivator. Chinese Primulas, Calceolarias, tuberous and fibrous-rooted Begonias, Cyclamens, Gloxinias, and Cinerarias were amongst the subjects in which he delighted to labour and to impart knowledge to all who were interested in the same. The fine varieties and strains now in existence, and widely cultivated throughout the land bear ample evidence of his skill and intelligent handiwork as a raiser of superior varieties of popular and indispensable flowers for the garden. It is not surprising, therefore, that his many friends should have conceived the idea of commemorating so estimable a man, and that the committee of the Reading and District Gardeners' Mutual Improvement Association should have taken the matter in hand and appealed for funds to perpetuate his memory in a way that would have been most acceptable to him had he been alive, and questioned upon the subject. A sum of £133 7s. has already been subscribed. The list was headed by Messrs. Sutton & Sons, with the handsome sum of £50. Mr. and Mrs. H. B. Blandy gave £5 5s.; Messrs. H. J. Veitch and Alf. Palmer, £5 each; Mr. C. B. Stevens, £3 3s.; Lee Horticultural Society, £2 3s.; Messrs. G. W. Palmer, National Amateurs, R. Sydenham, Herbert Sutton, and Mrs. Noble, £2 2s. each; Sir W. Farrer, £2; Messrs. Knill & Sons and Park Place Gardeners, £1 11s. 6d. each; York Florists, £1 4s.; Messrs. Boyd & Murley, R. and G. Cuthbert, Alex. Dean, W. J. James, C. E. Keyser, D. Kemp, P. Noble, E. Ryder, J. T. Strange, G. Stanton, S. B. Stevens, T. Turton, and J. Wright, £1 1s. each; Rev. E. Lascelles, Mrs. Phippen, and Miss Russell, £1 1s. each; Misses Harman, King, and Neild, and Messrs. M. Prichard and A. Wright, £1 each; per H. T. Martin, Stoneleigh Abbey Gardens, 12s.; Messrs. W. Badcock, T. Chapman, C. Ross, and Bournemouth Gardeners, 10s. 6d. each; and sums of 10s. were contributed by Messrs. Bartholomew, Blazey, Bowerman, Fleming, G. Reddon, Harris, Hudson, Jones, Kneller, Macdonald, Mackrill, Mortimer, Parsons, Papillon, and Pope & Sons. It is proposed to close the fund on May 12th. Subscriptions will be gladly received by Arthur W. Sutton, Esq., Harry J. Veitch, Esq., Mr. J. Woolford, East Thorpe, Reading, and by Mr. H. G. Cox, Fernlea, Junction Road, Reading.

Chrysanthemum Rust is making American growers stir themselves at this time. "The exact species of the fungus that produces the rust is not determined, nor is it of great consequence to us how long and crooked its name, if we can only fight it successfully," is what they say.

Japanese "Fern-balls."—Americans import from Japan a large amount of what they term "Fern-balls." These are basket Ferns, chiefly or wholly Davallias, whose rhizomes have twined around to form a dense ball. They are transported in a dormant condition and frondless. By giving them a good steeping in water and a warm, moist, shaded house for a short while they very soon re-assert themselves, sending forth a host of fronds.

New York Botanical Gardens.—In the *Florists' Review* for July 26th there is a frontispiece photo of the conservatories at the Botanical Gardens of New York, U.S.A. These gardens are prophesied as soon to be the pride of all the United States. The beautiful grounds extend to 250 acres, and are easily accessible. The museum and other offices are very fine. The present herbarium contains over 600,000 specimens, besides some 50,000 unmounted specimens intended for exchange. The flora within 100 miles of New York City is to be grouped by itself as a quick method of reference for those interested. Dr. N. L. Britton, who is the director-in-chief, is one of the most eminent botanists known.

BROCCOLI.

THERE has not been such destruction among crops of Broccoli (and other green crops as well) since the long period of severe frost five years ago, as during the past season; but the greatest amount of mischief happened at the end of the year, when the thermometer fell to 30° of frost, decreasing to 24° between the hours of 4 p.m. and 8 p.m. The weather prior to this had been for some weeks excessively mild. The plants, by reason of dry heat followed by a period of moisture and mildness, rendered vegetation in general very tender and susceptible of injury. The planting of Broccoli with a crowbar or metal pointed dibber into undug solid ground renders stiff hardy growth; and thus the resisting power is great from injury by severe frost. We notice that Broccoli has been entirely cleared off on land which rarely ever failed in producing good crops. Reports we have from the east and midlands of England give unfavourable records this year. It is of much importance to learn that some sorts are more hardy than others; and some cultivators have special sorts which they always cultivate somewhat extensively by reason of their hardness if not of best quality; but better secondary quality than no Broccoli. A friend always cultivated the old Waterloo, purple sprouting and sulphur varieties. If the appearance of these sorts is not in their favour—hardiness is—and we know they are not despicable when other favourite sorts are nil. It is by reason of these sorts standing uninjured this season that prompts us to write these notes.—M. Temple, Carron, N.B.

PANSY CULTURE FOR EXHIBITION AND PLEASURE.

PANSIES require a shady situation, a medium loam, deeply dug in autumn, plenty of cow-yard manure and leaf soil put in bottom of trench to hold moisture. Put cuttings in cold frame in October. Admit air when favourable. By March they make nice plants. Harden off, dip in soft soap and water for green fly. Take plants up with a good ball of soil, plant deeply with some potting soil round the roots (1 ft. apart). Water and shade. Stake at once; tie as growth goes on, leaving three shoots. When well growing a little lime hoed among the plants is beneficial. Give plenty of water. When weather is forcing give a top-dressing of rotten manure, it keeps them moist and also feeds. Diluted cow-manure water should be given three times a week with clear water between, a fertiliser also at intervals of a week. Put sulphate of ammonia as much as would lay on a half-crown, and water well in round each plant. If for exhibition, pick buds off till about three weeks of the show. Shade as soon as buds begin to open, and they will grow larger and of better colour. Or to grow from seed sow in February in boxes, placed on shelf in vinery. Prick off seedlings three inches apart; harden off in cold

frame; plant out end of April, and treat the same as from cuttings. By this culture I have won fourteen prizes, including Silver Medal.—Robert Thomas Howell, Middle Arton House Gardens, near Oxford.

CALLAS.

HAVING read in your correspondence column about Callas not flowering, I will state the result of an experiment I have tried this winter. I have side by side plants that have been subjected to different treatment. About the end of May the plants are stood in their pots out of doors in rather a shady position. Water should be gradually withheld as the foliage decays till the end of July, then, should the weather keep fine a thorough soaking of water should be afforded them, and they will soon begin to make new growth. The plants should now be repotted, as upon examination they will be found to be making new roots. The following compost is suitable:—Loam one-third (the loam is very hungry here), cow-manure one-third, leaf mould, wood-ashes, sand, and a little Peruvian guano, one-third. Mix well and pot the strongest into 32's and 48's, making the soil rather firm. The plants should be stood in a shady position, thoroughly watered in, and then water applied as required. They were housed in September, and a temperature of 45° to 50° maintained. These were in flower towards the end of October, and are still in flower at the present date (22nd April), although they will soon show signs of decay. These plants in 32's with two flowers expanded and another showing are more decorative for general purposes than a dozen I potted into 16's in October; although the latter may have larger flowers, they do not flower so freely.—C. P. Cretchley.

HOW TO SAVE POTTING.

A GOOD many years ago, I found from having a good deal of extra work in spring, that on one occasion it would be almost impossible to repot my collection of greenhouse plants, as was my usual habit. I therefore for the sake of economy in time hit on the plan of simply removing about an inch of the top-soil, and sprinkling a good teaspoonful of Thomson's Vine and plant manure, over the roots, that quantity being sufficient for plants in 6-in. pots, filling up the pot with good soil. The result was most gratifying, in fact most of the plants flowered much better than usual, and of course the check was so much less that they came into flower much earlier. I have therefore pursued the plan for many years, with unvaried success. I name Thomson's manure, as I have found it answer my purpose better than any other; but no doubt other approved manures might do well enough. The drainage must be quite free, and the plant not in need of a larger pot. For Pelargoniums both zonal and regal, my plan gives the best results I have ever obtained; the plants are dwarfer, and flower much more freely. I give liberal supplies of manure water, when the bloom trusses show. I also find that Ferns, Camellias, Azaleas, and in fact almost every variety of greenhouse plant thrive amazingly with this treatment, while stove plants seem also to fully appreciate it.—C. Blair, Binny, Uphall, N.B.

Kitchen Garden Calendar.

THE warm weather of the past few days has caused the small plants of Parsnips, Carrots, Onions, and such like to push through the soil. The hoe should, therefore, be got to work between the rows to keep down small weeds. More good may be done with the hoe in an hour when the weeds are small than in half a day if allowed to make headway. The thinning of such crops should also be taken in hand as soon as the plants are large enough to handle. It is not advisable to thin too severely at first, particularly if the weather is showery, as slugs are sometimes troublesome at this time of the year. If singled out to two inches apart this will enable them to grow robust from the first. The early short topped varieties of Carrots need not be thinned to a greater distance than three inches, as the roots can be pulled while small for use. The main crop of Carrots may now be sown in drills from fifteen to eighteen inches apart, according to the variety.

EARLY POTATOS.—As the frames become cleared of these, the lights should be utilised for other pur-

poses, such as protecting Dwarf Beans, Vegetable Marrow plants, and other tender subjects that it will not be safe to expose to the open at present. Potatoes that are through the soil on the open borders must be closely watched that protection may be afforded them should there be signs of frost. Canvas, small meshed netting, two or three thicknesses, or other light material, will usually ward off a few degrees.

CELERY.—Plants from the early sowings should now be large enough for transplanting in the trenches. If the latter are made on ground from which the Brussels Sprouts have been cleared off, the work may be proceeded with at once. It is, however, advisable to dig the ground previously to taking out the trenches, that the soil between them may be in a fit condition for growing another crop, such as Dwarf Beans, Lettuce, Radishes, Turnips, and the like. It is not a good practice to allow the plants to get too large before transplanting, as they receive a serious check by having the roots injured. If the weather be dry at the time of planting, water should be given and shade afforded when the sun is bright, till new roots have taken hold of the soil. The later batches should be pricked out in a warm border where the ground is of a light, rich nature. It is a good plan to use some thoroughly decayed manure, which should be turned in just below the surface, as the plants will root more freely in this, and therefore lift with better balls of earth attached. As it is sometimes difficult to get the plants transferred to the trenches just at the time they are ready to transplant, it is a good plan, not to prick them out too closely together, as, by so doing, they are kept more sturdy. We usually allow three inches from plant to plant when pricking them out, and six inches between the rows, by allowing this distance the plants may be lifted with good balls to the roots, when, if carefully planted, they will not suffer should they be a little overgrown.

BEEF ROOT.—The seed of this for the main crop should now be sown, choosing land that was manured either in the autumn or for a previous crop, as fresh manure has a tendency to cause the roots to grow coarse. The drills ought to be not less than fifteen inches apart, if eighteen so much the better, as the roots will then have a better chance of developing themselves. But, to be of first-class quality, they should be close grained, and of a deep red colour. If a good variety be obtained, such as Blood Red, Dell's Crimson, and Pagnell's Exhibition, there is little fear of them being overgrown and coarse if treated in the manner described. One important point is to thin early, that the plants may grow robust from the first.

DWARF BEANS.—A sowing of these may now be made on a warm border where protection can be afforded in case of frost when the young plants make their appearance. Choose one of the early varieties for the first sowing, as these will turn in more readily than the later ones, such as Canadian Wonder, for example. A row of Runner Beans may also be sown, but special care must be taken to protect the young plants at night, or they will be sure to suffer. Runners grow quickly when once through the soil if the weather is favourable, therefore it is not advisable to sow too soon where spring frosts are prevalent, as the plants would require supports before it was safe to leave them unprotected at night. Sticks should always be put to them before the growths get entangled, or there is much difficulty afterwards in inducing them to take to the stakes.—F.W.J.

FRUIT UNDER GLASS.

THE weather is such as to try our patience, and certainly our skill. But we are accustomed to weather changes, so that what is to come will have to be reckoned with.

VINES.—Those with a number of vineries will be employed with many various cultural duties attached to this ancient and valued fruiting plant, according to the stage to which the Vines have advanced. In the earliest houses grapes are about to be cut. Other early houses have bunches of fruit beginning to show colour. Successive crops are in the "finger-nail" stage, or in flower. There are certain prerogatives applicable to the treatment of Vines in vigorous growth. These are, that moisture be at all

times supplied to the border in quantity to insure a plentiful up-draught to meet the requirements of growth. Secondly, a suitable hygrometricity of the atmosphere; and, lastly, judicious ventilation.

Young Vines, or Vines just started, and whose foliage has not yet become strengthened, demand very great attention in this matter of air giving. For Vines in flower, a drier air is for the present necessary. As soon as the berries begin to swell, heavy syringing with chilled water may again be resorted to. Do not allow the fruits to develop so that they become crowded. Thin the bunches in good time.

Vines whose crops are in full development must be kept well nourished with liquid manure at the roots. Thomson's or Clay's may be used. Syringe both in early morning and again after two o'clock p.m., at which time the house must be shut up, though the top ventilators should be slightly opened one and a half hours later.

Vines to ripen soon should be specially well treated, and such quick acting chemicals as sulphate of ammonia (one oz. per gallon of water) should be supplied until they are well tinged. I believe it is owing to a contracted supply of nourishment at too early a stage that many berries fail to properly colour up around the foot-stalk.

PEACHES AND NECTARINES.—First-forced houses with well established early varieties are now so far advanced that the fruit should be supported by laths and turned to the sun to ripen. Allow the house as much warm air and light as possible. Nothing improves appearance and flavour more than plenty of sunshine and air. Desist from syringing. Nourishment ought, of course, to have been so supplied that the roots can find sufficient for their present needs. When fruits are colouring, the greatest call upon the provision and work of the roots has passed. Tying in, disbudding, watering, and syringing must all be attended to in the care of successive houses.

FIGS.—Figs must be maintained at a steady temperature. Warmth and moisture can be given in some amount. The first crop of fruits is now fairly swelling up, and on no occasion should they be in distress for water. It takes a large quantity of water to fully provision the demands of strong growing Figs. The syringe must be rigorously applied on all favourable days; twice on days which are sunny. The fruits or leaves should be sponged with soft-soap and water, when the least appearance of red-spider is detectable. The growths here must be regulated. Old and bare shoots should be covered with young growths. A temperature ranging between 75° and 80° will be necessary.

STRAWBERRIES.—Little need be said now in regard to Strawberries in pots. Damping off, and mildew are both to be guarded against. Slight dusting of the leaves with sulphur will check or prevent mildew. Careful watering will mitigate the damping of leaves or fruits.

MELONS AND CUCUMBERS.—Endeavour to see a nice even crop of Melons, at one and the same time, so that each fruit develops with its neighbour.

Syringe the plants constantly and so regulate the lateral growths and foliage that a healthy development can be made. Top-dress the roots with fresh loam and artificial manurial dustings as frequently as the roots show through the previous dressing. Crops whose fruits are well advanced must be seen to, so that the fruits can be supported. Cucumbers should be grown at a high temperature, 75° as a minimum, and kept close and moist. Nourishment should be provided both from the air and by the roots. Cut back worn out shoots and lay in fresher ones. In both the case of Melons and Cucumbers, keep the base of the stems well rubbed with lime, soot and charcoal.—*J.H.D.*

THE FLOWER GARDEN.

BEDS AND BORDERS.—Fruit trees, ornamental trees, and Roses are all pushing ahead now. The pruning of the latter should not be delayed any longer if the work is yet incomplete. Growth from the apical buds weakens those which arise at the base, so that to preserve the strength of these latter it is necessary to remove those parts of the shoots not wanted for flowering. To prune properly some little knowledge of the various kinds of Roses is necessary. Teas, which are not so rank as H.P.'s, only require to have their more slender shoots re-

moved. The points of the long shoots should be cut back. Then the case with the climbing Roses, as Gloire de Dijon, Maréchal Niel, Solfatère, and others, is equally simple. The long shoots should alone be thinned out. The breast wood may be left to arch outward if there is no room to lay it in upon the wall. This can easily be overdone, however, by leaving too many branches or too great a length of branch unsupported. Only a few inches of these shoots need be left.

I would like to throw out a suggestion for Rose growers to try Gloire de Dijon and other vigorous kinds in beds, and to peg the shoots in a horizontal line. They should be pruned back to strong wood, and the shoots should be then equally directed over the surface. From along the entire length they throw out a noble profusion of blooms. Neat wire stakes may be employed for the pegging down. Keep the shoots at a distance of 1 ft. or 18 in. from the soil level.

Standards or dwarf perpetuals are usually pruned hard back. In the case of dwarfs, as I have said before, if the wood is strong and matured, such very hard pruning is not necessary. Only exhibitors of Roses need practice the system. Roses for showing and Roses for mere garden ornament may be treated quite differently. The surface of Rose beds may be pointed over. If there remains any manure from the winter mulching point that in. A dressing of artificial manure may or may not be given. Roses have their leaf and bloom growth to make, and must be well nourished.—*J.H.D.*

Gleanings from the World of Science.

THE Scientific Committee of the Royal Horticultural Society discussed the undermentioned subjects on the 10th inst. :—

Vine Leaves Diseased.—With reference to the samples brought to a previous meeting from Gunnersbury, Dr. Masters observed, from further examination, that they were certainly not attacked by red spider, but possibly by mites. There was still some doubt as to the presence of the young condition of *Glaeosporium*.

Oranges Striped.—With reference to the orange brought to a previous meeting, Dr. Bonavia writes further in regard to the criticism on his theory that the stripe did not correspond to a single carpel, but covered halves of two :—"If this be so, I think that fact would seem rather to strengthen my theory, for the law of phyllotaxis (alternation of whorls) would appear to require such a disposition. My view is that the peel and the pulp with carpels are two independent whorls, the former coalescing to form a protective covering, while the latter has its carpels separable." The difficulty in accepting this theory arises from the fact that there is no mark of separation, the spongy tissue being continuous from the ovary cells to the circumference, the latter being charged with oil glands. Secondly, if the superficial layer were "foliar" one would look for fibro-vascular cords running through it, whereas there are none. All that are present permeate the soft tissue. Lastly, if it were foliar it must represent a whorl of stamens; but where such a whorl takes on a pistillate character, they form short horn-like processes around the base only, and not a uniform covering.

Mandarine Oranges Striped.—Mr. Hudson brought some fruit which always had slightly raised ridges, on a line with the backs of some of the carpels, and green. They proved to be quite superficial, only retaining the chlorophyll grains, which had disappeared elsewhere.

Acorn with three Embryos.—Mr. Saville, of Maplestead, Essex, on growing an acorn in water, found that it sent up three stems. They proved to arise from three distinct embryos within the common husk. Such polyembryonic conditions occasionally, but not very frequently, occur.

Douglas Fir Diseased.—Dr. Smith reports on the specimen sent to him that it is attacked by *Phoma pithya*, but will add fuller details hereafter.

Potatos diseased with Scab, &c.—Dr. Smith also reports on samples received from Mr. Escombe, Penshurst, Tunbridge, in August, 1899. Prolonged cultivation of the fungi showed several species, that it was difficult to detect, which was the primary

cause of the disease. "The skin of the Potatos bore two distinct forms of disease. (1) Scab, the cause of which is not yet known; (2) dark brown bodies adhering to the skin, called *Rhizoctonia Solani*, being a mycelium of some unknown fungus. Other fungi present appeared to be Potato dry rot (*Fusarium Solani*) and the Potato mildew (*Phytophthora infestans*)." Dr. Smith proposes to continue the culture, and to add a further report hereafter. Mr. Hudson observed that scab frequently appears on Potatos when pig manure has been added to the ground. Such would appear favourable to the fungus which causes it.

THE undermentioned subjects were discussed at the meeting of the Linnean Society of London, on April 5th.

Mr. Edward Bidwell, F.Z.S., exhibited specimens of Beechwood showing old carving singularly imbedded by subsequent growth.

Mr. W. B. Hemsley, F.R.S., F.L.S., exhibited and made remarks on a selection of plants collected by Dr. A. Henry and Mr. W. Hancock in the neighbourhood of Mengtze and Szemao in Western China.

Sphenophyllum.—Dr. D. H. Scott, F.R.S., read a paper "On Sphenophyllum and its Allies, an Extinct Division of the Vascular Cryptogams." The author explained that his purpose was not to communicate any new observations, but to give a summary of our present knowledge of the group and to discuss its affinities. He pointed out that the study of the Palaeozoic Flora not only greatly widens our conception of the three existing classes of Pteridophyta, but adds a fourth—that of the Sphenophyllales—to their number.

The external characters of certain species of Sphenophyllum and *Trizygia* were first described, and attention directed to the slender ribbed and jointed stems, the whorled and superposed leaves, and the great variation in the form of the leaf. The common hypothesis, based on the dimorphism of the leaf, that Sphenophyllum was an aquatic genus, was inconsistent with other facts, and Mr. Seward's suggestion of a climbing habit appeared preferable. In external morphology the resemblance was closest with the Equisetales.

The anatomy of Sphenophyllum was then illustrated; the centri-petal, triarch or hexarch primary wood, and the successive addition of secondary tissues by means of a normal cambium, were among the chief points noted, the formation of a regular scale-bark being another remarkable feature.

The cones were next described, that of Sphenophyllum Dawsoni, identified by M. Zeiller with *L. cuneifolium*, being explained in detail. The presence of pedicellate sporangia, of peculiar structure, appeared to be general in the genus, and there were reasons for regarding the pedicel as comparable to a ventral lobe of the subtending bract.

The question of heterospory was discussed, and the evidence regarded as wholly inconclusive.

Bowmanites Roemeri and Sphenophyllum majus were cited as examples of somewhat more complex examples of Sphenophyllaceous fructification. The latter was compared with the fructification of *Tmesipteris*, and the points of agreement between Psilotae and Sphenophyllales indicated.

Cheirostrobos Peltzemensis, a cone discovered some years ago in the Lower Carboniferous strata of Burntisland, was described, and its highly complex organization explained. The agreement anatomically with the Lycopods and morphologically with the Equisetales was found to be even more striking in Cheirostrobos than in the Sphenophyllae proper, and the reasons were given which have led the author to place the genus in the Class Sphenophyllales.

The various views which have been held as to affinities of the Sphenophyllales were then discussed in the light of the results recently attained. The supposed relation to Hydropteridae, though supported by some ingenious arguments, was rejected as baseless, and as inconsistent with the manifest Filicinean affinities of that family.

The author came to the conclusion that the Sphenophyllales were most naturally regarded as the derivatives of a synthetic group, combining the characters of Lycopods and Equisetales, and indicating the common origin of those two classes.

The paper was illustrated by lantern-slides. A discussion followed, in which Prof. Farmer, Mr. Worsdell, and Dr. Lang took part.

HINTS FOR AMATEURS.

Cabbage planting.—I have a profound respect for *Brassica oleracea capitata*. Who could not respect anything with such a name as that? What would the world do without Cabbages or "Greens" of innumerable and unnameable sorts? Some folks like to brand their neighbours as "not 'green,' by very Cabbage-like." What would these do without their means of comparison? Round about the Cabbage there is matter for extended moralisings and philosophy. "A little nonsense now and then is relished by the wisest men," but apart from banter, there is evidence year by year that sufficient care is not taken when planting Cabbages. It may be that the ground is not broken up enough, and an improper condition of soil may be blamed; and also the manner by which the roots find life a hard matter to maintain, owing to their being squeezed, choked, and crimped all in a heap, and so cause failure. Vegetable cramp ought to follow if it doesn't, under such root-cramped conditions. Though I now specialise the Cabbage, the same remarks apply to any soft-wooded young plant similar to a Cabbage, and which we plant in a like manner. The rules are:—First of all work up as deep and suitable a tilth as you can. From "Hints" in bygone weeks, what a suitable tilth is, will be known to those who follow these columns. Secondly, the choosing of a suitable condition of soil. The mechanical texture of the soil should be mellow, that is, freely workable, damp, without being adhesive, and of course the warmer it is so much the better. For this reason I seldom recommend very early planting. And thirdly, a proper method of insertion. Insertion here means that an opening of dimensions, wide and deep enough to allow the Cabbage or other plant roots to spread unconfinedly, should be made. A trowel will always be found the best instrument, because by its employment any hard lumps can be broken to pieces, and in cases where the soil may have become somewhat consolidated the use of a dibble implies a vertical opening with restricted circumference. Prevention is better than cure. When planting Cabbages to prevent possible attacks from the Gall fly, dip the roots in a mixture of soot, lime, and clay, made fluid by a proper addition of water. Waterings with thick sooty water also go a long way as a preventive measure.

Mending flower pots.—To mend large pots, there are several means one can try. With pliable wire, a hammer and pinchers, large pots, which are cracked or even broken (provided it is not a "compound fracture") can be remedied. Invert the pot, mouth downward, place the wire around the middle part of the pot, give it a twist, making sure that you leave only enough loose to allow of the band being knocked down to the under edge of the rim, where it should perform the duty of a tightly encircling hoop. The ends can be twisted once or twice and then cut off. To knock the wire belt down, place the side of the hammer-head against the surface of the pot, and sharply dump it down. A method of stitching can also be undertaken. Bore narrow holes through the pot on either side of the crack. Through each of these slip an end of the wire and draw the two ends tightly together by the same means which are specified above. Where pots are becoming too small, even though they are the largest pots obtainable, tubs and barrels may be prepared.

Fences.—The form, more than almost any other point, should be weightily considered before any proposed boundary guard is erected. I have been tempted to say this because of so many positively ugly fences, which may be seen at different places, and also from the fact of recently having seen a sweet little guard around a none too pretty garden. The fence was of wood, and constructed on the lattice or angled system. It was strong and well put together, yet had an appearance of great lightness, for it was painted a rarely seen blush colour. Here, colour certainly ought to be taken account of quite as much as form. This blush colour was certainly sweet and very cheery, nor did it look out of character, though I am afraid it would become dull and smutty in a limited period. If we could conceive how great an influence these manifold little things have upon us, and upon communities, without

doubt we would more urgently think out and determine upon our every plan.

Primroses and Auriculas.—That the present is the heyday of Primrose glory, is evident in one or two ways. The young men, lads, and lasses are daily decked with large bunches of the common wild Primrose. Then take a meander through the rock-garden. Here and there and all about, one views the beautiful shy-flowering forms, at least some are shy. Others sparkle over the open brow of the banks and give us high-souled joy. They are the conspicuous and robust members. This week there have been special shows in London and Birmingham, held by the society of lovers of these plants. These things point to the new life and charm which have opened out, even though we yet see great drowsiness in Nature. About the Primulas themselves I have nothing further to add to what I have previously said. Primroses are pretty flowers and of easy culture.

Ornamental Trees and Shrubs.—It is now getting past the time to write much of the planting of these garden subjects. Shrubberies are necessities to all sorts of gardens, and whenever possible I think we should have collections of the lesser known, though none the less beautiful shrubs. The lesser known are, in fact, often very handsome, though possibly more fastidious. In every part of the land the same popular dozen of shrubs is seen, and still we plant brothers beside brothers, leaving the selection of the meritorious but lesser known sorts to remain in ignominy. Keep a look-out during the coming summer for shrubs of beauty which you do not possess, and try to add these kinds to your own garden in the autumn. Shrubs should now at latest be pruned. Plants of the golden and cut-leaved Elder should be lifted from nursery beds and placed into vases for the ornamentation of parapets, pedestals or other prominent places in the garden. *Negundo aceroides variegatum*, which grows strongly in pots, may be placed out-of-doors in May. A bed of half standard *Negundos*, with *Lobelia Queen Victoria* or *L. cardinalis* planted to form colour below the white leaves of the shrub, furnishes a most charming sight. For a later contrast *Salvia splendens grandiflora* should be used in place of the *Lobelias*. This *Salvia* comes into full bloom about September. Bright-leaved *Aucubas* for window boxes might often be used. Nice little plants in 5 in. and 6 in. pots can be bought for a shilling apiece. It pays to buy a few of these, for with ordinary care they will live and flourish even in thickly populated districts. When they get dusty and dirty a vigorous syringing is all they need to once again refresh them. In combination with them most kinds of flowering plants contrast or agree in harmony. Nothing is finer than a well berried *Aucuba* for a dwelling room. The plants bear scarlet berries, but unless those who have plants both male and female of the *Aucuba* (and these are found separately) there can be no fruits, from the fact of non-fertilisation. A very handsome tree for almost anywhere is the *Chili Pine*, *Araucaria imbricata*. Avenues of this noble tree are exceedingly handsome. But even as a small lawn tree it is ornamental. It grows slowly.

Flower Garden.—Plant *Violas* and *Pansies*. Plant also *Hops* for covering arches or fences. *Gailardias* and *Pyrethrums* must also be got in. *Dablias* may be potted on and placed in a moderately cool house. Sweet Peas in pots may be pinched as an experiment to secure bushy plants. The bulk, however, should be allowed to grow on. *Carnations*, *Pinks*, perennial *Sunflowers*, autumn flowering *Phloxes*, *Hollyhocks*, *Achilleas*, *Delphiniums*, double *Daisies*, *Sweet Williams*, *Geums*, and other hardy and half-hardy plants may be planted out. Violet layers should be taken and planted for next season's growth. Ornamental grasses should be sown.

Fruit Garden.—Protect fruit trees from frost and winds, else the flower buds just now bursting may be irredeemably spoilt. Melons in pits and warm houses should be constantly watched. Keep water away from the base of the stem, thin out superfluous growths, and pinch the shoots two leaves beyond where fruits are set.

Thin out the crops of *Peaches* when too heavy. Also thin the bunches of *Muscata* and black *Grapes*. To prevent or eradicate red spider on Vines, coat the hot-water pipes with a paint composed of flowers of sulphur, soot, and soft soap dissolved in hot water. For mealy bug apply a drop of methylated spirit upon

the insect by means of a camel's-hair brush. Strawberry being forced should be fed with weak manurial water. Thin the trusses of fruit to about ten fruits per plant. Late planted young *Apple* trees should have their shoots pruned back. The buds toward the extremity of the shoots will not develop well, thus the pruning. The strength is also thrown back for the pushing forth of the basal buds.

The Greenhouse.—Pot off well rooted *Pelargonium* cuttings. Pinch any which are running up too strongly. Start *Gladioli* in the greenhouse for planting out next month.

Tree Carnations must be neatly staked. *Mal-maisons* should have a little feeding. Keep them cool. *Amaryllis* may be watered with guano water whenever the flower spikes appear.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Anthuriums for a small stove.—*Wilson-Bell*.: If you have a moderate amount of leisure and a good stove you ought to succeed in growing and flowering *Anthuriums*. You can purchase young plants from any well-known nursery firm. They enjoy thorough drainage, and should have a compost of fibrous loam and peat, charcoal, sphagnum, and broken crocks. They enjoy also a goodly supply of water, and like a soft syringing, twice a day all through the summer months. A moist atmosphere must be maintained, the temperature ranging from 60° to 70°. Shade from bright sun. You could not do better than grow *Anthurium scherzerianum*, *A. s. Wardii*, *A. s. Knightii*, and *A. rothschildianum*.

Canna Seeds.—*J. Strong*.: It is high time the seeds were sown unless you wish a late batch. Steep the seeds in very warm water (even up to 130°) for a period of twenty-four hours. The water, of course, would not be so hot all that while. Or a slight notch may be made in the seed-coat to allow the water a speedier entrance. Sow either in pans, or, better still, singly in small pots, at a depth of 1½ ins. Place the pots in a warm, moist pit.

Culture and Propagation of *Nephrolepis*.—*W. W.*: *Nephrolepis* is increased most frequently by dividing the matured plants. Or they can be propagated by pegging down some of the creeping stems which spring out from the base.

Their culture is very simple. A yearly potting, and, in some cases, only a top-dressing enables them to grow and maintain health till the next spring. They, like many other Ferns, must have plenty of water, a warm temperature of from 65° to 70° with moisture in the air. Gravelled stages in a shady stove suits them well. The following are very handsome:—*Nephrolepis davallioides furcans*, *N. plumosa*, *N. Bausei*, *N. exaltata*, and *N. rufescens*.

Book on Coniferae.—*Young Gardener*.: *A. D. Webster's "Hardy Coniferous Trees,"* recently published by Messrs. Hutchison & Co., 34, Paternoster Row, E.C., price 3s. 6d., should answer your purpose. More expensive works include Veitch's "Manual of the Coniferae," and Master's "List of Conifers and Taxads."

Sparrow Traps.—*M. T. S.*: We quite appreciate what you say. You will find the traps which Messrs. Gilbertson and Page, game-food manufacturers, of Hereford, make to be neat, and effective in securing many sparrows. There are also scares (*Clive's* scares) which might be bought. A sundriesman might be able to get them. "*Clive's* scares" are made of tin, and represent hawks. You would require to stretch them on springs between trees, and to shift them repeatedly.

Woolly aphis and Gooseberry Sawfly.—*Idem*.: Syringe the shoots attacked by the aphis (*American Blight*) with a solution of quassia, paraffin; and the soft-soap emulsion used in small amount among hot water, also destroys many of the insects. A paint of soot, lime, soft-soap and clay, mixed up in warm water and then smeared over the affected parts, we have found to be of much service. For the *Gooseberry Sawfly*, dust the bushes with soot on dewy

mornings, or white hellebore powder used in the same manner. This latter is poisonous, so that you must not dust the bushes with it when the fruits are ripening.

Snails Devouring Cabbages, &c.—L.: Dusting with soot, lime and other mixtures have little effect. Hand-picking at night by the light of a lantern is the most genuine means of riddance. Sometimes ducks can be turned on to a piece of land, but in this case they might destroy more Cabbages than the snails are doing.

Open-air Vines.—W. Veitch: The reasons why Vines are not so extensively grown in the open-air seem to be that the returns from them do not repay the labour expended. Glass being so cheap, also acts against the development of this fruit in the open. Cold, sunless seasons and the liability to mildew deter many. To prevent a recurrence of mildew on your tree, dust the young leaves when the mould appears with flowers of sulphur. Do not allow the roots to become dry; and afford what protection you can from sudden chills or cold winds. Attend to pinching, tying and thinning of the shoots and fruits. Water with liquid manure to aid the swelling. Even if the fruits do not ripen thoroughly they can still be made use of for jelly, tarts or for wine. The Royal Muscadine is one of the best outdoor varieties. Reine Olga is also suitable.

Artificial Manures for Cucumbers and Tomatos.—It would be better for you, seeing you grow only a limited amount of either crop, to confine yourself to such manures as Thomson's, Clay's, or Canary Guano. These manures have long been tried and proved. They act speedily and are lasting. Unprepared chemical manures, suitable for Tomatos and Cucumbers, would be sulphate of potash, superphosphate and nitrate of soda, applied as dressings fortnightly at the rate of 2 ozs. per square yard, or half a teaspoonful on the surface of each 12-in. pot.

Lawn Sprinkler.—James Wight: You do well to prepare yourself in advance. We believe any good general seed and nursery firm will get you a lawn sprinkler. If not apply to Messrs. Osman & Co., 132-134, Commercial Street, London, E. You should obtain their catalogue of sundries.

DESTROYING COCKROACHES.

COCKROACHES are such an unmitigated evil, to so many folks in all parts, that we are pleased to give prominence to a letter recently sent to us by a reader. It runs as follows:—"Seeing in a recent number (March 31st, p. 389), a plan to eradicate cockroaches, by M. T. O., would you be good enough to give him my experience (after long suffering years) of Vermite Insect Powder? Vermite was blown into all the cracks round the kitchen grate (the last thing at night), with the result that the pests came out first of all slowly, then in a rush. They then appeared to have a little dance peculiar to themselves, which terminated fatally, inasmuch as they reclined gracefully on their backs and gave up the ghost. The next morning, the dead were swept up in large numbers. On repeating this "invasion into the enemy's camp" three times, at a few days' interval, the whole lot was cleared. I buy Vermite from my oilman, and no doubt M. T. O. could do the same if still troubled with these most obnoxious insects.—S. Young, Southend-on-Sea.

Asparagus Sprengeri does best when its shoots are allowed to hang instead of being trained upward like *A. plumosus* and others.

Sparrows and Woodpigeons.—The committee appointed by the Highland and Agricultural Society of Scotland to consider the reduction in the number of sparrows and pigeons seem to have put their memorandum before the Board of Directors, these having referred them to approach the landlords and land-owners themselves upon the subject. The following directions which we note in an Irish paper are made by the committee:—(1) The destruction of eggs and young birds from April to July. (2) The use of nets on light poles with a slight laxity in the centre and placed against roosting places at night. (3) Sparrow traps. (4) Shooting.

HOW TO RAISE FLORISTS' SHOW TULIPS FROM SEED.

UNDERSTANDING that the Royal National Tulip Society (southern division) will hold their annual show at the Temple Gardens, in May next, and that there has been some important new blood infused into it as regards membership, it occurs to me that a few remarks as to raising new varieties from seed, and the method of producing same by the fertilisation of selected varieties, might be deemed acceptable by those who are embarking into the cultivation of the "Florists' Show Tulips," which "Thomas Hogg," in his treatise of florists' flowers, describes as "those beautiful, exquisitely beautiful flowers, which are the pride and boast of every amateur who grows them."

Hogg, when he penned those remarks, early in this century, was, doubtless, justified in speaking of their beauty in such flattering language; for they were, according to all the old florist writers, the really fascinating flower of the period, and at that period, although the prices of the bulbs were extravagantly high, there was scarcely a florist of any notoriety in

The process of seedling raising is as follows:—In three or four days after the blooms are fully matured or expanded, and whilst the sun is upon them, decide upon which varieties it is intended to make the parent seed bearers, and by what varieties they are to be fertilised, and the guide for selecting both the parent and fertiliser, must be, first, purity; next, form and substance of petal; and thirdly, markings, the latter to embrace refinement in the feathering, distinctness in the beam of a flamed flower, and the brilliancy in the colour. Always select, if possible, flowers whose petals touch, or nearly so, at the base when fully expanded, so as to prevent the blooms from quartering when they are getting old; and such whose petals are of good substance, leather-like, not thin and flimsy!

Having proceeded so far, and selected the flowers to work upon, take off, with a pair of tweezers, the stamens from the filaments of the flower intended to bear the seed; then, with a camel's hair brush, remove any pollen dust from inside of the bloom which may have fallen from the stamens during their removal. This being done, shake or wipe all



HOW MR. THURSTAN PROTECTS HIS TULIPS.

the neighbourhood of London but who cultivated them; and now, alas! such cultivators are few and far between. Had it not been for that enterprising florist, Mr. Peter Barr (Messrs. Barr & Sons), buying up, a few years ago, all the English show Tulips he could lay his hands upon, with the determination of bringing them again before the public at the principal London exhibitions, the Show Tulips would have been now, in the South, as they were for the past thirty to forty years, almost out of sight and out of mind! Thanks to Mr. Barr for his perseverance and bold venture, which must have been a costly one, this beautiful florists' flower is again becoming as conspicuous at the leading London exhibitions as it was fascinating sixty years ago.

Great strides have been made during the past twenty years by the Lancashire and Midland Counties florists, in the improvement of the Show Tulip, by raising seedlings from carefully selected fertilised flowers; and there are, at the present time, certain seedlings which represent, as nearly as possible, the standard of perfection, which consists of purity, shape, markings, and substance of petals.

the pollen from the brush, then go to the flower it has been decided to fertilise from, and, with the tweezers, take from it one or two of its stamens, which can be carried in the hand, or in a pill box, to the flower to be impregnated; then pass the brush over the stamens, which will pick up the pollen, and gently press the former two or three times on the stigma of the parent, which will immediately afterwards turn from its natural light appearance to a bluish-black colour. This being done, cover over the bloom with a piece of very fine muslin, and tie the latter round the stem of the bloom so as to prevent the bees, &c. from interfering with what has been done.

So soon as the petals fall remove the muslin, and insert a stick in the ground, to which tie the stem. Afterwards cover the seed vessel over with a piece of clear window glass about 2½ in. from the top of the pericarpium or seed vessel. This covering will keep the wet from getting on to the vessel, which is very liable to damp off, without some protection. The glass cover can easily be contrived by sowing through the edge of a small piece of wood about an

inch thick, and to the depth of $\frac{3}{4}$ in., and inserting in the saw cut the edge of the glass. The piece of wood must then be nailed on the top of the stick so that the glass, which should be about 6 in. sq., will stand $2\frac{1}{2}$ in. above the top of the pericarpium. When the latter becomes brown and dry on the outside it will be time to cut it off with 6 in. of the stem attached. It should then be placed in a dry room in the sun, in an upright position, and so soon as the top of the vessel begins to open, showing three compartments of seeds, the latter should be carefully removed from the shells and kept dry, in a paper bag, until the following February, when they should be sown in some nice sandy soil, in a seed pan, well drained with potsherds. The seeds must be covered with sieved soil not more than one sixteenth of an inch deep. Great care must be taken in keeping the soil moderately moist, whilst the seeds are in a state of germination.

The leaves of the young bulbs will present themselves through the soil, like young Onions, with a bent stem, and will die down by the end of May or beginning of June, at which time the little bulbs, which will be no larger than small Peas, should be taken up and kept in fine sand until October, when they should be planted, in a well drained bed in the garden, separately, 3 in. apart and 3 in. deep, taking care to put a layer of sand, about 1 in. thick, under them so that the bulbs will rest in the sand and be covered with fine soil 3 in. deep. In ordinary seasons the foliage will begin to show itself through the soil in the following February, and the bulbs will be ready to take up again in June; and although they will still be small, many of them will be surrounded with small offsets, and at this time each bulb, with its offsets, should be kept separately in a little paper bag or a small pill box, a little fine dry sand being put with them. In this way they should remain in a dry, cool room until planting time during the ensuing October, and the same process should be practised annually until the fourth or fifth year, by which time the bulbs should produce blooms, of which ninety-nine out of 100 will be self-colours of various shades, and termed "Breeders."

So soon as the blooms appear their properties should be carefully scrutinised, and such that contain promising points of perfection should be numbered and registered in a book, and kept until they break or rectify themselves into feathers and flames. The period of such change is indefinite, as some will break the first year after blooming, and others will be years before that freak of nature presents itself. When that happily looked for time does appear, the best variety which may have been produced in the breeder state, may break indistinctly, or into a dull or washy colour, that is, void of brilliancy, and which would make the variety worthless in the rectified state.

As my remarks in your issue of the 7th inst., p. 507, imply, to raise seedlings, and especially Tulips, it requires patience, perseverance, and nerve to bear with all the disappointments which may possibly intervene during the progress of such a venture. Nevertheless, the inexpressible pleasure and delight afforded to the patient seedling raiser overwhelms, in the highest degree, the darkest clouds which may be met with during the whole process.

The amateur florist who may read these remarks and afterwards have confidence enough to embark in the little venture recommended, can rest himself assured that the sun will, in its greatest radiance, shine upon his efforts.—*James Thurstan, Cannock, April 16th, 1900.*

[The illustration on page 553 shows the elaborate care that an enthusiastic amateur may take to shelter his plants from rough weather, rain or blustering winds that may and often do occur during April and May when his Tulips have reached the flowering stage. The photograph shows Mr. Thurstan amongst his Tulips.—ED.]

RUSTIC WORK.

WHY we adopted, or rather how rough and ready looking "ornamental objects" came to be planned originally, we have no certain idea. Perhaps rustic chairs, arbours, or bridges, were inventions of the well meaning though sometimes inconsistent reformers in the time of Wise, who led the van against formal design and established the natural and free. The element of variety and quaintness comes with the use of the rustic adornments, so for this reason

the advocacy of more rustic arbours, bridges, vases, &c., for garden, may be admitted. Variety in a garden is a thing to be striven for, yet certain features must needs be carefully considered before being embraced—I mean in reference to their suitability for their surroundings.

This leads me to hint that rustic adornments must not be bought up and planked down just anywhere, as in a neatly kept formal garden. Taking the rustic arbour, its one position is in a wooded retreat far back in the pleasure-ground. Placed thus it raises the feeling of fitness and gives charm, whereas under some other circumstances to see arbours causes one to imagine a clumsy toy from a Noah's Ark having fallen in forbidding and inconformable surroundings. A rough heather thatch is very suitable for a rustic summerhouse.

Then rustic bridges, when really skillfully made, are a source of interest and afford a great deal of delight from the study of their parts. The first idea of course is to make for security and beauty, and the after finish may be worked out according to the skill and time at command.

To make a small bridge of the type under notice it will be necessary to build upright supporting walls on either side of the stream or gullet. Across from side to side stout horizontal beams are placed, and, if necessary, a central support. Lesser posts should be raised from the level of the bridge at each end for the fixing up of a handrail. Then the slides can be furnished with tortuous branches of Oak or Elm, having the bark pared off. Either single boughs or boughs with lateral shoots can be used. The chief points should be to get them to fit well, and to spread the pattern out properly, interweaving it nicely. Very fine garden seats and tripod rustic vases can be made if the right man takes the work in hand. Arches for Roses and Clematises may be put together in the leisure time at disposal; and besides furnishing ornaments for the garden it will also keep the men employed when outdoor work cannot be gone on with.—*J. Dickson.*

VISITS TO NURSERIES.

MESSRS. JAMES VEITCH & SONS, Ltd.

ALL classes of plants are so well represented in the Royal Exotic Nurseries, Chelsea, of Messrs. J. Veitch & Sons, Ltd., that something of interest may at any time be seen. Flowering plants become very numerous, however, as spring advances.

GREENHOUSE PLANTS.

The house devoted to *Clivias* has been wonderfully gay for some time past. Many of the plants are confined to single stems of enormous strength, bearing huge heads of bloom. In breadth and substance of petal the flowers vary greatly; and the shades of colour are sufficiently diverse to deserve distinctive names. A few of them are so distinguished. In colour they range from sulphur to orange, rosy-orange and orange-scarlet; while some are of a bright scarlet. That named *Favourite* is of a very delicate hue, being sulphur-pink, with a pale throat. *Clivias* are much used upon the Continent as decorative plants in dwelling rooms, where they last for three or four weeks in the windows of cool and well-lighted rooms. They might be more employed for such a purpose even when out of flower on account of their dark green, leathery and strap-shaped leaves.

In another house the hybrid greenhouse *Rhododendrons* of the *Javanico-jasminiflorum* type are always in bloom, several colours being in evidence at present.

The greenhouse proper is always well filled with a great variety of seasonable as well as hard and soft-wooded subjects that have been forced. No conservatory or greenhouse can be well stocked without them. A fortnight ago the standards of *Cerasus Watereri* and *Prunus triloba* were simply laden with blossom. The same may be said of *Pyrus Malus floribunda* in the form of pyramids. Very fine also were the double, rose-coloured Peach, *Acacia ovata*, *Cytisus racemosus*, the common *Hydrangea hortensis* and the white *H. Dr. Hogg*. *Azaleas* added their quota. Every collection should contain some specimens of *Boronia heterophylla* and *B. megastigma*, the former for its deep purple flowers, and the latter on account of its deliciously powerful and haunting scent. In every part of the

house and even outside of it on the lee side the delightful scent invites the visitor to closer acquaintance with it. *Mignonette*, *Hyacinths*, *Polyanthus Narcissus*, *Lilacs* and even *Cinerarias* all emit more or less penetrating and pleasing scents that pervade the house everywhere.

STOVE PLANTS.

Amongst new plants there is no brighter or more pleasing subject than *Ficus radicans variegata*, the variegation of which is ample and of a silvery white. The plants are grown in Orchid pans and hung up near the glass. Another first-class novelty is *Dracaena Eeckhautei*, the most graceful of all the green *Dracaenas*, the beautifully arching leaves draping tall-stemmed plants even down to the pots. It came from the old *D. rubra* with dark green leaves. Those of *D. Bruanti* are also dark but broader. *D. The Queen* is of the same type as *Miss Glendinning*, with bronzy leaves and bright red margins, but it is easier to grow. On the rockwork of one house *Selaginella serpens* covered the stones with its pale green branching fronds.

In the *Nepenthes* house are some fine pitchers although this is the worst season that one could inspect them. The pitchers of *N. rafflesiana* are still richly coloured; those of *N. Morganiae* are deep red; *N. bicalcarata*, deep brown; and a fine variety of *N. Chelsoni* has huge pitchers in good condition and richly marked with dark blotches. The *Anthurium* house is getting gay with an abundance of spathes of the bright scarlet *A. scherzerianum*. The variety *A. s. Wardii* is notable for the breadth of its spathes. A very variable hybrid is *A. rothschildianum*, there being some fine varieties here densely blotched and marbled with scarlet on a white ground.

Passing through a cool house we noted *Araucaria elegans*, which comes from a much warmer island than the Norfolk Island Pine. The branches are more slender and graceful with shorter leaves than *A. Rulei*. Here also is a plentiful supply of *A. excelsa* and *A. e. glauca*, with distinctly glaucous leaves.

A warmer house is filled with *Kentias*, *Phoenix*, and other Palms. *Pancratium fragrans* is grown in quantity, and a healthy stock of *Eucharis grandiflora* is also flowering. The large Palm house is replete with big specimens of *Kentia fosteriana*, *K. belmoreana*, *Cocos plumosa*, and other Palms all in clean and healthy condition, with dark green foliage. Rather handsome in its way was *Begonia sanguinea* in another house. It belongs to the *B. corallina* type, but the leaves are of a bright crimson-red beneath, and the plants are dwarfer.

Caladiums, although potted at the proper season, had been held in abeyance by the long continued cold and sunless weather, but they are now pulling up rapidly. The early leaves are certainly very handsome. Mr. Tivey is an enthusiastic cultivator of this class of plants, and the collection under his care is very extensive. Amongst the more engaging of the varieties a fortnight ago were *Botafoga*, soft red, with a broad, creamy edge; *Orflamme*, red, with shaded green edges; *Assungay*, almost transparent or translucent in its early stages; *Lady Moseley*, of a uniform pink and very pretty; *Reine de Danemark*, soft blush-pink, with carmine ribs and a green margin, and *Louis Van Houtte*, with large, dark, bronzy-crimson leaves. A delicate and pretty variety is *Her Majesty*, with white, translucent leaves, overlaid with golden-green along the ribs and veins. Red, green, and white are pretty well mixed on the large, convex leaves of *Orphee*. Those of *Excellent* are olive, blotched with white and red in the centre. *Candidum* is a well-known standard variety for exhibition purposes.

ORCHIDS.

The warm range of Orchid houses always contains something interesting, and on this occasion the *Dendrobiums* and *Cypripediums* were most abundantly represented. *Dendrobium splendidissimum leeanum* is a white or nearly white form, tipped with purple. *D. atrovioleaceum* is now very well grown and flowered in small Orchid pans, hung up to the roof. The parentage of *D. wardiano-aureum* is well indicated by the name, the orange lip having a maroon blotch at the base. *D. Alcippe* (*lituiflorum* × *wardianum*) is notable for its rich blue shade, and violet blotch on the lip. Choice also is *D. crassinode album*, the orange blotch on the lip contrasting with the rest of the flower, which is white. A large-flowered and sweet-scented form of *D. primulinum* was noteworthy. Blue and white flowers occur

again in *D. Niohe* (tortile $\times$ nobile), the lip being furnished with a violet blotch. Pretty also is another hybrid named *D. Sybil*, the sepals, petals, and lip of which are shaded with violet-purple, and the base of the lip striated with faint lines at the base. A handsome piece of *D. infundibulum* was flowering in a basket.

Hybrid *Cypripediums* were also numerous, as they are at most seasons of the year. *C. germinyanum* is of the *hirsutissimum* type, the rose tips of the petals being well marked. The flowers of *C. Caesonia* (*Godefroyae* $\times$ *barbatum* Crossli) are soft rosy-purple. The white and yellow dorsal sepal of *C. Leonidas* is conspicuous and showy. The sepals and petals of *C. hirsutissimum-Argus* are heavily spotted with black markings. The long racemes of *C. devonianum* with buff flowers and a purple lip are always interesting. *Oncidium sarcodes* and *O. ampliatum* are grown in some quantity, and worthily occupy their house room.

The Orchid rockery is always kept gay with plants drafted from other houses. *Oncidium divaricatum* has broad and *O. pulvinatum*, long, narrow panicles of blossom. *Epidendrum radicans* carries some twelve spikes of its showy, scarlet flowers. *E. Endresio-Wallisii* and *E. elegantulum* are grown in quantity and variety, the colours being very pleasing. *Phaius Norman*, *Trichopilia suavis*, *Oncidium phymatochilum* and *Lycaste plana* are all freely flowered and showy. The sepals, petals, and lip of the last named are richly spotted with purple on a white ground.

The large *Cattleya* house contains a fine lot of *Cattleya Schroderae* in great variety. The pale ones open nearly white, and afterwards assume their normal tint. The recently re-imported *Laelia jongheana* is here grown in quantity and variety. *Laelia cinaharina* is always choice. *Laeliocattleya Doris Xantho* (*Trianaei* $\times$ *harpophylla*) has orange flowers and a deep purple lamina to the lip.

The cool house contains its quota of *Odontoglossums*, *Oncidiums*, &c. The charming yellow *Oncidium concolor* is grown in quantity in small pans. *O. marshallianum* is another glorious subject now well set with blossom, the plants thriving well in Orchid pans. The orange-scarlet *Epidendrum vitellinum* is always bright, cheerful, and choice. One of the most interesting and pretty varieties of *Odontoglossum Cervantesii* is the rose coloured form known as *O. C. rosea*, which is also handsomely spotted.

THE BEDDING IN LONDON PARKS.

ALMOST until a week ago, the weather was such that the growth of vegetation made little progress. But during the last week heat has prevailed, with the result that *Narcissi*, *Hyacinths*, and even some of the *Tulips* have opened to the sun, thousands of them. As a consequence, visitors to the parks are numerous, and the spring bedding is their chief attraction.

HYDE PARK.

Probably *Hyacinths* are predominant here. They certainly are extensively employed in the long stretch of beds in nearest touch with the Stanhope Gate. For the benefit of those whose fortune it has never been to see Hyde Park, we may notice that the real hedding is confined to an extensive stretch on the south-east side of the grounds. Then of course in various of the nooks, corners, and open spaces throughout the park, *Daffodils*, *Hyacinths*, *Tulips*, and spring bulbs generally have been planted. Many are naturalised in the grass.

The beds in the flower garden are either oblong or round, and are laid out in well kept close growing sward, railed off from a too enthusiastic or appreciative public.

There are men constantly employed to keep things in the trimmest order, the result being that at this present time it is a pleasure of pleasures to have the privilege of a quiet walk through the flower garden.

With only bulbs at their disposal, the superintendents of the various parks have little material to work up pretty combinations from. But there are the three fundamental colours, red, white and blue, and from these, just as in the process of colour printing which uses no greater variety than this tripod, and turns out pretty and pleasing pictures, so in like-manner, the judicious use of *Hyacinths* in their red, white, and blue, with an occasional interspersed

of the trumpet or frailer *Narcissi* and a ground work of such dwarf little plants as *Scillas*, *Brodiaeas* or *Primroses*, some very pretty beds are displayed.

The beds filled with only one variety of *Hyacinth*, such as *Robert Steiger*, a deep pink; *Lord Derby*, very light blue; *L'Innocence*, a white variety, with some others, seen in the mass, are highly satisfying and restful to the eye and mind.

Those beds with *Narcissus* and *Hyacinths* mixed are also very handsome. We find such pleasant combinations as *N. Maximus* with *Hyacinth* *Mdme. Van der Hoop*, a good white variety; *H. Roi des Belges*, a deep red, with *N. Horsefieldii*, a union at once massive, handsome, and beautifully rich. But among all the sweet plots none surpasses in beauty a number of round corner beds filled with *Narcissus* *Jonquilla odoratus*, *N. rugulosus*, and *Scilla sibirica*, the gentian blue forming a ground colour below the deep yellow of the *Jonquil*. The beds of choice *Polyanthus* are also particularly fine. These have all to be threaded to protect them from the birds.

Tulips and *Doronicum plantagineum*, besides the many beds wholly filled with *Tulips*, will provide a continued display after the earlier bulbs are past.

The quality of every sort of bulbous flowering plant is remarkably strong and good. *Hyacinths* in particular are of prominent merit, and the general evenness of the beds, the distinctness, and trueness to type of all the bulbs in those many beds, struck one as being a satisfactory issue to the contract of Messrs. Carter & Co., High Holborn, who provided all the Royal and London County Council parks with the bulbs now lavishly flowering everywhere. The arrangement of colours in the beds one with the other, to compose a pleasing union, is in every respect successful, and maintains Mr. Brown's reputation for skill and taste.

BARR'S DAFFODILS.

THERE are very many people, people with exquisitely good taste and judgment, who go so far in their admiration for *Daffodils* (or the *Narcissus* tribe in general) as to express their regard for this flower as greater than their love of any other, *Roses* and *Liliums* not excluded. If their views and appreciation do nothing more, they certainly direct our attention to the fact that these simple flowers occupy an honoured niche in the scale of humanity's love for flowers. For myself I am inclined to place *Daffodils* next to, or on a level with, the gloriously beautiful *Roses*. To see *Daffodils* in all their loveliness, their chastity of form, their softness or brilliance of colour, their diversity of growth and habit and gracefulness, one has to visit such an estate as that of Messrs. Barr & Sons at Long Ditton in Surrey. A short run down from Waterloo to Surbiton lands the visitors almost at the gates of the nursery. Parties fully avail themselves of the invitation extended by the sons of Mr. Peter Barr (*Daffodil King*) who are now in sole possession of the business. Everyone receives courteous attention, so that a day at Long Ditton, given good weather, is one of the most pleasant outings one could fix upon. The scenery all around, the flowers in all their thousands and the comfortable travelling all combine to render the trip most pleasant. Different folks having diverse objects will all appreciate the visit in their own way. *Daffodil* enthusiasts will naturally find most to interest them and to enjoy, but everybody could learn a great deal about this intricate genus, by simply using their powers of hearing and observation while quietly toiling the rounds.

We had the pleasure of viewing a number of new seedlings in bloom. It was our intention to describe some of these in detail, but that at the present would be useless. When distinctive names have been accorded to them we shall then record them more fully. But this much may be said, there are some handsome trumpet *Daffodils*, both bicolors and sulphurs, undergoing consideration. Hybridising is still being, as it has always been, attempted. One of the new bicolor seedlings with a deep and beautifully fimbriated trumpet, besides twisted creamy petals approaches to that renowned and expensive variety *Mdme. Plomp*. In addition to this there is another which promises to be one of the finest and most brilliant of the great trumpet section. Others are to be seen which follow after *Weardale Perfection*, *Snowflake*, *Mdme. de Graaf* and such others of first merit. Among the varieties sent out only last year and which are only now becoming known, we find

additions to all sections. It would be difficult to say which variety really shows the greatest advance on existing types. *Maggie May* is certainly a lovely thing, is, in fact, the best of the *Leedsii* type yet raised. The cup is of a pale citron colour and evenly frilled; the perianth lobes are broad, spreading and white. The habit is good and the growth strong. It has been twice awarded a First-class Certificate, one of them from the R.H.S. *Narcissus* Committee.

Duke of Bedford, of which we gave so good an account last year, is gaining greatly in favour, because better known. It differs in form from *Weardale* but with it makes a grand addition to the bicolor trumpets. *Hillside Daffodil* is an early flowering, rich, golden yellow variety, and one which pleased us greatly. Captain Nelson throws lovely blooms, with clear canary corona and large trumpet. This was sent out before 1899. It also bears a F.C.C. *Apricot*, which was so much noticed last year, presents a shade of colour in the trumpet. This has quite a distinct *Apricot* tinge. It is one of the smaller and prettiest of the trumpet section. *Weardale Perfection* bears the proud distinction of being the largest and grandest of all the *Daffodils*. It has an immense hold trumpet of a pale primrose hue and very large white perianth. It has had a heap of awards showered upon it. The price so far is rather high, viz: £10 10s. a bulb.

Victoria, another variety which will find universal admiration, came out in Jubilee year. It is a well-defined bicolor, but the great merit, at least in our eyes, is in its grand substance, its massiveness of form and the breadth of the segments. The perianth is almost snow-white when grown as a pot-plant under glass. It also is a free grower and has received numerous awards. Mrs. Moreland Crossfield adds a worthy variety to the list of early flowering types, coming as it does, almost as early as the popular *Horsefieldii*, *Stella superba* of the *Incomparabilis* section should be missed from no garden. It is a lovely decorative variety with pale primrose perianth, whose segments are very large and showy, and whose cup is of a sweet yellow colour. *Stella superba* is a mighty advance upon the commonly known *Incomparabilis Stella*. It is strikingly distinct.

The trumpet variety, *Willie Barr*, captivated us with the brilliance and clearness of its soft yellow perianth, and deeper yellow trumpet with an elegant brim. It is a well formed flower, the plant being also a strong grower. It is certainly one of the gems among yellow trumpet forms. The *Twins* represent a pretty little variety from the *Tridymus* type. Each flower stalk bears two conspicuous blooms of moderate size, having a soft creamy perianth and rich golden cup. This introduction is a pleasing novelty.

The foregoing includes most of the seedlings recently in flower, and one or two of the handsomest introductions, which are still scarce. To the list of the latter we must add *Madame Plomp*, a flower which bears itself with dignity and boldness. The trumpet is long, finely formed and rich clear yellow. The perianth forms a broad solid white back-ground. *Madame Plomp* is everywhere a very conspicuous *Daffodil* and one which is greatly admired. *Madame de Graaf*, one of the white trumpet *Daffodils*, has received so much praise, and has spread into gardens all over the land during its few years of trial, that a mere reference to this sturdy and truly handsome variety should suffice to refresh the memory of any who may have heard of it and forgotten it. It is worth an effort to secure so fine a *Narciss*. The perianth is pure white, and the trumpet pale primrose.

Incomparabilis Gloria Mundi is one of the choicest of its class, being superior to most of the varieties in its section. It throws up an exceedingly handsome and showy flower, the much expanded cup being heavily stained with orange-scarlet, and giving it much distinction. Another pretty member of the *Incomparabilis* group is *Gwyther*; *Beauty*, also included in this class, is a variety which has been certificated. C. J. Backhouse can scarcely be equalled, and certainly is not surpassed in this section for sweet combination of colours and for good size. The same praise might be given to *Cynsure*, to *Frank Miles* (than which few varieties are more adapted for naturalising in grass), *King of the Netherlands*; *Sir Watkin*, another great favourite. There are thousands of *Barrii* conspicuous, another

capital Narciss either for field, for beds, for grass, or for pots. It is now so well known and so generally appreciated that description would be redundant. Maurice Vi. morin, also of the Barrii section, is almost equally suitable for grass or for beds, and bears a pretty bloom. Flora Wilson, a striking flower, Mrs. C. Bowley, and Orphee are others we would call attention to among the Barrii's.

Of the Leedsii types, some of which have already been mentioned, others which are especially worthy include Leedsii amabilis, with white perianth and silvery crown, is one of the earliest and prettiest. And none can be finer, more perfectly lovely or artistically pleasing than Duchess of Westminster. This is a variety we would call special attention to. For all manners of purposes it is a first-rate Narciss, though it is as yet too expensive to obtain in any quantity. It has a beautifully soft yellow coloured cup and large white perianth. When fully matured the blooms are altogether white. It had a F.C.C. awarded to it from the R.H.S. a year or two ago. Leedsii Beatrice, another with the beauty of a "milk-white dove," deserves attention, as does the Grand Duchess, which vies with Leedsii Minnie Hume, or the best type of the Poeticus section, for making an effective bed or massed sheet for near or distant effects. The blooms are palest creamy-white, of flowering outline and rather under medium size. Minnie Hume, which we just referred to, is probably known to all who take any interest in Daffodils.

Katherine Spurrell, also of the Leedsii's, is an early flowerer, and stands high in the appreciation of experts.

But we have enough in the meantime to show what there is to be seen, and what is and has been done by the Messrs. Barr, of Long Ditton, Surrey, and King Street, Covent Garden. When we find space and time it would please us to detail the merits of other varieties not mentioned here, and probably to give lists of those suitable for special purposes, especially Daffodils for naturalising. Nothing in all gardening is more truly beautiful than Daffodils on the grass.

FRIARSHALL, MELROSE, N.B.

So much has been done by "The Wizard of the North" in bending the eyes and minds of all the world to his well-loved borderland, and the Abbotsford region in particular, that the mere mention of Melrose suffices to introduce the distant reader to a district full of charm, laden with natural beauty and hardened with stirring memories of historical lore.

The little estate which the writer would confine his notes to for the present is one of the most comfortably situated of any in all that region, which, for composite rural beauty, is unsurpassed anywhere throughout the Scottish borders. Lying within hearing of the broad, flowing, silvery Tweed, on a southern slope of the round-backed Gattonside Hills, whose smooth lines glide eastward and westward from Leader-stream to Gala-water. On the eastern hip the slopes are wooded, and shelter is welcome to break those awful North Sea blasts which so often blow along the upward Vale of Tweed. Not a glint of sunshine is missed by Friarshall. The demesne is owned by Captain Erskine, who has long lived there, and loves its old associations. Melrose Abbey, world-renowned, stands in rude magnificence almost directly opposite to Friarshall on the southern side or right bank of the Tweed. It is strongly probable that the modern Friarshall, which is a pretty and well placed mansion, occupies a site near to or upon one of the ancient Culdee monks' establishments, or a branch settlement for the Franciscan friars, who possessed the Abbey. The origin is, no doubt, authentically traced, and we may yet hear of its history.

Just a short while ago we referred to Peach trees being in flower in the open-air in Roxburghshire. The facts came from this Tweedside garden. Here, on the open walls which form a wide circle around the terraced brakes and borders, Peaches and Apricots, which, as a rule, are cultivated under glass in the North, succeed well, and bear freely. In the paragraph above noted, we mentioned the corollary facts that artificial means for shelter were attended to. This is necessary, quite as necessary in the South as in the North, for one sharp night's frost coming, when the stigmas of the flowers are primely matured, would wreck the year's fruit-crop.

A coping-ledge (of wood in this instance) obstructs the vertical rays of heat radiation from below, and, by the addition of herring nets in front, most of the danger from freezing is averted. The trees are in good condition, trained in the favourite fan-shape, and are kept well furnished with fruiting wood from the central base outwards. Cordon Pear trees likewise find a place. These, however, are under the influence of a fungoid disease (*Cladosporium dendriticum*), whose effect is seen by a shrivelling and drying up of the outer bark. Unless the spores of the fungus were overcome in the first instance, no after cure seems so far to be availing. The cordons under note are vigorous enough, and will continue to be so long as they are generously treated. At the same time, their beauty and fruitfulness as wall trees are somewhat impaired. The garden is laid out in a system of terraces, so that as each little retaining wall offers a length of surface to the sun, there is fine accommodation for other fruit trees and bushes. The glass-houses are small, yet furnish something bright at all seasons. Clumps of Daffodils, and many kinds of spring bulbous plants are arrayed over stretches of the garden. Hyacinths, Squills, Chionodoxas, and, later on, the Tulips, enliven the several portions of ground. The finest Ajax Narcissi were already in full bloom, as represented by N. Horsefieldii, N. Emperor and Empress, and such other varieties as the old double yellow N. telamonius plenus, the popular Orange Phoenix; Poet's Narciss; N. Cernuus, and some more. Around the banks there is a sprinkling of the Daffodils, but a few additional hundreds would greatly brighten the shady corners. Shrubbery, rock-work, lawn, and flower-bed are tastefully blended all around the Rose, Ivy, and Jasmine-covered mansion. Mr. William Stewart, who has long managed this tranquil, yet bright little garden with continued satisfaction to Captain and Mrs. Erskine, we hope will still be spared for many years to work in pleasure, and for the pleasure of such worthy employers.—Harrison—D.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Orchids at Edinburgh Botanic Gardens.—Edinburgh folks are favoured in many respects, and not least in their privilege of a handsome and replete Botanical Garden. The houses are all well stocked and are made the most of. Orchids have been for some years a pet class of plants with the director, Professor Bailey Balfour, and under his rule the number of species have been enormously increased. The Orchid houses are a treat to see, for there is scarcely a subject which does not thrive and flower finely. This fact is at once borne upon the observant visitor, who, if he is of a keenly scrutinising nature and a plant lover, usually views cultivated plant-units criticisingly before he admits admiration. The Orchid houses at the Edinburgh Botanic Gardens are of first rate design, and are patterns for the guidance of numerous enthusiasts round "Auld Reekie." A great deal rises to our mind as being worthy of a notice. Only to name a few of the finer Orchids seen in flower during the first week in April, the following list points to a wide representation:—*Dendrobium infundibulum*, *D. jamesianum*, *D. aggregatum majus*, *D. atro-vioaceum*, *D. Pierardii*, *D. hrymerianum*, *D. fimbriatum oculatum*, *D. nobile*, and many of that type. *Cymbidium lowianum*, was beautifully plumed with long arching spikes. *Lycaste Skinneri*, and the variety *L. S. alba*, were good; *Miltonia vexillaria* and *M. Phalaenopsis* blazed in touch with specimen *Masdevallias*, some of which had once bloomed for the pleasure of their patron, the late Earl of Lothian. *Masdevallia coccinea* Lindeni, *M. ignea*, with others, formed a very brilliant hank. *Epidendrum obrienianum*, *Oncidium concolor*, *O. sarcodes*, *Cattleya citrina* (samples of which were perfect in size, substance, and colouring), *C. Trianaei*, *Epidendrum porphyreum*, and *Laelia rossiana* and *cinnabarina* were among the list of Orchids whose merits are fully appreciated, and which were here seen well grown.

The Cheddar Pink (*Dianthus caesius*) flowers in spring. It is one of the prettiest of the Pink tribe.

GARDENING MISCELLANY.

CINERARIA STELLATA FROM DEVON.

A BUNCH of flowers of the Star or Starry Cinerarias has reached us from Mr. J. Mayne, gardener to the Hon. Mark Rolle, Bicton, Budleigh Salterton, Devon. His plants are now 2 ft. to 3 ft. high, and as much through, making graceful and elegant specimens of great decorative value. The flowers are of various sizes, some of them having short rays, while others have longer rays, making them appear more starry. The colour ranges from palest lilac, almost white, to light and dark rose, pink and bright blue. The flowers lack the splendid size and geometrical outlines of the most highly evolved garden race, but on the other hand the slender and branching habit of the plants, and the great profusion of starry flowers, together with their bright and cheerful colours, combine to make the Star Cinerarias of the greatest value for the decoration of greenhouses and conservatories during the spring months, when flowers of all classes are much appreciated. In the case of large conservatories, where many subjects are planted out in beds or even stood in pots and tubs on the floor, the Star Cinerarias are more eligible than the dwarf strains, which are lost when stood on the ground level, or anywhere much beneath the level of the eye.

CALCEOLARIA VIOLACEA.

A FINE plant of this old-fashioned but interesting greenhouse plant was recently exhibited at the Drill Hall by Mr. J. Fitt, gardener to F.W. Campion, Esq., Trumpets Hill, Reigate. It is a native of Chili, from whence it was introduced to this country in 1853. The shrubby, slender, branching stems may generally be seen ranging from 2 ft. to 3 ft. high, when it makes a fine bush for flowering in the greenhouse in spring. It is almost hardy, and we have seen it live for several winters against the walls of a hothouse, but otherwise unprotected in the open. As a flowering plant, however, it gives greater satisfaction under glass where the heat is just sufficient to keep the frost out. The flowers are pale violet with numerous dark violet spots upon the lip inside. The lip is not pouched or closed up in the same fashion as that of the herbaceous and most other *Calceolarias* grown in gardens, but the flowers are bell-shaped, open, and the species is by no means like a *Calceolaria* at first sight. Another species is sometimes confused with the above, namely *C. Sinclairii*, which comes from New Zealand, and has pale lilac or flesh-coloured flowers, spotted inside with reddish purple; but they are between bell-shaped and hemispheric in shape. The leaves of the two species are, however, entirely different, and quite sufficient to distinguish the two. The leaves of *C. violacea* are short, ovate, shallowly lobed, and about 1 in. long. Those of *C. Sinclairii* are oblong, or ovate-oblong, slightly lobed or merely crenate, and 2 in. to 4 in. long.

SOCIETIES.

ROYAL HORTICULTURAL.—April 24th.

THE meeting on Tuesday last was quite crowded, owing to the presence of two shows, namely, the ordinary fortnightly meeting and the annual exhibition of the National Auricula and Primula Society. Tulips were in strong force, chiefly early varieties, also Daffodils, stove and greenhouse plants, forced subjects (such as Roses, Rhododendrons, Azaleas, and Japanese Maples), Star Cinerarias, Lilacs, &c.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited a well flowered group of Orchids, consisting largely of *Cattleyas*, such as *C. Schroderae*, *C. Mendelii*, *C. lawrenceana*, *C. Mendelii* Prince of Wales. *Dendrobiums* were represented by a fine form of *D. chrysotoxum*. Amongst *Odontoglossums* we noted fine varieties of *O. luteo-purpureum*, *O. triumphans*, *O. crispum*, and *O. andersonianum* var. A pretty and distinct hybrid was *Phalaenopsis* Lady Rothschild. (Silver Banksian Medal.)

W. A. Bilney, Esq. (gardener, Mr. C. Whillock), Fir Grange, Weybridge, Surrey, exhibited a fine hank of *Dendrobiums*, including well flowered varieties of *D. wardianum*, *D. w. Fir Grange* var., *D. nobile*, *D. n. nobilius*, and others equally floriferous. He also had *Burlingtonia fragilis*, *Cattleya lawrenceana*, *Laelia harpophylla*, &c. (Silver Flora Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, had a well flowered little group of the showy and highly attractive *Dendrobium Socius*. They also exhibited *Laeliocattleya welliana*, *Cypripedium Jostia*, and *Zygocloax Veitchii*. Mr. H. A. Tracy, Orchid Nurseries, Twickenham, staged *Cattleya Schroderae* Regalis. W. Vanner, Esq. (gardener, Mr. Robbins), Camden Wood, Chislehurst, showed *Cypripedium William Vanner*. Sir J. Miller, Bart., Manderston, Dunns, N.B., showed *Laeliocattleya Lady Miller*. Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, exhibited *Dendrobium macrostachyum*, *Cirrhopetalum fimbriatum*, a strongly scented *Cattleya Schroderae*, and a well flowered plant of *Dendrobium teretifolium*.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, exhibited a varied collection of Orchids, prominent amongst which were *Cattleya lawrenceana*, *C. Schroderae*, *C. Mossiae Wageri*, *Dendrobium devonianum*, *D. thyrsiflorum*, *Odontoglossum wilckeanum* Pittiae, *Cattleya schilleriana* Pitt's var., *Miltozia Roezlii*, *M. R. alba*, *Cochlidia noetzeliana*, *Mesospinidium vulcanicum grandiflorum*, and many other interesting and choice forms. (Silver Flora Medal.)

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, also staged an interesting exhibit of Orchids. Well bloomed were *Laelia Latona*, *Cattleya Mendelii*, *C. William Murray*, *C. Schroderae*, *C. schilleriana*, *C. intermedia*, *C. i. alba*, *C. i. superba*, and other of its varieties. (Silver Flora Medal.)

W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs, exhibited some choice and valuable *Odontoglossums*, including *O. c. Victoria Regina*, and *O. c. The Earl*. M. Florent Claes, 55, Rue des Champs, Brussels, staged *Physurus Ortgiesii*. Walter Cobb, Esq. (gardener, Mr. Howes), Dulcote, Tunbridge Wells, staged *Odontoglossum naevium*, *O. triumphans Dulcote* var., *O. t. Mr. Cobb*, and *Cattleya Schroderae caerulea*.

De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, exhibited *O. crispum Lionel Crawshay*, *O. c. Imperatrix roseum*, *O. wendlandianum* *crawshayanum*, *O. crispum Nebula*, and *O. c. bonnyanum* *crawshayanum*. Norman C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oakwood, Wylam-on-Tyne, exhibited *Odontoglossum andersonianum* Cooksoni. J. Colman, Esq. (gardener, Mr. W. P. Bound), Gatton Park, Reigate, staged *Odontoglossum andersonianum*, *Gatton Park* var. H. Little, Esq. (gardener, Mr. A. Howard), Baron's Halt, Twickenham, exhibited *Laelia purpurata tracyanum*.

Messrs. H. Cannell & Sons, Swanley, Kent, sent up a group of pretty little odds and ends, all of which are indispensable in gardens of taste and beauty. Their *Begonia Count Zepplin* is a great acquisition. The foliage is a bright, clear green, clean cut and plentifully borne. The medium-sized scarlet-crimson double flowers being strikingly effective. *Nepeta Glechoma variegata* in pots and a number of flowering shoots of the *semperflorens* type of *Begonia* were also shown. A spray of *Veronica hulkeana*, of a soft lavender colour, is a superb variety which ought to be in all greenhouse collections.

Messrs. Geo. Jackmann & Son, Woking Nursery, Surrey, arranged a very rich and varied collection of plants and flowers from the open air. *Spiraea multiflora albida* made a fine show, then there was a large collection of cut Daffodils, comprising some of the best of the trumpet and poeticus sections, besides which alpinas were seen in quantity. Quality was in proportion to quantity. Of alpinas the following were particularly fine and worthy of attention from lovers of hardy plants:—*Ramondia pyrenaica*, *R. serbica*, *Arnebia echioides*, *Narcissus triandrus albus*, *Chrysogonum virginicum*, *Morisia hypogaea*, together with varieties of *Primulas*, *Globe-flowers*, *Eremurus* and *Clematis*. (Silver Banksian Medal.)

Mr. W. Rumsey, Waltham Cross, set up a very sweet bank of cut Roses in stands. Among the finer of them were *Noisette L'Idéal*, *Tea Niphetos*, *Maréchal Niel* and *H.P.'s* in large assortment. (Silver Banksian Medal.)

Messrs. John Laing & Sons, Forest Hill, London, grouped *H.P. Roses* in pots, Mrs. John Laing, Baroness Rothschild, Mdme. V. Verdier, &c., being strong and fine; *Rhododendrons* in the best named

varieties, pot *Clematis*, Miss Batemann, C. Fair Rosamond, both white; C. Lady Londesborough, a deep clear blue; *Azaleas*, double *Lilacs*, *Crimson Rambler Roses* in pots (a lovely sight), *Prunus triloba* and *Staphyleas*. Besides this group of hardy flowering plants and shrubs, Messrs. Laing set up a superb array of stove and greenhouse flowering and foliage plants. Their strain of *Clivias* (*Imantophyllums*) are second to none in point of excellence. *Stanstead Beauty* variety is a rich type, Harry Laing is good, so with *Bobs* and *Baden-Powell*, varieties whose names show them to be of recent introduction. (Silver Banksian Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, showed a neat array of *Narcissi*, which embraced the chief varieties of all sections. Of trumpets, *Empress*, *bicolor grandis*, *Emperor*, *Samson*, *Victoria*, P. R. Barr, *Barrii* conspicuous were most prominent. The old swan's neck *William Goldring*, Mrs. Langtry, *Duchess of Westminster*, *Queen of Spain*, and *Poeticus ornatus* were all shown. (Silver Banksian Medal.)

Messrs. James Veitch & Sons, Ltd., The Royal Exotic Nurseries, Chelsea, staged a wonderfully fine array of cut *Narcissi*. Trumpets were shown well in *Captain Nelson*, Mrs. Walter T. Ware, *Rugilobus*, *Glory of Leiden*, *bicolor Victoria*, *Emperor*, and others. *Cynosure*, Maurice Vilmorin, *Duchess of Westminster*, *Stella*, &c., represented good varieties of the *Barrii* and *Leedsii* sections. Worthy of special notice among the trumpets was *Van Waveren's Giant*, a variety of enormous size and depth of colour. This received a considerable amount of attention. The Messrs. Veitch also showed a fine group of *Magnolias* and *Lilacs*. (Silver Banksian Medal.)

Mr. G. W. Piper, Uckfield, Sussex, showed a quantity of his beautiful *Tea Rose Sunrise*.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, had a group of *Crimson Rambler Roses* in pots, *Clematis* in best named sorts and well grown, *Bougainvillea*, *Hydrangeas*, *Astilbes*, *Acalypha hispida*, *Caladiums*, and *Negundos*. The quality and arrangement of the group left nothing to be desired. (Silver Gilt Flora Medal.)

Mr. John Russell, Richmond Nurseries, Richmond, Surrey, showed a group of *Acers*, chief in the fine leaved section being *A. palmatum dissectum ornatum*, *A. palmatum*, *A. p. linearilobum rubrum*, *A. p. roseum marginatum*, and *A. palmatifidum*. (Silver Banksian Medal.)

Messrs. R. H. Bath, Ltd., The Floral Farms, Wisbech, made a brave display of cut Daffodils, comprising all that are worth having at the present time. The form, substance, and depth of colour of all the varieties were exceptionally fine, proving that the Wisbech air and soil is all in all for *Narcissi* growth. *Incomparabilis Princess Heath*, and of trumpets, *Empress*, *Glory of Leiden*, *Weardale Perfection*, *Mdme. de Plomp*, *Maximus*, *John Nelson*, *Mdme. de Graaff*, and *Victoria* are a list of the very best trumpet Daffodils in commerce. Of the *Leedsii's*, *Duchess of Westminster*, *Gem*, *Grand Duchess*, *Katherine Spurrell*, *Princess Mary*, *Beatrice*, and *Minnie Hume* are also specially lovely. (Silver Flora Medal.)

Messrs. Hogg and Robertson, the Queen's Seedsmen, 22, Mary Street, Dublin, set up an exceedingly fine group of single Tulips, comprising some eighty-four in all. The following includes a list of the more brilliant varieties. It may be noted here that the fine form and size were conspicuous in these Irish grown Tulips. *Alba regalis*, white, *Admiral Rayneirsi*, flaked crimson and white, *Grand Duc de Russia*, mauve and white flaking, *Artus*, deep vermillion, *Couleur de Cardinal*, deep strong crimson, *Vurbaak* a bright red crimson, double variety, and *Maes*, a well-formed, large and strong crimson-red single variety. (Silver Banksian Medal.)

The Director, the Royal Gardens, Kew, set up some finely grown plants of the new type of *Cineraria* named *Lady Thiselton Dyer*, coming from *Heritierii* × *Blue Garden* variety. The foliage is grey of somewhat irregular reniform shape, and small. The flowers are bright, the umbelliferous heads spreading. For a greenhouse plant some are of opinion that this type of *Cineraria* does not merit the amount of space it occupies in the greenhouse.

Rev. G. H. Engleheart, Appleshaw, Andover, exhibited a collection of his seedling *Narcissi*. One has only to mention Mr. Engleheart's name in con-

nection with hybrid *Narcissi* to turn the mind to those of all that is sweetest and best among this lovely class of plants.

At this time there were some very fine new varieties shown, some of which obtained an Award of Merit. Of these *Diana*, one of the *Leedsii* section resembling *Duchess of Westminster*, but greatly improved, was exquisite. *Plenipo*, a double incomparabilis type; *Virgil*, a large poeticus variety; *Brigadier*, a large and handsome trumpet variety, together with *Lander*, *Corona*, *Enid*, and *Solfaterre* of various sections were all the centre of an admiring crowd.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gardener, Mr. James Hudson, V.M.H.), showed what could be done in the way of flowering scented *Pelargoniums*. As a rule these do not flower freely, but here they were laden with brilliant trusses.

Messrs. Wm. Cutbush & Son, Highgate, London, N., were strong in *Staphylea colchica*, *Viburnum opulus*, *Azaleas* in all kinds, double *Lilac Mdme. Lemoine*, and other spring flowering shrubby plants. *Calla elliottiana* was also seen in fine form. This firm makes a speciality of such plants as we have noted, and supply the best of stock. (Bronze Flora Medal.)

Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, made a fine impression on visitors with their pot *H. P.* and other *Roses*. The blooms of the plants, the quality of these themselves and the variety of them, was worthy of all commendation. *H. P. Charles Lefebvre*, *Tea*, *Bridesmaid*, and *Bourbon Mrs. Paul*, were perfect of their kind. (Silver Flora Medal.)

Messrs. Carter & Co., High Holborn, London, showed an extra good bank of dwarf greenhouse *Cinerarias*. They were the most perfect we have seen this year, but the fever for novelty among *Cinerarias* at the present, caused these to be somewhat overlooked. They will continue in favour, however, when other types are forgotten. Their double flowering strain was very fine. (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, showed a long table of *Cineraria cruenta* hybrids, grown dwarf and flowered well. This is one of the coming types, sure to find favour with all cultivators.

Messrs. R. and G. Cuthbert, Southgate Nursery, Middlesex, arranged a very fine selection of Ghent named *Azaleas*. They were highly attractive and very beautiful in their many colours, and fragrant to boot. A fine group. (Silver Flora Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, showed a table of the choicer varieties of cut Daffodils, such as *Burbidgei* John Bain, *Baroness Heath*, *Barrii* Maurice Vilmorin, *Incomparabilis Princess Mary*, *Frank Miles*, *C. W. Cowan*, and any amount of trumpet Daffs.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, were strong in beautiful pot *Roses*, all of which were splendid samples of culture. (Silver Gilt Flora Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, London, exhibited, as all might expect, an immense quantity of *Narcissl* blooms, including a number of absolutely new varieties, a number of which were certificated. The following may be enumerated:—*General Murray*, *Maggie May*, *Lucifer*, *Stella superba*, *Monarch*, *Cassandra*, *Weardale Perfection*, *Chaucer*, *Gloria Mundi*, *Apricot*, and *Golden Nugget*. (Silver Banksian Medal.)

W. Bryant, Esq. (gardener, Mr. D. Kemp), Stoke Park, Slough, showed a group of *Hippeastrums* grown from seeds sown in March, 1894. They were magnificent, and to say more in praise words would fail us. (Silver Banksian Medal.)

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., staged a fine group of *Lilacs*, *Ribes*, *Clivias*, *Cytisus*, *Guelder Roses*, and *Laburnums*. (Bronze Banksian Medal.)

The Guildford Hardy Plant Nursery, Mill Head, Guildford, staged fine basketfuls of *Primulas*, alpine, show, fancy, and colour-edged varieties of *Auriculas*.

Mr. W. J. Godfrey, The Nurseries, Exmouth, showed two baskets of a lovely fancy *Pelargonium* named *Emmanuel Lias*. The plants were very floriferous, the blooms being very finely crimped, and sweetly coloured soft crimson and white.

Sir Francis T. Barry, Bart., M.P., St. Leonard's Hill, Windsor (gardener, Mr. R. Brown), received a

Silver Banksian Medal for a collection of Camellia blooms, some of which were superb.

NATIONAL AURICULA AND PRIMULA.—

April 24th.

THE show of the Southern Section of the National Auricula Society was decidedly a success. It was held in unison with the fortnightly show of the R.H.S. in the Drill Hall, Westminster. The quality of the blooms were such as surprised and pleased many who had been forboding no competition. For twelve Auriculas, dissimilar, Mr. James Douglas, Great Bookham, was the first winner. They were a very even lot. Mr. William Smith, Bishop's Stortford, was second; Messrs. Phillips & Taylor, Bracknell, third; Mr. A. R. Brown, Birmingham, fourth; and Mr. P. Purnell, Streatham Hill, S.E., fifth. For six Auriculas, dissimilar, Messrs. Phillips & Taylor, Bracknell, Berks, won first, being followed by Mr. Smith, Mr. A. R. Brown, and Mr. P. Purnell. For four ditto, Mr. P. Hemnell, Winchmore Hill, N., was the leader with a fine lot; Mr. J. T. Bennett-Poë, Ashley Place, S.W., second; Mrs. Whitbourne, Ilford, third; Mr. A. S. Hampton, Reading, fourth; Mr. H. J. Heading, Catford, fifth; and Mr. R. Holding, sixth. Mr. J. Parsons was the first prize-winner for two varieties of Auriculas; Mr. J. T. Bennett-Poë, second. For a single specimen green-edged Auricula Mr. P. Hemnell won with Prince of Greens. The second prize went to Mr. Smith. For six varieties of Auriculas, open to those who had never before won a prize at these shows, Mr. T. Atkinson, Worksworth, won. In the class for fifty Auriculas, not less than twenty varieties (alpine included), Mr. James Douglas, of Great Bookham, was here again placed first; Messrs. Phillips & Taylor, Bracknell, were second; and Mr. P. Purnell, Streatham Hill, third.

Mr. James Douglas won for distinct alpine Auriculas; very fine they were. Mrs. Whitbourne (gardener, Mr. J. W. Euston), Ilford, came second; Messrs. Phillips and Taylor, third; Mr. A. R. Brown, fourth; and Mr. P. Purnell, fifth. Mr. James Douglas also led for six varieties of alpine Auriculas, followed by Mrs. Whitbourne. Mr. R. Holding, Birmingham, won in the class for four ditto, Mr. J. T. Bennett-Poë being second. Mr. Douglas was the leader for a single specimen gold centre alpine Auricula. His variety was Duke of York, a very fine plant and truss indeed.

For twelve fancy Auriculas in six varieties, Mr. Douglas was first with a fine lot, followed by Mrs. Whitbourne.

Mr. Douglas carries off the honours in the class for twelve fancy Polyanthus in distinct varieties. Col. Dixon, Astle Hall, Chelford, came second with some very fine varieties, and Mrs. Whitbourne third. For twelve distinct single Primroses, Mr. Douglas beat Messrs. Isaac House & Son, Westbury-on-Trym, Bristol. Mr. P. Purnell, Streatham Hill, S.W., was first for twelve distinct species or well marked varieties, and Mrs. Whitbourne second. Mr. J. T. Bennett-Poë was placed first for Primrose or Polyanthus plants arranged for effect; Mr. James Douglas was second; and Messrs. Isaac House & Son, third.

Mr. Robt. Sydenham, Birmingham, showed a number of Narcissus grown in jars having no drainage. The bulbs were strong and good, having nothing more than cocoanut fibre to root in. Mr. P. Purnell was the only exhibitor of a group of Primulas and Auriculas in boxes.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. A. E. Thatcher, Aldenham, Elstree, for his article on *Mirabilis Jalapa* (Marvel of Peru), p. 534.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake name florists' flowers such as Carnations, Pelargonium Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Book on Wild Flowers.—W. Thomas:—In order to study the wild flowers botanically you could not do better than get "The Student's Flora of the British Islands," by J. D. Hooker, fourth edition. It is published by Macmillan & Co., London, and the price is 10/6. "Babington's Manual of British Botany," published by John Van Voorst, Paternoster Row, London, is somewhat simpler, but not so fully detailed in some respects. Price 10/6. A popular book on the subject is "John's Flowers of the Field," which may be out of print, as we believe a new edition is being prepared. In collecting wild flowers you must get them in flower or fruit, in both conditions preferably. In the case of the Cruciferae and Umbelliferae particularly you must get plants bearing well advanced seed pods. All these things you will find out as you proceed. Plants not advanced to the flowering stage at least are useless for study.

Tomatos Going Wrong.—G., Fairburn: We examined the specimen sent more critically and failed to find insects or fungi. We have seen Tomatos similarly affected in the early spring, and we explained that it was owing to the want of sunshine, and to keeping the atmosphere of the house too moist and close so as to bring the plants along. We were later on confirmed in our opinion, as the plants by having more ventilation, with a drier atmosphere, became more robust and firmer. The tissues of your plant, both leaves and stems, were very soft and rapidly shrivelled up. We think your plants will come all right yet with the exception of the very worst of them which may be thrown away.

Dynamite Cartridges for Destroying Tree Roots.—James Nicol: In different districts and towns such men as ironmongers, oil and colourmen, and gun makers are the people to whom you might apply for such things. It very much depends upon local requirements as to where such explosives may be stored. Usually the demand has the effect of getting some one to store them locally. If there are gun-makers or others who store material to supply sportsmen in York they are the most likely to have what you require, or they could procure the same for you.

Propagating and Increasing Lenten Roses.—A. C.: This should have been done just as they commenced growing; but by careful treatment you would no doubt succeed after the plants are out of flower, or after they are past their best. Lift the roots with as little damage to them as possible, and after removing some of the soil you can either pull the crowns apart, each with as good roots attached as possible. An old knife to cut the stronger connections would enable you to separate the crowns with as little damage as possible. Plant the crowns 15 in. to 18 in. apart in a position shaded but not overhung by trees. Make the soil light and porous by means of well-rotted manure and leaf soil. Give a good watering to settle the soil about the roots.

Scirpus setaceus.—E. C. H. D.: Your copy of the 1870 edition of "The Students' Flora of the British Islands" must be imperfect, having a leaf amissing probably. In our copy for that year the plant is recorded under the name *Isolepis setacea*.

Can Competitors Evade Conditions Specified for Classes.—A. Grigor: We have looked over the classes you marked in the schedule, and failed to see that any competitor can evade them by entering separate exhibits under the names of employer, gardener, and assistant. The plants belong to the employer in the case of a professional gardener; and in the case of a nurseryman they belong, of course, to him. It is only necessary to take a commonsense view of the situation to see that this is the case. If you were to make a bye-law to define who is or who is not a legitimate exhibitor, it need only be done to show that the owner is the exhibitor, whether the plants are shown under his or her name, or under that of the gardener. There cannot be two exhibitors from one greenhouse or garden where the plants belong to one and the same party. In the case of two or more partners in a nursery firm the plants belong to the firm, and the latter only represent one competitor. No bye-law should be necessary to prove this. We have, however, heard the question raised before. In the case of a gardener's wife exhibiting in the classes for bouquets it is customary for such exhibit to be placed under his wife's name as the maker of the bouquet; but we should not expect that the gardener would at the same time exhibit in the same or a different class for bouquets, if two or more such classes were bracketed for one entry only. If it was stated by the schedule that only one entry could be made in any two or more specified classes from one garden it would place the matter in a clearer light.

Names of Plants.—W. Thomas: 1, *Oxalis Acetosella*; 2, *Angelica sylvestris*; 3, *Chaerophyllum sylvestre*; 4, *Ranunculus aquatilis* var. *fluviatilis*; 5, a grass which should be sent when in flower; 6, *Callitriche verna* var. *hamulata*. (See separate note).—J. W.: 1, *Genista praecox*; 2, *Iberis sempervirens*; 3, *Muscari botryoides album*; 4, *Lamium maculatum*; 5, *Primula denticulata*; 6, *Narcissus Bulbocodium*.—D. T.: 1, *Boronia heterophylla*; 2, *Coleonema album*; 3, *Coronilla glauca variegata*; 4, *Forsythia suspensa*; 5, *Erysimum alpinum*; 6, *Anemone Pulsatilla*.—R. M.: 1, *Erica carnea*; 2, *Berberis Darwinii*; 3, *Lonicera sempervirens*; 4, *Sparmannia africana*; 5, *Hibbertia dentata*.—A. G. B.: 1, *Pteris argyrea*; 2, *Platyloma rotundifolia*; 3, *Asplenium bulbiferum fabianum*; 4, *Selaginella Braunii*.—M. B. A.: 1, *Cymbidium eburneum*; 2, *Coelogyne speciosa*; 3, *Dendrobium aggregatum majus*.—E. C. H. D.: 1, *Galium Cruciatum*; 2, *Cochlearia officinalis* or a variety of it. We should like to see it again when in fruit.

The Tenby Daffodil.—D. M.: Though it is well-known under the name of *Narcissus obvallaris*, it is not a species, but only a distinct form or variety of *N. Pseudo-narcissus*. It was recorded many years ago as having been introduced from Spain, a circumstance that is very likely. Some people have the impression that it grows wild in the neighbourhood of Tenby, Pembrokeshire, but some bulbs we had from that quarter as the Tenby Daffodil, turned out when they flowered to be only a cultivated or garden form of the Daffodil, and not even the wild *Narcissus Pseudo-narcissus*.

Aucubas for Pots.—A. T.: There is no necessity for fertilising the flowers artificially provided male and female plants are grown in proximity to one another. Whether the berries would set as freely under glass as in the open air would depend very much upon the condition of the atmosphere of the house. It should be cool, dry, and airy so as to insure the distribution of the pollen. Under such conditions you might get a more abundant set of berries if the fertilisation was effected by means of a camel hair pencil. Very frequently the pollen ripens before the ovaries are sufficiently advanced. In such a case it would be advantageous to pick the anthers as soon as they commence bursting, and keep them in a clean, white paper till the ovaries are sufficiently advanced for fertilising.

Show and Regal Pelargoniums.—W. M.: These varieties as well as fancy Pelargoniums have mostly, if not entirely, been derived from *P. cucullatum* by cross-breeding with the varieties, and always selecting the best that turn up in the batches of seedlings. Originally, no doubt, some variations turned up amongst seedlings of the plant as imported, or varieties might even have been imported. When once a few of such have been obtained there is no difficulty in increasing the number by intercrossing the best and most distinct. This has been repeated for many generations, until the flowers are entirely different from the wild original in size, shape and colour.

Communications Received.—Wm. Carmichael.—John Gregory.—Hurst & Son Musical Society.—Wm. Tallack.—A. O'Neill.—A. J. Brown.—Col. H. Thompson.—R. W.—A. M. D.—J. R.—R. M.—H. B.—T. W.—James Thurstan.—A. D. Webster.—C. Macquarie.—James Nicol.—G. H. Cox.—R. Dean.—A. C.—J. D.—W. M.—P. R.

TRADE CATALOGUES RECEIVED.

MESSRS. BARR & SONS, King Street, Covent Garden, London.—Barr's Daffodils.

HARLAN P. KELSEY, Boston, Massachusetts, U.S.A.—Some information about the Root Sang or Ginseng and Cultural Directions; also Special Surplus Offers.

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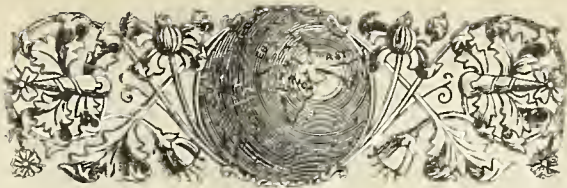
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MAY 5th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 8th.—R.H.S. Meeting in Drill Hall, James Street, Westminster; Royal Gardeners' Orphan Fund (Annual Dinner at Café Monico).

REPORT OF THE HYBRID CONFERENCE.—

It is now nearly nine months since the Conference on Hybridisation was held at Chiswick, the details of which now appear in the *Journal of the Royal Horticultural Society*, Vol. XXIV. The holding of that conference was hailed by not a few as likely to unravel many problems with which botanists, teachers, cultivators, and studious amateurs, are often beset. Now when the information is printed and circulated, they find that a good deal yet remains to be done in a field that seems practically inexhaustible. We had no hopes that any single conference, however exhaustive, could settle the vast problems that are continually cropping up in this fertile field. The conference has been the means of getting together a vast amount of the raw material out of which facts and truths will have to be gleaned for the building up of a science of the subject, and that is about all that could be expected. As a teacher expressed the matter the other day, the material has to be "boiled down" with the object of extracting the information and the reliable data for use in the class-room. Meanwhile workers are busy in various parts of the country, either as a duty, or a hobby; and it is to be hoped that those who are labouring amongst garden plants at least will make a careful record of their experiments, and the incontestable facts which they have been able to extract from the secrets of Nature. Many horticulturists are more concerned and delighted with their crowning achievements and successes, than they are incorrectly recording the means they employed which finally resulted in triumph. Horticulturists very often do come into this category, though it is to be hoped that a larger number of them will yet take to the recording of their experiments with the results of the same.

We have heard much of the antipathy of the botanist to the work of the hybridist; but happily that barrier is being broken down, particularly as botanists begin to recognise that hybrids occur in a state of Nature, and often cause a deal of trouble, not to say inconvenience, to the systematist. There are some botanists, however, who still decline to admit the truth of hybridisation in certain genera at least, where the more enthusiastic profess to see undoubted evidence of the intermixture of two species. Where the two species are closely allied and similar in the details of many of their parts it is often very difficult to be positive that a variation in a plant may be due to hybridisation. The results of the latter

operation are not always alike in the progeny of two parents, some of the seedlings tending towards one parent, and some towards the other, so that it becomes absolutely impossible as far as we can see to affirm that a certain plant is a hybrid or merely a variation from the more typical form of a species. Most botanists, we believe, are still agreed that species are capable of variation without having been crossed with any other species. In such cases the origin of many variations must remain an unknown quantity. Therefore, a conscientious worker and careful recorder is justly entitled to his scepticism, until reliable proof is forthcoming. This might often be obtained by direct experiment. The saying that "there lives more faith in honest doubt, believe me, than in all the creeds," would seem to be applicable here.

Mr. R. Allen Rolfe, A.L.S., in his article on "Hybridisation Viewed from the Standpoint of Systematic Botany" (p. 181), records the opinion of more than one good systematic botanist upon the twenty-seven supposed natural hybrids that have been discovered amongst the British *Epilobiums*. One botanist declares that "the makers of hybrids often go no further than the diagnostic characters of systematists"; and it is to be feared this is often the case, for individual variations in some species are sometimes so numerous and so great as almost to defy diagnosis within a reasonable limit of words; and yet it is difficult to see that any hybridisation has been concerned in the matter. This might be due in certain cases to secondary or even tertiary hybrids, for the infertile mule theory has long been exploded and abandoned by good observers. It has also been proved by many horticulturists by actual experiment. Why should not the same thing occur in Nature. These are problems not to be settled by arguments, oral or written, but by actual experiment. It is now beyond dispute that certain hybrid plants occurring in a wild state have been described as species. This raises the question whether a hybrid, if sufficiently fixed to reproduce itself true to name from seed, might not be regarded as a species. Some botanists actually speak of hybrids as species whether they regard them as of good standing or not. Others, however, take a serious view of the matter, and consider that hybrids may be or become sufficiently stable to be regarded as species or their equivalents, and that many existing wild plants have originated in this way. It is interesting to note that Mr. J. G. Baker, of Kew, a great authority on Roses, gives it as his opinion that none of the crosses made by horticulturists amongst Roses have proved the origin of any wild hybrid, the reason being that the right species have not yet been crossed together.

In the year 1835 experiments were undertaken by Dean Herbert by crossing certain species of *Narcissus* to prove that even some of the undoubtedly wild ones have originated in a state of nature by hybridisation. By crossing a Daffodil with the pollen of *N. poeticus* he obtained forms that were practically identical with the existing forms known as *N. incomparabilis*. The Daffodil crossed with the Jonquil gave *N. odoratus*. This has been verified in modern times by many experimenters working independently either by way of a hobby or for augmenting and improving their garden collections. The Royal Horticultural Society is and will be doing good work in getting together all reliable information on the work of experimental hybridisation, so that scientific workers in the future may be able to diagnose and generalise on the subject for the benefit of mankind.

Thompson's Gardener's Assistant.—A new edition of this standard work on horticulture has been in preparation for some time, and will, we are informed, be issued early this month. It has been considerably enlarged and revised by numerous specialists under the general editorship of Mr. W. Watson. The work will consist of two volumes of about 600 pages each, freely illustrated with coloured plates and drawings. It will be issued in monthly parts.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, May 8th, in the Drill Hall, James Street, Westminster, 1-5 p.m. A lecture on "Is there any Natural Limit to the Improvement of Cultivated Plants" will be given by Mr. W. Bateson, M.A., F.R.S., at 3 o'clock. A schedule of the Temple Flower Show can now be obtained on application to the secretary, R. H. S., 117, Victoria Street, S.W., enclosing a stamp.

Gardeners' Royal Benevolent Institution.—The 61st anniversary festival of this excellent charity will be held on Friday, May 18th, in the Whitehall Rooms, Hotel Metropole (entrance, Whitehall Place), London, S.W. The time fixed is 6.30 p.m. for 7 p.m. precisely. His Grace the Duke of Portland, K.G., P.C., G.C.V.O., will take the chair on that occasion. The Duke will be supported on the occasion by the Dean of Rochester, Viscount Powerscourt, the Rt. Hon. A. H. Smith Barry, M.P., Sir Walter Smythe, Bart., and other influential gentlemen.

Ulster Horticultural Society.—The report of the Ulster Horticultural Society for the year 1899 shows it to be on a very sound footing. The year's business, and the exhibitions held, have been very satisfactory. The balance in hand is a good way on the right side of the ledger. The schedule of prizes and classes open for competition at the society's show on November 13th and 14th, in St. George's Covered Market, Belfast, are included along with last year's report. Congratulations are due to the gentlemen of the committee, and to the hon. secretary, Mr. Thos. Paul, and secretary, Mr. J. MacBride, and also to Mr. David Allen, the hon. treasurer.

Orchids at the Sale Rooms.—There is still a strong desire amongst Orchid collectors to enrich their collections with choice things, particularly in those establishments where the houses are already well filled with the general run of plants. At the Sale Rooms of Messrs. Protheroe & Morris, on the 27th ult., Messrs. Stanley, Ashton & Co., Southgate, London, N., sold a beautiful form of *Laelia autumnalis alba* for 50 gs. It was one of the finest pieces known. Their white varieties of *L. anceps* went at prices ranging from 5s. to 10s. up to 4 gs. *Dendrobium nobile nobiliss* went at £3; *D. Ainsworthii intertextum*, £2 10s.; *Lycaste Skinneri alba*, £2 10s.; and *Oncidium praetextum*, in fine condition, for 14s.

Royal Horticultural Society: The Temple Flower Show, May 23rd, 24th, and 25th.—For the thirteenth year in succession the Royal Horticultural Society will hold their great annual flower show in the Inner Temple Gardens (by the kind permission of the treasurer and benchers) on May 23rd, 24th, and 25th. Every year the desire of growers to exhibit increases, and the officials of the society have a very anxious task in endeavouring to do justice to those growers who regularly support the fortnightly shows of the society held at the Drill Hall, and yet at the same time to encourage others also to come forward. The space is absolutely limited by order of the Temple authorities; no more, or larger, tents may be erected. Hence every new exhibitor whose entry is accepted means curtailment of the space allotted to previous supporters. A catalogue of the show is given gratis to every visitor, and will contain a notice of new and rare plants entered on or before May 15th, it will also contain a programme of the music to be performed each day by the band of Her Majesty's Royal Horse Guards (Blues). The judges will meet at the secretary's tent at 10.30 a.m. on May 23rd, at which hour punctually the tents will be cleared of all exhibitors, and their assistants. The fruit, floral, and Orchid committees will assemble at the secretary's tent at 11 a.m. sharp, and the show will be opened at 12.30. All plants for certificate must be entered on or before Friday, May 18th, addressed:—"The Secretary, R.H.S., 117, Victoria Street, S.W." They cannot be entered under any circumstances on the day of the show.

Presentation of Flowers to the Queen.—When the Queen was leaving Kingstown a box of magnificent Daffodils was placed on board the royal yacht by the Hon. Mrs. Hugh McCalmont. The box bore the inscription, "To our Queen—a parting gift from Erin," from Ardcairn, Cork. With his characteristic modesty Mr. W. B. Hartland decreed to withhold his name from the label. The Queen took the flowers with her to Windsor.

Frost Injuries in Bedfordshire.—On Thursday, April 26th, a disastrous frost was registered here, the thermometer on the ground recording 18.8° Fahr., or over 13° of frost. The result is severe injury to flowers and plants. Plums and Damsons have a most abundant display of blossom this season, and all the flowers expanded at the time were destroyed. Some of the later varieties and trees still, however, afford the prospect of a crop. Early flowering Pears are also severely cut, Gooseberries have suffered slightly, Red Currants considerably, and in some places the early Strawberries have their leaves and flowers blackened, though the latter are still in the bud stage. Quantities of Asparagus have been cut down, early Rhubarb is somewhat damaged, and Cabbages have all their fully developed leaves browned. In one low-lying district acres of Cabbages have been greatly injured, while seedling vegetables like Brussels Sprouts have been generally destroyed.—*R. Lewis Castle, Ridgmont.*

Beckenham Horticultural Society.—Mr. Alexander Dean delivered a lecture before the members of the above society, on Friday, April 27th, entitled "Edible Stem Plants," consisting as they do of such an important section of plants particularly adapted to forcing. The lecture was listened to with much interest. Mr. Dean's wide experience, and up-to-date knowledge, as a member of the R.H.S. Vegetable Committee, giving him advantages of judging the best. Asparagus, Seakale, Rhubarb, Celery, Leeks, Cardoons, &c., were fully described, and methods of culture detailed. Forcing as carried out by some of the leading growers for the London Markets was explained, Asparagus, Seakale and Rhubarb being particularly remunerative as market crops. For home supply Seakale was specially recommended, covering as it does six months of the mid-winter season, during which a constant supply may be kept up. The old purple being of better constitution and more reliable than the newer Lily White, still held its own. The recently certificated Rhubarb, "Dawe's Champion," Mr. Dean considers has a great future on account of its early starting and superior quality. A hearty vote of thanks was accorded the lecturer at the close of the meeting.—*M.W.*

Bristol and District Gardeners' Mutual Improvement Association.—The second annual meeting of the association was held at St. John's Parish Room on Thursday, 26th inst. Mr. G. Brook presided over a large attendance. The report presented showed that the society is progressing, the present total membership being 129, with an average attendance of about sixty. The financial statement also proved successful, the balance in hand after all expenses were paid being £5 2s. 3d. A letter of apology for non-attendance was read from the president, H. Cary Batien, Esq., who consented to continue in that office. The other officers elected were: Chairman, Mr. G. Brook; vice-chairmen, Messrs. Hancock and Binfield; hon. sec. and treasurer, Mr. W. Ellis Groves; assistant secretary, Mr. W. Haddon; and a committee of fifteen members. During the evening, Mr. W. Ellis Groves, the hon. secretary and treasurer, was presented with a handsome barometer. Mr. G. Brook made the presentation on behalf of the members, and, in a brief speech, spoke of the untiring energy which Mr. Groves had displayed for the benefit of the society, and the able way in which he had carried out the duties connected with the position, and expressed a hope that he would continue to act for them. Mr. Groves, who was manifestly taken by surprise, thanked the members very sincerely for their great kindness, saying that he had simply done his duty as their officer, and did not think he deserved all the generous things that had been said of him. He willingly consented to still act as secretary and treasurer, and would do all in his power to further the interests of the association. Prizes for two foliage plants were secured by Messrs. Shaddick, McCulloch, and Sutton; and a prize for two flowering plants by Mr. Shaddick.

Charlock is known under a variety of names, as:—Yellows, yellow-weed, Skellock, Runches, wild Mustard, and the botanical names, Brassica and Sinapis, namely *B. Sinapistrum* Boiss, *Sinapis arvensis* L.

Mr. A. Crombie, elder son of Mr. David Crombie, head-gardener to the Hon. Viscount Powerscourt, Enniskerry, Ireland, has been appointed Head Forester to Sir Herbert Maxwell, Bart., Monreith Wigtonshire, N.B. Mr. A. Crombie gained a £30 bursary in the forestry examination at Edinburgh, six months ago.

Statue to Thomas Huxley.—On Saturday, April 28th, H.R.H. the Prince of Wales unveiled a statue to the memory of Thomas Huxley, the renowned literateur and scientist, in the Natural History Museum, South Kensington, London. Sir Joseph Hooker, Sir Michael Foster, and many of Huxley's contemporaries in science were present at the ceremony.

Corrections.—On p. 551, in the fourteenth line from the bottom of the second column it is stated that Mr. Saville, of Maplestead, Essex, grew an acorn in water, when it proved to contain three embryos. The correct reading should be that S. A. Sewell, Esq., of Maplestead, Buckhurst Hill, Essex, on growing an acorn in water, found that it sent up three stems. Maplestead, Essex, would simply mean the village of that name, which is forty miles or more distant from Maplestead, Buckhurst Hill, Essex. The errors, on our part, arose from following the copy sent us.

"Hurst & Son" Musical Society.—That N. N. Sherwood, Esq., has a son gifted with musical talent is a fact becoming more widely established among his own wide acquaintanceship, among his friends' friends, and by all who interest themselves in the least in the intelligence conveyed through the medium of the Press. Not so long ago the "Hurst & Son" orchestra rendered their appreciated services at the concert of the Gardeners' Charity Guild, where their skilful performance drew forth much praise. The society, however, has been so far almost purely private. Edward, second son of Mr. N. N. Sherwood, has been the motive power, whose exertions and ability have produced such distinct success in the musical vein to which he applies himself. The society gave the last evening concert of the present season on Thursday evening, April 26th. The Pillar Hall, Corn Exchange Restaurant, Mark Lane, S.E., was the rendezvous for the evening. Among those present were N. N. Sherwood, Esq., Miss Sherwood, and his sons, William and Edward; F. S. Bouilly, Esq., and Miss Bouilly; B. S. Smith, Esq.; Arthur Walton, Esq.; J. Gieselbrecht, Esq.; A. C. Aste, Esq.; Mr. and Mrs. Geo. Fagg; Mr. and Mrs. Geo. J. Ingram. The programme opened with an orchestral fantasia, "The Water Music," of Handel. Though a long piece it was immensely enjoyed. Mr. T. A. Baldwin followed with a song "A Jovial Monk am I," which did not quite allow his full, clear voice to have effective scope. Two 'cello solos by Mr. W. Horschitz were simply grand, and proved Mr. Horschitz quite a master of his instrument, if one ever can be said to have mastered a 'cello. "The Slave Song" of Miss Ada Brook was somewhat like the music of a sweet singing bird, a plaintiff slave's song, but given such sweet expression that the awfulness of the poor slave's weary wall was likelier than not felt by those who heard Miss Moore's voice. Mr. J. E. Dixon next gave a low pitched bass solo, a song "substantial," well sung and known by all, "Out on the Deep." Mr. E. Sherwood now delighted his audience with two short orchestral compositions of his own, "An Idyll" and "A Love Song." The latter appealed to us as being splendidly conceived, fully portraying the heart tales of a love enslaved wight. Certainly more will be heard of these. The orchestra deserve great commendation for their capital time and modulation. Following the interval came Schubert's symphony in B minor "Unfinished." Mr. A. Cox sang "The Old Lock" very sweetly, whilst Miss Edith Cresswell's solo on the harp, entitled "Autumn," was exceedingly fine, and charmed her listeners. Again came the ever-pleasing singer, Miss Ada Moore, with that pretty little ripple, "A Fairy's Lullaby," and feign could we have listened longer. Then as a concluding piece Mr. E. Sherwood's band rendered Mendelssohn's wedding march, "A Midsummer Night's Dream." "God Save the Queen" having been sung to the accompaniment of the band, the gathering was over.

Victoria Regia.—The Victoria house, or rather the hank in which this imperial Lily grows at Kew, is being prepared to receive this year's plant.

Herbert Spenser, the greatest living exponent of the "Theory of Evolution," celebrated his eighty-first birthday on Friday, April 27th, 1900.

Bulb Exporters' Association.—The bulb growers and dealers of Holland have established an Association for the promotion of the trade interests of its members, collection of debts, &c. The secretary is J. Spoor, 24, Wilhelmina Street, Haarlem, Holland.

Weather in London.—The weather on the whole has been propitious. Though some days have been bright with a deal of sunshine, there has at the same time been a deceivingly cold air moving, with light, drizzling rain. As we go to press, the day is very warm.

Herbaceous Plants in Bloom Indoors.—A correspondent refers to *Doronicum plantagineum excelsum*, *Iberis tenoreana*, *I. sempervirens*, *I. gibraltarica*, the Moss-Pink, and *Phlox subulata* as being extraordinarily fine when grown in small pots for an early show.

New Gardens for the Royal Horticultural Society.—For the purpose of giving full effect to the decision of the general meeting of the society, held on April 25th, requesting the Council to examine further sites for the new gardens of the society, the Council request any Fellow who knows of a suitable position to be so kind as to send at once to the office of the society detailed particulars of the acreage, distance from London, nearest railway station, aspect, nature of soil, name of owner or agent, and price.—W. WILKS, *Secretary*.

Cheap Holiday Tours.—Every year sees new routes and fresh scenes opened up and described for tourists. The Great Eastern Railway Company has done, and is still doing, great service in this connection. The routes to the Continent via Harwich and Antwerp are the most direct to any part of Belgium, central, and north Germany. The company has just published a little pamphlet, written by Mr. Percy Lindley, which describes, in an interesting manner, holidays in the old Flemish cities and the Ardennes. Most of the especial points connected with these cities and items of necessary information are therein detailed. Remarkably cheap tourists' tickets are offered. Further information may be obtained from the Continental Traffic Manager, Liverpool Street Station, London, E.C.

The Nurserymen, Market Gardeners' and General Hailstorm Insurance Corporation, Ltd.—The fifth annual general meeting of the above corporation was held at the new offices of the corporation, 41 and 42, King Street, Covent Garden, London, on Tuesday, April 24th, 1900. Mr. H. B. May presided (in the absence of Mr. Harry J. Veitch, who was in Palestine), and there was a good attendance of shareholders. The chairman gave some interesting figures, showing the growth of the premium income and business as follows:—

Year	Policies in force	Premium Income	Square feet covered	Value Insured	Claims Paid
1895-6	235	£681 19	10,408,161	£135,215 16	£283 17 4
1896-7	346	889 11	13,886,095	179 366 11	Nil
1897-8	550	1,363 17	20,098,104	203,560 19	1,532 17 5
1898-9	749	1,736 0	25,619,760	343,439 7	Nil
1899-1900	825	1,562 0	28,855,076	391,202 15	4 .. Nil

The working expenses had been reduced from £40 10s 3d. per cent. of the income of 1895-6, to £18 3s. 6d. per cent. in 1899-1900. The report was unanimously agreed to, as was the recommendation of directors, that a dividend at the rate of 5 per cent., and a bonus of 2½ per cent. per annum be paid, and that £800 be placed to the reserve fund, and the balance, £375 10s. 4d., carried forward. A further issue of 5,000 shares of £5 each had been made in May last, at a premium of 4s. per share. The issue had been more than subscribed for and applications for shares were received too late. £1 per share had been called up, received and invested. The subscribed capital was now £50,000, and the paid-up capital £10,000. The premiums on new issue had been placed to the reserve fund after deducting the cost of the new issue. Since the financial year had closed, a claim for damage to glass by hail had come in from Kirkwall, Orkney Isles, and had been promptly paid.

Staking.—Do not omit to place a neat stake to the flower-spikes of Crown Imperials, Hyacinths, Daffodils, or aught else which, at the present time, may require such aid.

A Three-Legged Ash Tree.—At Trinity College, Edinburgh, there may be seen a natural curiosity in the form of a large Ash tree having a central and two branching side boles or trunks. The trunks are of an equal diameter, and their point of soldering into the central axis is smooth and even. The supposition given on inquiring for the origin of the freak, was that two saplings had been inarched at opposite sides to the mid-stem.

The Agricultural Holdings (Amendment) Bill.—I would remind your readers that this Bill has been referred to the Standing Committee on Trade and Agriculture, and that therefore no time should be lost by those wishing to get the Bill amended so that compensation may be claimed for the improvement to the land by poultry, as is already provided for in respect to cattle, sheep, pigs, and horses. The forms indicating the information required are now ready, and will be sent to anyone forwarding a stamp. I should be happy to enclose a copy of the Bill if two additional stamps are sent. Owing to the comparatively small number of farmers who keep poultry systematically on their land it is absolutely necessary that a large proportion of those who do so should give their own actual experience as to the great improvement to their land arising from the stocking of poultry upon it. The success of the efforts made by the Utility Poultry Club is entirely dependent on the evidence it can bring in support, and I therefore sincerely trust your readers will help us by applying for some forms *ab once*, and either fill them in with their own experiences or obtain the evidence of others who perhaps have heard nothing of this appeal.—B. W. Horne, *Hon. Sec. and Treasurer*, 49, Gloucester Gardens, Hyde Park, London, W.

"The Rural Exodus" and "Back to the Land."—The Howard Association was instituted under the patronage of the late Lord Brougham, for the promotion of the best methods for the treatment and prevention of crime, pauperism, &c. The re-peopling of the rural districts and villages is considered one of the most important means to this end. The association states that the moral, social and economic disadvantages which have resulted, both to town and country, from the movement which has been termed the "Rural Exodus," are more obvious than their means of remedy. They have been caused by depression of agriculture, extension of railway facilities, attractions of city pleasures and occupations, and the absence of an educational system adapted to excite a real interest in rural pursuits. The excellent example of Denmark has been cited to show that it has been able not only to stay the "Rural Exodus," but to reverse the current of population towards the country. In spite of foreign competition and loss of territory by German conquest, Denmark is now more populous than formerly. She is the second country in the world in regard to the average wealth per head of population. Within a few years she has reclaimed about 2,000 square miles of what had been waste land, and regarded as almost worthless. About five-sixths of her territory is owned by small freeholders and peasants. Denmark sends to the British market more than 1,000,000 cwts. of butter, about as much bacon, 200,000,000 eggs, and many thousands of live pigs, cattle, and horses, for which she gets millions of English sovereigns in return. All this might be kept at home, if our countrymen could be induced to live upon the land and follow similar pursuits. Danish farmers and dairy owners have formed co-operative societies for the collection, sale, and export of their produce. The peasantry have established some 400 banks, chiefly under their own management. The Danish University and college students have instituted free lectures and evening lessons for the working classes, and committees have promoted cheap literature, offices for legal advice, &c. Nearly 100 People's High Schools have been established in various parts of the country. Young men and women of the working classes from eighteen to twenty-five years of age receive instruction and board for months at a time, especially during winter, at a cost of 10s. per week, at these schools. The offices of the "Howard Association" are at 5, Bishops-gate Street Without, London, E.C. The secretary is Mr. William Tallack.

ECHINOPS (GLOBE THISTLE).

THESE beautiful hardy perennials are, I think, some of the most interesting of our border plants. There is such a distinction in the thistle-like appearance of the flowers from the rest of hardy plants that one cannot fail to admire them. All the well-known varieties flower in the summer months, and have a very handsome appearance in the flower border, or grouped in a mass by themselves, reaching a height of between 5 ft. and 6 ft. in ordinary garden soil. They are easily propagated by seed or root division in March, and quickly become established. *E. Ritro ruthenicus* is one of the best, flowering in July with a large head of blue globular flowers, and very handsome foliage. *E. persica* forms a pleasing contrast to the above, and has large white flowers. *E. sphaerocephalus* is a distinct variety, with pale blue flowers lasting a long time in perfection. For cutting they are very useful, one of the prettiest vases I saw last summer being done with *E. ruthenicus* in the centre, and *Eryngium planum* in the bottom. A strong stake is necessary to keep the plants from breaking down, and they should be well watered in the hot weather. Where bees are kept the *Echinops* should be largely grown, as they are very partial to these plants, and do not spoil their beauty in any way.—A Thatcher, *Aldenham House Gardens, Elstree, Herts.*

DEUTZIA CULTURE.

THERE are few gardeners who do not know the value of *Deutzias* for forcing in the early spring for decorative purposes, and when so much cutting of white flowers can be obtained at a time when they are so much in demand. It seems strange how little is done in many places to improve upon them for the ensuing season. Generally they are put outside and left to stand, only receiving a little water, till taken in for forcing or protection from hard frost. A very good method which I have seen, and which proved very satisfactory, is the following. After the plants are done flowering, repot them in a compost of rough loam, leaf mould, sand and some rough wood ashes. Thin out the old wood, being careful not to injure the tender growths, and making sure to leave the strongest shoots for flowering the following spring. Place in a vinery until the growths are about 2 ft. or more in length, syringing them overhead twice daily, which helps to make them break more freely; then harden them gradually off before placing them in a sunny position on a garden walk, where a weak liquid watering may be given them twice a week, which will help to swell the buds for the ensuing spring. I am sure any one who may put himself to the little extra labour on these valuable forcing shrubs will find his work amply repaid with better plants and much larger flowers.—Walter Hogarth, *The Gardens, Norton House, Ratho, Midlothian.*

FORCING IRIS.

THE bulbous species of *Iris* will readily force, and produce abundance of richly coloured bloom early in spring, which will be found most convenient for the decoration of the conservatory or plant house. They should be potted up into 8-in. or 10-in. pots early in March, using a compost of good fibrous loam, peat, and leaf-soil, with the addition of a little coarse sand, and placed in a cool vinery until growth commences, when they may be moved into a warmer house to encourage them to throw flower spikes. As the plants become well rooted, a little stimulant may be afforded them in the shape of liquid manure or some good artificial preparation. As soon as the flowers show signs of opening they should be shifted into a cool house, where they will last much longer. For cut flowers they are invaluable, as they naturally throw a fairly long spike, and, in a cool, airy position last a good time in water. A hatch of the plants placed together to show their flowers to the best advantage in the conservatory would, in my opinion, look as pleasing as anything I could name. When the plants have done flowering they may be removed out of doors, either planting out or letting them remain in the pots. The varieties are, perhaps, too numerous to mention here; but they are all more or less effective at a time when other flowers are scarce, especially outdoors.—R. Thatcher, *Lockinge Gardens, Wantage, Berks.*

AN ANTIDOTE FOR MILDEW.

MILDEW is no doubt one of the worst enemies a gardener has to deal with, especially in the spring of the year. There are a great many remedies to stop this plague, but the best I know of is simple and inexpensive, which is a good point in its favour. I can personally recommend it, having used it for mildew on Tea Roses, Chrysanthemums, &c., and found it to be A1. The mixture is half a pound of yellow sulphur, the same amount of lime, and about one ounce of soft soap. Put the mixture in a bucket, and add one gallon of water, and stir up well together. Get a saucepan and boil the mixture for half an hour, and stir well to dissolve. When boiled let it get cool, then pour in bottles, and keep well corked. For syringing Roses, &c., put one 60 potful of the mixture to three gallons of water, and mix up well together before using. The best time to syringe Roses is first thing in a morning, and before taking air off in the afternoon. If this remedy is persevered in it will be found to give the greatest satisfaction. For Chrysanthemums it is invaluable. Plants for show infested with mildew can be sponged and all traces of it will be removed, and finally can be used without fear of injurious results. —R. Maybury, Silver Medalist, Wolverhampton Horticultural Club.

POINSETTIA PULCHERRIMA.

A FEW plants of the above should now be given a lighter position and higher temperature in order to produce cuttings. In large establishments this will probably have been already done, owing to the great quantity of cuttings required; but for all ordinary requirements the present is quite time enough. It will be essential to have at command a propagating case in the stove (or a hotbed made up with a frame fixed on the top), so that the pots may be plunged inside. The cuttings should be taken off with a slight heel of old wood attached, and be about 3 in. long. They must be shaded from all sun until rooted. Another plan is to cut a few of the old ripened growths into 1½ in. lengths, each piece having a likely eye for breaking; then place them singly in small pots and plunge in heat as advised for cuttings. After root action has taken place and a little growth been made remove them to a slightly cooler house. Do not coddle the plants up all their growing season in stoves or Cucumber houses. Much better results will be obtained by growing them all the summer in pits, or houses with just sufficient heat at command to counteract a damp or occasional cold day. Another important point is do not shade too heavily but only for a few hours on the brightest of days, and give abundance of air on hot days and warm nights.—J. Turner.

CULTURE OF THE SEAKALE.

SEAKALE is one of our most esteemed vegetables. It may be had in use for six months. I have proved that by far the best mode of culture is to grow in beds 3 ft. in width with a 2-ft. alley between. It requires depth of soil. Trench the ground at least 2 ft. in depth, and give plenty of manure. Plant three strong roots in the centre of the bed 2 ft. apart. About the end of October when the leaves fall cover the beds all over with 9 in. or 1 ft. in depth with soil from the alleys. Let it be well broken as it is put on. About the end of December the first two beds may be covered with leaves and stable litter which give root action. The beds may be covered all over to the depth of a yard as there is no fear of too much heat. A few sticks may be put to the crowns to mark where the roots are; for these when fit will be small. Fork down the soil into the alleys and cut the crown off with a heel and have a pan of water and a brush to wash it. For the first cutting the usual mode may be adopted for January and February. The same litter, with some addition, will be removed to the next two beds. Some of the beds intended to come in during May and June need not be covered with litter. The beds will remain for a number of years, but as they get established the young shoots may be thinned to three or four for each crown. By this mode of forcing the shoots will be as thick as one's fist, and the flavour far superior to the usual mode of forcing.—W. Carmichael.

STANHOPEA TIGIRINA.

To anyone having an ordinary stove this Orchid affords no small amount of pleasure, even if only one plant be grown. Apart from being most curious and beautiful, having markings resembling those of a tiger (hence the name), one bloom is sufficient to fill a large stove with a deliciously sweet and refreshing perfume, which immediately upon entering denotes to a visitor the presence of something unusual. It is generally grown in baskets, but succeeds remarkably well in a deepish pan with large boles round the sides, as it must be very firmly potted and have good drainage. The compost suitable is peat, charcoal, and sphagnum. It requires abundance of moisture during the growing season, then to be gradually but thoroughly rested. The pan may be suspended from the roof or stood upon an inverted flower pot on the top of the stage. The flower buds appear towards the end of June, generally in pairs, often pushing through one of the holes in the side of the pan, sometimes underneath, and at first resemble a large Horse Chestnut bud.—G. B., *Mona Cottage, Holbeach.*

ROYAL HORTICULTURAL SOCIETY.

WE curtly announced in our issue for April 26th that the meeting of the Fellows of the Royal Horticultural Society, on Wednesday the 25th, had been adjourned. The meeting had been convened for the purposes of considering and sanctioning, if approved, certain new bye-laws rendered necessary by the supplemental Charter lately granted to the society. The meeting was called also for the purpose of considering the new site for another garden for the society, which the council had selected in accordance with the resolution passed at the annual general meeting of the Fellows in February of this year.

The meeting of the 25th inst. was attended by almost all of the well-known personages connected with the society, men of science, nurserymen, editors and pressmen, private gardeners and interested supporters of the society. The business opened by the secretary reading the notice convening the meeting.

Sir Trevor Lawrence, Bart., president of the society, who was chairman, then said:—"Is it your pleasure that you take the bye-laws as read?" Cries of "No, no" from several voices. Sir Trevor pointed out that the new bye-laws had been carefully drafted by the society's solicitors and had passed the council. Sir William T. Thiselton-Dyer, Bart., director of the Royal Botanic Gardens, Kew, with some warmth replied that as the society had had a new Charter framed, new rules and new bye-laws made, it seemed to him, an imperative duty on the part of those responsible for the conducting of the society's affairs, at this time to have put a copy of these new bye-laws, into the hands of all the Fellows. Sir Trevor responded that so far as the council were concerned the passing of the bye-laws could be deferred. After some further argument a motion was made by Sir William T. Thiselton-Dyer and seconded by Dr. Masters to defer the reading of the bye-laws until such time as copies could be sent out to all interested. On being put to the meeting this motion was carried by a large majority.

The next item of business required longer time to dispatch, but during the whole of the discussion the greatest interest was evinced. Sir Trevor Lawrence said that at the annual general meeting the purport of the Fellows, as then expressed, had been to have a new garden, one situated away from the London fogs, and from the smoke of the many buildings. It had also been proposed to found or establish a thoroughly good hall for the exhibitions of the society. But in regard to this latter venture the financial difficulty had been the great hamper. To furnish the proper sort of hall, a sum of £40,000 would have to be collected. This calculation, said Sir Trevor, had been made after very careful consideration of all the liabilities involved. A total of £27,000 had been subscribed when the ball proposition was under consideration, and Baron Schroder, with whom the idea first occurred, had promised that if £35,000 could be got together he would provide the additional £5,000 himself. But somehow or other the scheme fell through, and now their having a new garden had been fixed upon. Chiswick has still twenty years of a lease to run, and this lease would be a very valuable asset to the society,

although Sir Trevor was not prepared to say what the real value of this unexpired lease would be as an asset to the society. Chiswick, for their special purpose was too small (only thirteen acres in all); it was becoming altogether unsuitable for the needs of the society; he never had thought Chiswick was a satisfactory garden, and he could not understand the attitude of the Fellows to treat the council in this light way, more especially as there had not been one dissentient voice against the proposition passed at the annual general meeting. Sir Trevor then proposed:—"That this meeting confirms the resolution of the council that the centenary of the society be celebrated by removing the gardens from Chiswick."

Mr. H. J. Elwes said this matter should receive the great attention it deserves. With reference to the annual general meeting, I can only say that I, and many other members at that time were too deeply anxious about other matters to attend. Had I been there, I should have said that it would be absolutely impossible for any member to give an opinion at all on a subject brought forward in such a vague way, and without any knowledge of the details. If grave questions in a society arise you must give the Fellows ample opportunity for judging all the facts. Some of the members of the Council are not unanimous in this matter, and Mr. Sutton I believe has seen it necessary to resign his seat on the Council. Mr. Godwin likewise dissents. In regard to the statements made about Chiswick being worn out and all the rest of it, why, there are gardens three times as old as Chiswick and nearer London too, which are made to yield splendid returns. But if we are to take our garden from Chiswick, I think we should take it further north. We want to see a National Society, not a London Society. A Limpsfield garden would entail a day's travel to get there and back. Mr. Elwes did not wish to oppose the removal from Chiswick if something better could be shown him. He moved "that this matter of shifting from Chiswick and the purchase of Limpsfield be considered together." Mr. John Weathers seconded. He wished to know clearly what the future position of the Society was to be, what amount of money was to be spent on sites, what would be the cost per acre, and then we should have some facts to go upon.

After further speeches by a number of speakers, and none of them very much to the point, Mr. H. J. Pearson rose and said:—"It appears to me the resolution would meet the case if these words were added:—'Subject to the Council finding a site which commends itself to the approval of the majority of the Fellows.'" (Great applause.) Mr. Joseph Cheal seconded. Shortly afterward the chairman put the motion with Mr. Pearson's clause added, to the meeting. It was carried almost unanimously.

HARDY FRUIT GARDEN.

ALL sorts of fruit-trees and bushes are well laden with blossom this year. It is to be hoped that dull weather, with an accompaniment of quiet rain, may last long enough to ensure a good set of fruit. With the abundance of flowers there is on the trees, it would not matter if only a tithe of them set; there still would be a good crop. Heavy displays of blossom have times and again been very disappointing in the final results.

DISBUDDING.—Trees upon walls may be treated in the same way as trees under glass; some of the too numerous flowers may be rubbed off. It is unreasonable to expect thickly crowded blossoms either to be strong or to fertilise and undergo the developing changes when light and freedom are obstructed and the nourishment too scanty for all. This applies to flowers. Disbudding of young shoots in such trees as Nectarines and Peaches must likewise receive proper care. Whenever sufficient growth has been made, a first disbudding should be performed. Merely thin out the badly disposed shoots or growths in the first instance. In a few days once again go over the trees. A good growth must be retained at the base of each of the fruit-bearing shoots of this year. These, of course, will mostly be pruned back when the fruits have been taken off. The young shoots are then required to take their place. Shoots growing straight out from the upper surface of shoots may be removed, and those growing either from the under side or at inconvenient places along the slides (coming out at right angles, as it were)

should first be removed. Be careful to retain plenty of fresh furnishing wood, however, for a shoot once removed cannot be put back at will. Do not prune back extension shoots or buds, even though much of the back-part of the shoot is bare. It will not be long before some slight amount of tying is required. It is best for the health and vigorous up-building of the shoots that they be left free to receive sun, air, and dew on every side. Wherever possible, I should advise freedom to the shoots. But it has its drawbacks, and cannot always be allowed. The shoots may be broken, and they are less easy to syringe and clean, when such operations are necessary, if they are growing outward. A puff of tobacco into the points of the shoots among the young leaves is an aid to the eradicating of aphides, which find their home and nourishment there. Tobacco powder is also a safe and effective remedy. Keep a smart eye on the trees at all times for the least sign of pests, and whenever an insect is seen, do, at once, take the necessary precautions to prevent its establishment.

STRAWBERRIES.—On light soils a good deal of watering and some liquid manuring is called for at this season. The plants will soon be blooming, therefore it is necessary to provide that which they require for their sustenance and growth. Like Roses, they have little or no means of storing up a reserve supply of nourishment, and have to secure and elaborate that which their blooms and fruits will require for their development. Thus, I would advocate giving them an early supply. To hold it over till later is equal to offering a starved thing food half of which it cannot just then use. Another very important cultural item at the present is that of hoeing. Hoe between the lines of plants. It destroys weeds, slugs, probably insects, and it aerates the ground, and is as good as a surface mulch for preventing the evaporation of moisture. It also helps to draw up bottom moisture.—*J.H.D.*

PLANTS UNDER GLASS.

The Stove.

SHADING on all of the houses is now nearly complete. When the sun comes out in unobstructed force his power for scorching tender growths is great, so that though much of the weather has been and is yet, dull, the few sunny days have to be reckoned with.

GLOXINIAS.—The earliest batches are now in flower and for these an intermediate temperature should be maintained. Plants just coming into bloom may be assisted with some Canary Guano or Thomson's manure.

ACHIMENES.—These may be transferred to pots or pans as the case may be, when they have grown to a quarter of a foot high. A light, rich compost suits them. A moist, warm stove is what they like.

CALADIUMS.—These must be kept carefully in the shade, and should be given a temperature of from 65° to 75° Fahr. Plants in small pots may be treated to some liquid nourishment, such as advised for the flowering plants. A moist atmosphere and a good root supply are the necessary factors for their success.

CODIAEUMS AND DRACAENAS.—The chief point with these is to keep them free from their many insect pests. Young plants of Dracaenas may be lightly syringed: Crotons at all stages can be vigorously syringed. To keep large specimen plants fresh, use the spray-syringe freely into the centre of the plants. A glass of paraffin and soft-soap emulsion in a gallon of warm water is a splendid antidote for this purpose. Some stimulus may be supplied to established plants which have not been repotted. Crotons, if confined to a house by themselves, should not be shaded for some weeks yet.

The Greenhouse.

AMARYLLIS (HIPPEASTRUMS) are still in great show. The fading blooms should be removed as soon as their freshness declines.

EUPATORIUMS are also holding out. They may be cut right down when the flowers are past, and after being rested, may be repotted, or cuttings may be taken now. The Primulas are giving way to pot-grown Stocks, Begonias, or Calceolarias.

CYCLAMEN are yet in good condition. Do not

over-water or stimulate them. Mignonette which was sown in the back-end of last year has been yielding perfume and its grace for quite three weeks.

AOTUS GRACILLIMA is a pretty plant in flower now, and it, too, has been with us for some time. It is a leguminous flower, of an orange and deep brown colour, the flowers being borne closely all along the length of the slender and arching stems. It is one of our most graceful, shrubby, spring-flowering plants.

The strains of Cinerarias are increasing. It is not as though there were only one form and habit belonging to certain hybrids. Growers in various parts of the country, representing to have the same types, have yet their own strains of that race. The "Star" Cinerarias, and the old florist's type are the best kinds for the gardener. All kinds of spring forced plants and bulbs are in flower. Fuchsias, Pelargoniums, Begonias, and other plants are being pushed on to take their place. Celosias and Balsams must be carefully attended to, not to allow them to become drawn. Syringe them to keep them clean.

Pits and Frames.

Young Cyclamen now in 3 or 4-in. pots should be placed in a light, comfortably warmed frame on a bottom of ashes. They should be dewed over on the mornings of bright days, and again in the afternoon. Allow them fresh air at all times, only one must guard against draughts.

This is the great month for summer bedding, though, with such a backward season, there will be more planting done in June than in May. All stock for planting out of doors should be hardened off from this time forth.—*J.H.D.*

The Orchid Growers' Calendar.

GIVING AIR.—How much depends on the proper carrying out of the work indicated in those two words it would be difficult to say.

That there can be no hard and fast lines laid down we know, for so much depends on the kind of structure you have to deal with, the position of the same, &c. Yet the intelligent man is not long in detecting what amount of air to put on so as to suit the plants in this or that house.

In some houses the plants will dry up much quicker than in others requiring the ventilators to be opened, but very little if anything, like a humid atmosphere is to be kept up. On the other hand we ourselves have a house that, unless the air is on night and day, always seem stuffy. This is a hip-span which can only be ventilated along the front and roof; that is why we prefer low span-roofed houses with ventilators on each side; you can then regulate the air to a nicety.

THE VALUE OF THE SYRINGE.—That there is no more useful implement for use amongst Orchids most growers are aware, but do we make as much use of it as we ought to? Collectors tell us that even in the dry season dense fogs are seen lifting at sunrise, and the mist collecting thickly on the plants, condenses as the temperature rises, trickles down the roots, and hangs on their points in great beads until taken up by them or evaporated. We cannot do better than to imitate nature as far as is possible; and to that end we ourselves syringe heavily overhead early each morning when there is a prospect of a fine day. Under these conditions the moss grows, and the plants thrive, throwing up strong growths and sending forth a great quantity of roots, without which of course nothing can live for long.

There are of course exceptions, and they are Orchids in flower, Phalaenopses, Aerides, and Saccolabiums, but later on even these latter plants may be syringed overhead with impunity if time is allowed for them to dry up before night.

To the unpractised eye this watering by means of the syringe may be misleading, as the moss may look green and wet, whilst underneath they may be dry. We therefore advise that at least once a week the plants should be examined and a good soaking given where required. If this is persisted in there will be no trouble to keep the plants in good condition.

SHADING.—This, like the two preceding items, requires regulating in the same manner if you are to be successful. A lot of damage is soon done if due care is not given to the letting down of the blinds when the sun pops out during showery weather, &c.—*S.C.*

Gleanings from the World of Science.

THE undermentioned subjects were discussed at the meeting of the Linnean Society of London, on April 19th.

High-level Plants from Tibet.—Messrs. W. B. Hemsley and H. H. W. Pearson read a paper on some collections of High-level Plants from Tibet and the Andes. Mr. Hemsley first gave a brief history of the botanical exploration of Tibet, followed by an account of the unpublished collections presented to Kew by Captain Welby and Lieutenant Malcolm, by Captain Deasy and Mr. Arnold Pike, and by Dr. Sven Hedin. These collections were all made at great altitudes in Central and Northern Tibet; few of them below 15,000 feet, and some of them at 19,000 feet and upwards. The highest point at which flowering-plants had been found was 19,200 feet above the level of the sea. The plants recorded by Deasy and Pike at altitudes of 17,000 feet and upwards are:—*Corydalis Hendersoni*, *Arenaria Stracheyi*, *Saxifraga parva*, *Sedum Stracheyi*, *Saussurea bracteata*, *Gentiana tenella*, *G. aquatica*, an unnamed species of *Astragalus*, and an unnamed species of *Oxytropis*. These are the greatest altitudes on record for flowering-plants. Deep-rooting perennial herbs having a rosette of leaves close to the ground, with the flowers closely nestled in the centre, are characteristic of these altitudes. The predominating natural orders are:—Compositae, Leguminosae, Cruciferae, Ranunculaceae, and Gramineae. The Compositae largely predominate, and the genus *Saussurea* is represented by numerous species. Specimens of about a dozen species were shown to illustrate the great diversity exhibited by this genus in foliage and inflorescence. Liliaceae and the allied orders were very sparingly represented. Two or three species of *Onion* occur; one of them, *Allium Semenovii*, in great abundance up to 17,000 feet. None of the collections contained any species of *Orchid*.

The Andine Flora.—Mr. H. H. W. Pearson followed on the Andine Flora, with special reference to Sir Martin Conway's small collection of plants brought from Illimani in the Bolivian Andes in 1898. In consequence of the labours of d'Orbigny, Pentland, Meyen, Weddell, Eandon, and other botanists, the high-level flora of the mountains of Bolivia is better known than that of any other equally elevated region of the Andes. Weddell's collections form the nucleus of the materials from which the "Chloris Andina"—the classic work on the flora of the High Andes—was prepared.

Many collectors have obtained plants in various parts of the Andes at elevations stated to be greater than 17,000 feet. Col. Hall states that he saw four plants on Chimborazo in 1831 at "nearly 18,000 feet." These were two species of *Draba*, one of which was *D. aretioides*, H. B. K., and two Composites, one being a *Culcitium*. Mr. Whympster and others have thrown some doubt upon the determination of this elevation, and it is probable that it was over-estimated. Out of forty-six species of flowering-plants obtained by Sir Martin Conway, seven are from 18,000 feet or above it, two being as high as 18,700 feet. These, the highest Andine plants on record, are *Malvastrum flabellatum*, Wedd., and *Deyeuxia glacialis*, Wedd. Thirty-nine species in this collection were found above 14,000 feet; these belong to thirty-four genera and twenty-one natural orders; fifteen (i.e. about three-eighths of the collection) are Compositae. Of the thirty-four genera, one only—*Blumenbachia*—is endemic to S. America. The species, with one exception, are confined to the Andes, eight or nine of them not being found outside Bolivia.

In the collection made by Mr. Fitzgerald's expedition in the Aconcagua valleys between 8,000 and 14,000 feet, ten genera (i.e. one quarter of the whole) are endemic in South America. The contrast between this and the small endemic element in the Conway collection from above 14,000 feet gives additional support to the generalisation that the flora of high levels is more cosmopolitan than that of low levels.

A discussion followed, in which Dr. O. Stapf, Mr. F. N. Williams, and others took part, and Mr. Hemsley replied.

A paper was read by Mr. E. S. Salmon on "Some Mosses from China and Japan"; communicated by Mr. J. G. Baker, F.R.S., F.L.S.

HINTS FOR AMATEURS.

Some Plants of the Spring Rock-garden.—Sentiment can lead us to very varied mental scenes by a quiet reflective stroll among the turnings, the rises and the dips of our made-at-home toy Alps. In springtime—well, I for one simply soar so high that my friends would not wonder if some spring day I became ethereal and passed from earth as a spiritual vapour. But out in the rock-garden, and companioned with a pipe, there are heaps and heaps to reflect upon, in connection with the flowers. The whole story of the "law of life," of evolution, of predestination opens out at the mere mention of a rock-garden and its vegetable forms. It is not the simple loveliness of the flowers alone which we hunger for, and feel satisfied with, but it is their tale of a hidden power, the proof of something unapproachably higher, which we have yet to become, through death, more fully acquainted with, which they teach to us, that gives to flowers, and to all things natural, their enchantment and their fullest value. But still it is only in certain frames of mind that we can prolong these thoughts, much easier is it to come down to every-day common-place, and to discuss the more obvious facts around us. There are some very showy flowers in bloom at present whose merits I should like to write of.

Aubrietia deltoidea.—One of these is *Aubrietia deltoidea*. If I had far more of a garden than I have, I would wreath it in every part with this warm-coloured Crucifer. For tumbling and trailing over low walls, sunny banks, or exposed corners, you may search widely before you find a sweeter plant of its kind. It grows in close tufts and spreadingly, the foliage being grey and soft. Its lavender flowers are not large, but are borne in immense profusion. Another and improved variety also in bloom at this time is *A. d. Hendersonii*, which is equally, or even more beautiful, in its richness of violet here, than is the species itself. Both like a porous soil, and free, open position.

Waldsteinia fragarioides.—Despite its attenuated title, cultivators cannot call the plant which bears this name, a very handsome one. It is certainly sweet and very gay, but it is a dwarf form, a little plant which carpets the rockery pockets with bright leaves, faintly resembling those of a Strawberry, and having flowers like those of our common *Potentilla reptans*, whose blossoms are bright, a canary-yellow, small, and cup-shaped.

Dicentra eximia, or Bleeding-heart, though that name is more properly applicable to *Dicentra spectabilis*, is just beginning to open its drooping red flowers on the shaded side of our alpine garden. It has brightly glaucous, palmately dissected foliage, which spreads over the surface soil above its roots. The flowers are borne on red, smooth, cylindrical stalks, they themselves curving downward from the axis to form objects of great beauty and attraction. A good porous soil will be found to suit its needs.

Omphalodes verna alba.—This certainly is a cheery and sparkling little alpine. The foliage is plentiful, somewhat elliptical, with an acute apex and slightly crinkled surface. Of themselves their form and habit is pleasing, and the snow-white starry flowers which only just peep above the green setting, are wondrously bright and showy. A position where a good supply of moisture can be furnished, and freedom to light guaranteed, should be chosen for this recommendable little gem. *O. verna*, the blue-flowered variety, should also be obtained.

Spiraea Ulmaria aurea variegata.—Though not now in blossom, this dwarf subject is worthy for the sake of its pretty yellow pinnate foliage. A batch here and there in the rockery goes a long way toward heightening the brilliance of the same.

Iris pallida variegata.—In this we possess a lovely variegated member fit for a recess in a rockery. We cannot say that it is at all common. Where it does well, and that generally is in half-shaded moist recesses, this *Iris* with its gracefully spreading leaves of a soft, but decidedly creamy hue, bordered along the edges with a band of grey, is one of the choicest variegated hardy plants I am acquainted with.

Scilla italica.—We have now a good many blue flowered plants with us, such as the *Gentians*, *Tecophylaea cyanocrocus*, *Scillas*, *Chionodoxas*, and *Primroses*. Each varies in some way from the other,

but all are pretty, as blue flowers mostly are. This *Scilla italica* is, so far as I know, the most beautiful of the genus. The dark green strap-shaped leaves form tufts from which the tall stalks of the flowers spring. These are of a pale blue hue, borne in a raceme, and with anthers whose colour is a deeper blue than the petals. They are thus conspicuous and attractive. Nowhere is this lovely Squill seen to more effect than peeping from beneath the over arching thinly spread branches and twigs of a Briar Rose or *Kerria* shrubs. An elevated but sheltered portion in the rockery, among soil of a good staple, is the place which ought to be selected for it. A few of the bulbs of this species may be grown in pots.

Uvularia grandiflora.—We shift again to the yellow flowers. This one is most charmingly graceful. When in the very young stage, or, indeed, up till the time the yellow pendant flowers expand, this *Uvularia* recalls to mind the well-known and much-loved Solomon's Seal. Only in respect to the somewhat glaucous foliage, the tall, slender, arching stems, and the display of pendant, oval flower buds, does the similarity hold, but when both plants are fully matured, most of the agreement breaks down. *Uvularia* likes a damp, humic soil, a free and open position, with shelter from winds. It is a very handsome, early flowering plant, and one for which a place should be found in some nice nook between the rock-work knolls. It is suitable for cutting, and may be arranged gracefully in vases.

Saxifraga rocheliana coriophylla.—Though not the earliest of the dwarf *Saxifragas*, this is certainly the showiest of any of the white flowered varieties in bloom at the present time. When seen in good condition, growing in a sunny pocket, well-up in the rockery, it is a very pleasing and cheery object. The foliage is of the characteristic tufted nature, and is almost hidden by the fine growth of white flower spikes. The pocket containing this pretty *Saxifraga* should be well drained and need not be very deep. At the same time there will be some demand made by the plant to have its needs attended to. The blooms will soon go off if the soil around the roots is allowed to become dry. Whenever the flowers begin to fade remove them. This will assist the plants to spread about and remain strong.

Saxifraga ligulata is of quite a different type from *S. rocheliana coriophylla* which belongs to the encrusted section, such as the *S. aizoon* varieties with their rosette-like tufts. *S. ligulata*, *Megasea* or large Rockfoil, as it is also called, is a member of the large leaved section, of which, indeed, it is taken as the type. Someone wrote in a number of THE GARDENING WORLD about the suitability of *S. ligulata* for early flowering as a greenhouse pot-plant. I can corroborate what the writer said. It does immensely well when plants have become established either in pots or in the open ground; they should not be disturbed for a number of years. And to get this very handsome species (which bears large arching dense panicles of pink-red flowers), to do well, only due care and common attention is demanded. Pieces of the root-stock with roots attached should be cleanly divided from developed plants. A turfy loam compost with an addition of Mushroom dung from an old bed, or failing this, some dry manure and well decomposed leaf mould should be got together. Pot the rhizomes rather firmly, and grow them either in a cool shady position in the open air, or in a cold frame. A soil of good quality should be chosen when planting in the open air. Few plants are finer for use in a mixed bank, where dwarf shrubs, alpines, and herbaceous plants are grouped.

Phlox divaricata.—Everyone should know this lovely blue *Phlox*, possibly the only true blue species we have. It does A 1 in pots. For the rockery, give it a place in a position where shelter may be obtained, and on the sunniest side where most light and warmth can be secured.

Present Work.—The work which calls for attention in the kitchen garden, is the sowing of Scarlet Runner Beans, Peas, Dwarf Kidney Beans, Parsley, herbs of sorts, and Spinach. Cauliflowers, and Cabbages may be planted out, and earlier hatches may have their stems earthed up. Celery trenches should now be prepared. In the fruit garden, the watching and protecting of fruit trees in flower, the thinning of the flower trusses, dishudding of shoots, watering, and guarding against insects, is work which will keep one busy. Grapes should be

thinned. In the flower garden, *Gladioli* may be planted; also *Carnations*, *Hollyhocks*, *Ferns*, *Sunflowers*, *Pyrethrums*, and *Gaillardias*. Whenever needed, the hose should be kept at work. Tomatoes should be in preparation for planting out doors soon. *Chrysanthemums* may be potted into 5-in. pots and placed in cold frames.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Polyanthus.—Weaver: There are two types of *Polyanthus*, the gold-laced and the fancy. The former is famed for its lovely, though restricted colours, with a gold lacing to the segments. The latter embraces shades of all kinds of colour, the selfs being regarded as the best.

Selection of Bedding Violas.—R. Duncan: WHITE: Countess of Hopetoun, Pencaitland, Snowflake, Lady Dundonald, Sylvia, and Countess of Wharnccliffe. PURPLE: J. B. Riding, Acme, Crimson King. BLUE: Archie Grant, True Blue, King of Blues, Mrs. C. Turner, Blue Gown, and Duchess of Sutherland. YELLOW: Bullion, Lord Elcho, Princess Louise, Mary Gilbert, Pembroke, and Ardwell Gem, a pale primrose variety. Countess of Kintore is a lavender and white colour. These we know are all amongst the finest of their kind.

Small Book on Birds.—J. T.: We recommend to your notice "The Farmer and the Birds," by Edith Carrington, published by Messrs. George Bell & Sons, York Street, Covent Garden, London. We do not know the price, but believe it is a shilling. This book treats of the swallow tribe, the nightjar, the tit family, flycatcher, starling, jackdaw, rook, lapwing, skylark, &c., &c.

Daffodil.—W. W.: The Daffodil or *Narcissus* belongs to the *Amaryllidaceae*. We think if you obtained one of Messrs. Barr & Sons' Daffodil catalogues you would be able to trace out the sections of *Narcissi*, or you could get "Ye Daffodil," price 1s., by writing to 12, King Street, Covent Garden, London.

Bougainvillea not Flowering.—T. Telfer: Sometimes this plant does run off, but this is ascribed to over-feeding, and too much fostering. Give the ventilation suitable for a greenhouse. You can do little in the meantime except to desist from giving stimulants, and to cut back some of the roots which are spreading over the stage. As *Bougainvilleas* are now in growth you must be cautious. When the plants are inactive during winter, prune the shoots hard back, also cut the roots through, level with the bottom of the pot. Keep them on the dry side when they start growth, and you ought then to find that instead of thorns, which you may have observed in the axils of the leaves, you will get those shoots bearing coloured bracts.

Clematis indivisa after flowering.—D. T. L.: So soon as the flowers were gone it would have been wise for you to have done some radical thinning out of shoots. You may do so yet, for growth is not far advanced. Thin out all superfluous branchlets, leaving the strongest. These may be pruned to less than half their length. Top-dress the roots, and water freely.

Prevention of Tomato leaf rust.—W. Hayes.: It certainly is well to take preventive measures in good time, since your crops were attacked last year, and spores of the *Cladosporium* are almost certain to be about. We suggest that you spray the foliage, stems, surface soil, and wood-work, with a weak solution either of Bordeaux Mixture or of potassium sulphide. Merely spray with the solution, letting it fall in the form of a thick dew all over the surface. This should be done on the morning of bright days only. Ventilate from front and top, always having a bracing air in circulation. Whenever the weather is dull some heat should be turned on to the pipes.

Francoa ramosa.—*L. F.*: This plant (a native of Chili) is particularly valuable to those who have need for a quantity of white blooms, or long white sprays. It does well in a cool green greenhouse. Seeds should be sown in February, in the light soil of shallow pans, and placed in heat. So soon as they are up an inch or less, prick out into small pans or pots. When once established in these it but remains to shift them on until large specimens develop. Cool-house treatment, good soil, moderately firm potting, and plenty of water, are the items of culture we have followed with success.

Dry Bank and poor Soil.—*W. Fell.*: From your descriptive letter we would recommend you to plant the common Whin on the exposed bank. Few other plants or shrubs would be so likely to succeed. Young plants may be sought for and planted, or seeds may be sown early in June in prepared patches.

Clerodendron fallax.—*Wilson, R.*: Seeds should now have germinated. Still, you may yet make a small sowing in a shallow pan. Shift in the seedlings by small stages, and grow the plants in a warm, shaded stove. A 5 or 6 in. pot will be quite large enough for the final potting.

Pea Growths Withering.—*R. Harris*: Your cultural procedure has been sufficiently correct to ensure a good crop, but have you grown the Peas on the same land for a number of years? Laud becomes "Pea-sick." The effects of cold winds or frost sometimes check growth and make the plants look sickly. The leaves and stipules have had their edges slightly eaten by slugs or grubs; the leaves bear evidence of this. There is one other possibility, and that is that the Pea-seeds may have contained the larvae of the Pea weevil (*Bruchus Pisi*) which lives on the stored-up nourishment of the seed leaves. The young seedling is thus robbed of that which ought to support it until it becomes established and fed by its own roots. We would advise you to inspect the roots closely and to watch the foliage further. Keep the plants growing by watering the soil and by surface hoeing. Unless something is wrong with the roots, the plants may recover their freshness, when the weather becomes warmer and growth recommences. More soil, however, might have been placed over the manure before sowing.

Chrysanthemums forming Buds.—*W. L.*: This arises, as a rule, from having selected stem cuttings or shoots from starved plants. The suckers of some varieties are prone to this behaviour. If the plantlets are healthy you may pinch them and get a strong shoot from a lower bud to continue upward. Do not confine the roots, this causes premature bud formation. Syringe daily. Shift to a cold frame.

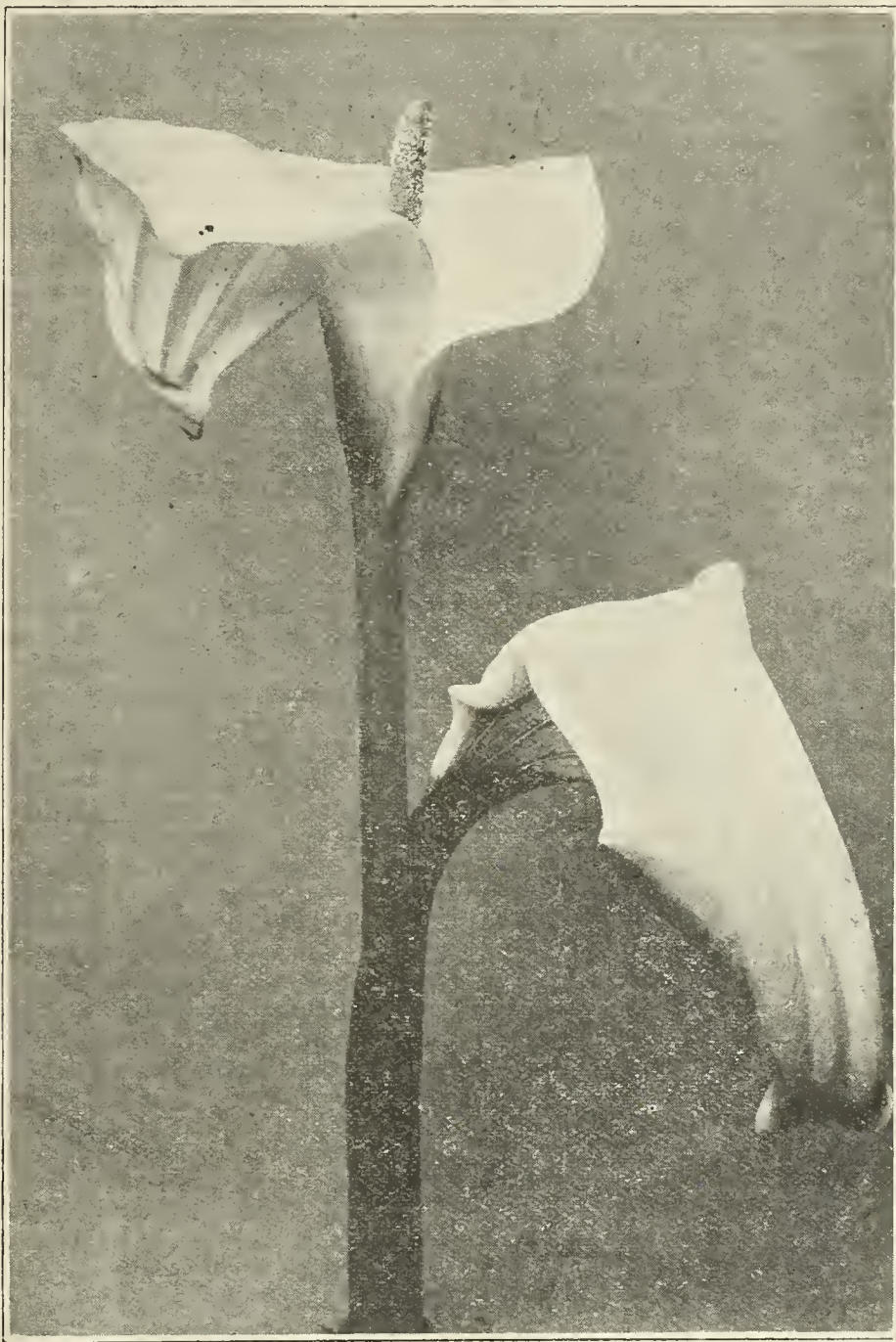
DOUBLE-SPATHED RICHARDIA.

FOR a number of years past double spathed Richardias have been turning up in various gardens, and many cultivators have been desirous of fixing this peculiar development, but so far without success. They seem to us to be due to excessive vigour of growth resulting from good cultivation and feeding. The ordinary spathe we regard as a bract at the top of the scape, and sub-tending a terminal inflorescence. When a second spathe arises it may be regarded as a leaf, which for all practical purposes it is when it comes green or more or less of that hue as we have seen. The accompanying illustration shows a double spathe sent us by Mr. James Mayne, gardener to the Hon. Mark Rolle, Bickton, Budleigh Salterton, Devon. The terminal spathe and spadix are normal; but the second spathe has a long, green petiole, precisely like that of a leaf. The spathe or its lamina is white like the terminal one, but the spadix is wanting. When the latter is present, as it occasionally happens, it may be regarded as a lateral shoot from the axil of its subtending bract or modified leaf. Neither the primary nor secondary one constitute any part of a flower, the true flowers being very much reduced in size, and thickly crowded on a fleshy, spike like axis. Two of these double-spathed Richardias turned up at Bickton this year, and one last. Seeing that they are not constant, the term freak would be better than sport for such plants.

BUCKLEBURY PLACE.

IN continuing our notes respecting what we saw on a visit to Bucklebury Place, Woolhampton, Berks, the residence of A. W. Sutton, Esq., we may say that the place is easily reached from Midgham station on the Great Western Railway, from Reading to Trowbridge and Devizes. Bucklebury Place is about two miles from the station, and makes a pleasant walk, albeit the road is uphill nearly all the way. This part of Berks is so beautifully undulated, and in many places well wooded, that the length of the way is overlooked in the variety of scenery that crops up at every turn of the road and terrace that is surmounted. Every copse and spinney is full of Primroses, Windflowers, and Violets are not infrequent. A white variety of the Sweet Violet seems as common as the typical blue one and quite as sweet.

quite apart from his own servants; for behind the gardener's lodge is the Fireside Club Room which he has built for the benefit of the working men of the parish, a committee of whom manages the affairs of the club, notwithstanding the fact that the membership of the same includes many names of the most prominent and influential men of the parish and others beyond it. Papers and magazines are supplied, and the club is also furnished with tables for billiards, dominoes, and other games, while mental instruction is furnished by lectures on various topics by different speakers, including instruction in gardening for the cottagers. The members are furnished with seeds for their gardens at the expense of the owner of Bucklebury Place; and all they have to do is to mark their wants on a printed list supplied for the purpose. On the grounds are well kept



DOUBLE-SPATHED RICHARDIA.

When the visitor is fairly on the tableland he soon arrives at the eastern lodge or main entrance, where the coachman's house and stables are situated, behind which are the kitchen garden and the glass ranges. The drive here is flanked in places by large beds of evergreen and deciduous shrubs of many choice kinds. These beds are edged with a double line of Hyacinths, which were gay about a fortnight ago. The gardener, Mr. A. Wright, occupies the western lodge, overlooking the Furze-clad Bucklebury Common, north, and the pleasure grounds in the other direction. It is a roomy house and quite a handsome cottage for any gardener to occupy, being new like all other buildings on the place. The large beds of shrubs bordering the drive here are edged with Tulips now in their prime.

In many other ways the owner of Bucklebury Place has not been unmindful of his fellowmen,

areas for cricket, quoits, bowls, and other outside games for the members of the club. All these advantages should help largely to keep the people on the land.

There are also grounds for lawn tennis, croquet, and golf for the owner and his friends, the golf grounds extending over fields belonging to an adjoining property. A house has been built for the convenience of the players.

Some of the windows of the mansion overlook a formal garden of the old English style, surrounded by Yew hedges. There are beds of Daffodils on a ground of Myosotis, as well as others, carpeted with richly-coloured Polyanthus. Wall-flowers are also a prominent feature, including beds of Sutton's Purple Queen and Sutton's Faerie Queene, edged with Cloth of Gold and another dwarf golden-yellow variety.

From the Dell Garden, mentioned in our last issue, we were driven by a heavy April shower, made fierce by a strong gale that would have been more seasonable in March. Taking shelter in the greenhouse, we noted a collection of zonal Pelargoniums grown for the sake of cut flower. Other flowering subjects at their best were *Astilbe japonica*, *Spiraea Aruncus astilboides*, *Calceolarias*, and *Lily of the Valley*. The Climbing *Niphetos Rose* was also doing well.

The Tomato house contained a batch of Earliest of All and Winter Beauty, grown in pots side by side, and alternately to test their relative earliness. The seeds were sown in December, and Earliest of All had well coloured fruits on the lowermost bunches, while those of the other variety were still quite green. On the staging beneath them were early batches of *Gloxinias* and tuberous *Begonias*. *Amorphophallus Rivieri* was flowering, having turned up in a batch of *Lily bulbs* from Japan. Here also were *Abutilon megapotamicum* and seedlings of many plants for bedding out, including *Nasturtiums*, *Castor Oil plants*, *Phlox Drummondii*, *Senecio elegans*, *Marigolds*, single and cactus *Dahlias*, *Salpiglossis*, *Gaillardias*, *Dianthus Hedderwigii*, &c.

The stove contained *Acalypha Sanderi*, *Thyracanthus rutilans*, *Golden Ring*, and other *Crotons* for house decoration, *Cypripediums* and various *Dendrobiums*, *Pandanus Veitchii*, and flowering specimens of *Pancratium fragrans*. *Acalypha marginata*, *A. macrophylla*, and *Exacum affine* will all find their uses presently.

The Melon house was fully occupied with Melons and Cucumbers. Amongst the latter were *Every Day*, a model Cucumber of fine shape. The *Rochford* is a heavy cropper, with a thick fruit, but having a defect in its long handle. *Pride of the Market* is a longer fruit, and the base is not contracted into a handle. *Brook's Seedling* is a variety derived from The *Rochford* crossed with *Blair*.

Melons included *Best of All*, *Perfection*, three seedlings under number for trial, and *Superb*, a green fleshed variety of great merit. A collection of *Caladiums* was coming on in this house, including such handsome varieties as *Silver Cloud*, *Oriflamme*, *Marguerite Gilmer*, *Candidum*, &c.

The Vines in the earliest house were expanding their flowers. Beneath them was a varied and interesting batch of seedling *Coleuses*, suggesting the possibility of raising them annually for decorative purposes, instead of continuing the troublesome method of preserving them by frequent propagation from cuttings. Scarcely two were alike, and a large percentage of the seedlings had really handsome foliage.

In the second early vinery some new staging has been erected for plants which are being increased to meet the greater demands of the establishment. *Primula sinensis* is grown in considerable variety and amongst the plants we noted a Fern-leaved *Star Primula*, which makes, we believe, an addition to the race. *Petunia Rose Queen* is a choice single variety for pots or open-air culture. *Pyramidal Fuchsias* are being brought along for planting in tubs for the Dell Garden. Strawberries are staged near the front glass. The Vines in the third house had only made short shoots, though healthy and vigorous. Bedding stuff was plentiful here also. A beautiful and interesting curiosity was that which commenced flowering as a blue *Primrose*, presently developing into a *Polyanthus*, and then showing an inclination to produce whorled scapes of flowers. This furnishes something more than a suggestion that the garden *Polyanthus* is only an evolved *Primrose*, bearing an umbel of flowers on the elongated common foot-stalk.

Frames were occupied with *Cauliflowers*, *Lettuces*, *Radishes*, &c. in successive batches, on beds of fermenting manure. Forced *Asparagus* had just been finished. A collection of *Chrysanthemums* may also be mentioned.

The whole end of one of the vineries is covered with a vigorous specimen of the *Rose W. A. Richardson*. Peaches on walls are protected by glass, hung from the coping.

Many and varied lessons can be gleaned in the kitchen garden though this also is only in the process of development. The earliest Peas had been sown in boxes and planted out in furrows for shelter. Others were just coming through the soil, including *Early Giant* and *May Queen*. *Cauliflowers* in the open included *Sutton's First Crop*, *Magnum Bonum* and *Universal*, later than *Magnum Bonum*. Amongst early Potatoes the favourites were *Sutton's Ashleaf*,

Ringleader and *Early Border*, just coming through the soil. *Windsor Castle* is preferred to any other variety for the main crop. *Exhibition*, *Long Pod*, *Giant Windsor* and *Green Giant Beans* are the favourites here. *Early Turnips* are supplied by *Early Red Milan* and *White Milan*. Carrots for early use are *Sutton's Inimitable Forcing* and *Champion Horn*. A sowing of the latter made in autumn in an open border is now supplying roots as tender as those forced on hotbeds.

Pyramidal Pear trees are planted round the borders of the vegetable quarters. Behind them are autumn-sown Onions such as *Ar*, *Ailsa Craig* and *Giant Leviathan*. Spring-sown varieties include *Ar*, *Sutton's Perfection*, *Sutton's Globe*, *Sutton's Selected Ailsa Craig*, *Sutton's Long Keeping* and *Sutton's Improved Queen*. Another lot, sown under glass to bring them along, includes *Selected Ailsa Craig*, *Ar* and *Perfection*. Of main crop Carrots, *New Red Intermediate*, *Scarlet Intermediate* and *Sutton's Early Gem*, have all been sown in holes filled with prepared soil; for the flint pebbles so abundant everywhere in the soil of this upland plateau make this a necessity. Tender and True *Parsnip* (the only variety grown), and *Blood Red* and the *Sutton Globe Beet* have been treated in the same way.

A useful object lesson was furnished by a plantation of two varieties of *Rhubarb*, covered with *Seakale* pots and fermenting manure. The *Sutton* is a pale variety with stout, clean-looking and tempting stalks, notwithstanding their pale colour. *Reading Ruby* is the greatest favourite here, for the stout stalks have a dark red skin and the hue is continued to the very centre even after being cooked, and whether the stalks have been grown under natural conditions in the open or forced. While handsome in appearance the cooked article is of excellent quality. A collection of fifteen varieties has been planted by way of a trial in order to determine their respective merits. The varieties are *Linnaeus*, *Crimson Queen*, *Prince Albert*, *Fox's Early Red*, *Mr. Keep's variety* (which is said to grow in winter without forcing), *Prince of Wales*, *Victoria*, *Buckley's Crimson*, *Royal Albert* (a forcing variety), *Stott's Monarch*, *Early Scarlet*, *Champagne*, *Early Red Raspberry*, *Reading Ruby*, and *The Sutton*. This collection should be sufficient to meet the wants of any private establishment.

A new French variety of *Asparagus* of large size has been planted in a single row along a trench. The sticks will be earthed up gradually as they grow till covered with a foot of soil to blanch them. Three plantations of winter Cabbages are all of different ages for a successive supply. The variety is *The Gem*, a conical headed Cabbage of dwarf habit. The earliest plantation is now in use.

At the south-western corner of the estate is a piece of sloping ground with a sunny aspect, and which has been laid out as an orchard. Bush and standard trees, all young ones, to the number of 250 have been planted, and will presently become fruitful and profitable. A large proportion of them is laden with flower buds. All the leading and best modern varieties are planted, including *Apples*, *Pears*, *Plums* and *Cherries*. *Raspberries* grow strongly. *Asparagus* and other vegetables are planted between the young trees.

Pieces of ground have been set apart for plantations of *Mangles* and *Thousand Headed Cabbages*, the latter being meant as shelter for game. In the same hollow, out of sight of the mansion and pleasure grounds, are some farm stock, including some beautiful *Jersey cows*. Altogether this rural establishment is very representative, instructive, and probably unique for many miles around.

CHEMISTRY FOR THE GARDEN.

IX.—MINERAL FOOD.

MAGNESIA.—This is the oxide of magnesium, and its only oxide. It can be obtained on a small scale, by the ignition of small strips of the metal in the air. The magnesium burns with a brilliancy equal to electric light. The residual ash is the oxide and substance *magnesia*. In many respects *magnesia* is not unlike *lime* with which it invariably is found in nature.

Magnesian limestone, *dolomite*, and *serpentine rocks* have a large quantity of *magnesia* in their composition. All cultivated soils contain *magnesia*

also, and it is doubtless a most essential food for plants.

It is said to be specially beneficial for the production of fruit. One of the leading lecturers on chemistry in *Edinburgh* informed us a few years ago that where applications of this substance were made to old exhausted orchards, the results were a much larger percentage of fruit.

Magnesia can be supplied, among others, to the soil in a very convenient form, by applications of bones, as they contain phosphate of *magnesia*, as well as phosphate of *lime*. The well known medicinal *Epsom Salts* are a combination of *magnesia* and sulphuric acid—sulphate of *magnesia*.

SODA.—Sea plants contain this substance in greater abundance than those of inland cultivation. It is said that in an insular country such as ours that sufficient soda is carried in the atmosphere, to meet the needs of plants, without making any additions artificially at all. Therefore the plant's need for soda would apparently appear to be very small. Still experience teaches that some plants are immensely improved by some combinations of soda. *Asparagus* revels in a good dressing of salt, which is a combination of soda and chlorine gas. Onions, it is said, will use up salt till they actually taste salt. There is no doubt whatever but Onions do well with a fair quantity of salt. We, however, cannot vouch for their partiality for salt being so great as to partly convert them into pickles before they leave the gardener or amateur's hands.

On large continents where the fiercest storms are impotent to carry soda from the sea inland, the necessity for this mineral becomes greater, and its character being so similar to that of potash, perhaps in such circumstances it would act as a very good substitute.

Soda is the oxide of the metal sodium, which, like its relative potassium, has a violent affinity for oxygen. Whenever it touches water it is ignited and decomposed into soda. Hence to preserve these metals from oxidation it is essential to put them into naphtha. Exposure to the air for a short time will accomplish oxidation also.

SULPHUR is found in plants, perhaps chiefly in the albumen. It is taken up in the form of sulphuric acid. The *Brassica* family use a fairly large percentage of sulphuric for their proper development. As this tribe has also a strong predilection for potash it follows that a combination of potash and sulphuric acid would still greater meet with favour.

IRON—FERRIC AND FERROUS OXIDES.—Iron, as has already been hinted, performs similar functions in the plant to that which it does in the animal structure. Plant and animal require but an infinitesimally small quantity for the maintenance of their health, yet were this withdrawn they would soon show symptoms of failing health. In the human species the want of iron is known by a peculiar paleness of the face, and in the plant it is somewhat the same—an unhealthy pale green familiar to every gardener. Perhaps after all the chromogenic bacteria have something to do in both cases with the coloration of blood add chlorophyll. Whether or not it is bacteria or plant that actually need iron (probably both) it is well known that salts of iron are indispensable for plants' healthy growth. There are two oxides of iron found in the soil. One of these is extremely injurious to vegetation, the other is a most valuable plant food. The former is known as ferrous oxide, the latter as ferric oxide. By being exposed to the air it becomes oxidised and changed into the valuable red, ferrous oxide. It is the presence of the red oxide which gives turf loam that nutty colour, so well known to the gardener and so indicative of fertility.

IODINE is confined to seaweed and plants growing more in the sea than on the shore.

CHLORINE is found in the form of chlorides in many plants. In its pure state chlorine gas perhaps is about the deadliest poison in existence. One puff of this, unadulterated, is said to cut off respiration at once. Therefore the preparation of chlorine is dangerous for beginners. Yet how harmless this gas in common salt, 58lbs of which has 35½ of chlorine in its composition.—*Oxygen*.

(To be continued.)

German Sugar Production.—The German sugar industry has rather fallen off than increased during the present year. Beet roots to the extent of 12,144,291 tons have been used.

AN OLD-WORLD GARDEN.

So fair it was, this old-world garden, that you never could associate any but peaceful thoughts with it. Such a Sabbath stillness brooded over it that the leaves seemed indeed to be for the healing of the nations. Even the drowsy hum of the bees seemed to grow drowsier as they hovered over the stores of nectar. Blood-red and golden Wallflower rioted there, and the children tiptoed past as they thought of hapless dance. The Poet's Narcissus and Daffodils encroached everywhere, while here and there were great clumps of old-fashioned Dusty Millers and Cowslips, filling the air with their incense. How the little ones loved to trace faces in the Pansy blossoms, and to hear the German story of the step-mother flower, who takes all the stools for her own little ones! It was a never-failing joy to find the stools in the Pansy blossoms.

The paths, if paths you could call them, were nearly obliterated by the "visiting" flowers making neighbourly calls. It was so easy for an adventurous flower to crawl over the border of Snow in Summer, the laxest of prison keepers. Lilacs and Laburnums were everywhere, and Mignonette made already a brave promise. "Marjoram, Pansies, Mignonette!" So run the words of an old jingle, and who would dissociate them? By-and-bye a hedge of Sweet Peas would claim undivided attention; but now only the faintest suggestion could be detected, a shimmery trembling green, so wavering and shadowy that the lovely ladies seem to be dreading to make their debut.

Then, in the dearest corner of all—the grandmother's corner—were the herbs. Such a variety! Rosemary—which thrives where the grey mare is the better horse—Lad's Love or Old Man as it is variously called, the one name the antipodes of the other. Marjoram, Basil Rue, Pennyroyal—who could remember them all? And the picture of the kindly old dames with scissors culling their simples lingers long in one's mind, those times when no "nerves" had been thought of, and few tonics or rest cures needed outside of the old garden, where each evening fell like a benediction and each morning dawned like a new creation!—C. Macquarie.

PLANTS RECENTLY CERTIFICATED.

The awards mentioned below were made by the Royal Horticultural Society on the 24th ult.

Orchid Committee.

ODONTOGLOSSUM WENDLANDIANUM CRAWSHAYANUM.—The parentage of this supposed natural hybrid was *O. ruckerianum* × *O. crinitum*, the evidence of the latter being shown chiefly in the crest. The sepals are overlaid with buff on a yellow ground, and richly spotted with purple in the centre; the lateral sepals converge towards one another in a striking manner. The petals are similar but variegated or marbled with purple and white near the base. The lip is oblong-ovate, white and spotted with brown all over. The crest consists of numerous, slender, radiating fingers. It is a very pretty and distinct *Odontoglossum*. (Award of Merit.) De B. Crawshay, Esq. (gardener, Mr. C. Cooke), Rosefield, Sevenoaks.

ODONTOGLOSSUM ANDERSONIANUM COOKSONII.—The sepals and petals of this pretty variety are clear yellow and spotted all over with clear, bright brown. The lip is creamy with a brown blotch on the centre. The flowers are of large size and very handsome. (First-class Certificate.) Norman C. Cookson, Esq. (gardener, Mr. W. Murray), Oakwood, Wylam-on-Tyne.

ODONTOGLOSSUM CRISPUM VICTORIA REGINA.—The flowers of this variety are large, round and handsome. The sepals and petals are of a pale, rosy hue, with a group of crimson-purple spots in the centre. The lip is white, with a chestnut blotch in front of the crest and small ones round the sides. (First-class Certificate.) W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs.

ODONTOGLOSSUM CRISPUM, THE EARL.—The sepals are nearly covered with bright chestnut, shaded with purple on the centre, and white at the tip and base. The white petals have a group of four to five chestnut blotches. The large lip is mostly of a cinnamon colour, but the basal area is

yellow. (First-class Certificate.) W. Thompson, Esq.

CATTLEYA SCHILLERIANA, PITT'S VAR.—The dusky sepals and petals are spotted with brownish-black. The lip is the grand feature of the flower, being of an intense crimson-purple all over, including the outer face of the tube. The latter is white internally, striated with deep purple. (First-class Certificate.) H. T. Pitt, Esq. (gardener, Mr. Thurgood), Rosslyn, Stamford Hill.

DENDROBIUM WARDIANUM, FIR GRANGE VAR.—The plant had two splendidly flowered stems, each 2½ ft. long. The flowers are also of large size, and white, with pale rosy tips instead of the usual purple. The lip has the usual markings at the base. This is the most distinct coloured variety of the species we have seen. (Award of Merit.) W. A. Bilney, Esq. (gardener, Mr. Whitlock), Fir Grange, Weybridge.

CIRRHOPETALUM FIMBRIATUM.—This pretty little species comes from Mercana, Coorg, India. The long lateral sepals are pale green, ultimately becoming brown. The small dorsal sepal and the petals are fringed with long hairs. (Botanical Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

DENDROBIUM MACROSTACHYUM.—The flowers of this species are small, but abundantly produced in clusters of two, four, or five, in two rows along the stem. The sepals and petals are pale yellow-green. The lip is obovate and striated with purple on a yellow ground. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

DENDROBIUM CHLORONEURUM.—The sepals and petals are greenish-yellow, spotted with brown. The lip is shaded all over with brown on pale green. (Botanical Certificate.) H. T. Pitt, Esq.

Floral Committee.

ARABIS ALBIDA PLENA.—This has also got into commerce under the name of *A. alpina*, but the latter is a less hairy plant. The flower develops about ten petals and then pushes out another flower from the centre of the first. (Award of Merit.) Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester; Messrs. Paul & Son, Cheshunt; and Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, N.

MERTENSIA VIRGINICA RUBRA.—The varietal name is not very appropriate, for the flowers are not red, but of a pleasing pink and very pretty. The buds of the typical form are of the same hue, but pale blue when fully expanded. The plant has glaucous leaves and is hardy. (Award of Merit.) Mr. Amos Perry.

PETUNIA CHARLOTTE.—The flowers of this variety are of great size and fully double, with broad white segments. (Award of Merit.) Mr. P. Ersellius, Church Lane Nursery, Romford.

SAXIFRAGA ARETIOIDES PRIMULINA.—The foliage of this pretty *Saxifraga* is arranged in small and dense rosettes in compact tufts, above which the flower stalks rise about 2 in., bearing small cymes of primrose-yellow flowers. (Award of Merit.) Mr. E. H. Jenkins, Queen's Road, Hampton Hill.

AURICULA CELTIC KING.—This border variety has large, clear yellow flowers, with a thin paste round the eye. The foliage is mealy and the plant of dwarf habit. (Award of Merit.) Messrs. Barr & Sons, King Street, Covent Garden.

CANNA SECRETAIRE CHABANNE.—The flowers have broad segments of a rich orange-scarlet, and are very handsome and conspicuous. The leaves are glaucous green. (Award of Merit.) Messrs. H. Cannell & Sons, Swanley, Kent.

RHODODENDRON ABBEY.—The large, campanulate flowers of this hybrid are of a delicate pink, with a rosy hue at the base outside. The pale purple zone at the base is almost obliterated. The large leaves are oblong. (Award of Merit.) Dr. Stocker (gardener, Mr. Abbey), Avery Hill, Eltham, Kent.

Daffodil Committee.

NARCISSUS VIRGIL.—The flowers of this form are of the Poeticus type, of huge size and white, with a shallow, saucer-shaped crown, and a rich crimson-scarlet rim. (Award of Merit.) Rev. G. H. Engleheart, Appleshaw, Andover.

NARCISSUS DIANA.—The segments are broadly oval and white. The crown is campanulate, widely expanded, pale yellow and much plaited. (Award of Merit.) Rev. G. H. Engleheart.

NARCISSUS CHANCELLOR.—The segments of this hybrid are very large, roundly oval and creamy white. The crown is three-fourths the length of the segments or more, widely expanded, plaited for three-

fourths of its length, and of a deep, full yellow, (Award of Merit.) Rev. G. H. Engleheart.

N. DOROTHY KINGSMILL.—The broadly ovate segments are very pale yellow; while the long, lemon-yellow trumpet is finely revolute at the edge. (First-class Certificate.) A. Kingsmill, Esq., The Holt, Harrow-Weald.

NARCISSUS CHARLES WOLLEY DOD.—The ovate-triangular sepals are creamy yellow. The trumpet is three-fourths the length of the segments, much plicate, and deep yellow. (Award of Merit.) Miss Willmott, Warley Lodge, Brentwood, Essex.

NARCISSUS THE COUNTESS GREY.—The segments of this beautiful form are ovate and white. The long trumpet is of a pale or soft lemon. (First-class Certificate.) Miss Willmott.

NARCISSUS MRS. BERKELEY.—In this case the sepals are ovate-triangular and white. The plaited crown is of the palest, soft lemon, and three-fourths the length of the segments. (First-class Certificate.) Miss Willmott.

NARCISSUS ELEANOR BERKELEY.—This variety of Ajax Daffodil is like a white *N. muticus*, greatly enlarged. The trumpet is cut short or truncate in the same way without any fringes whatever. It is very pretty. (Award of Merit.) Miss Willmott.

HOW TO GROW GOOD PRIMULAS.

It is painful to notice the poor apologies for plants of this most useful and beautiful plant, too often met with, the more so as with a very little trouble they may be made into really fine decorative objects. I lately removed plants from my conservatory that have been in flower for over five months, and even then were by no means devoid of beauty. Well, to begin with, a good strain, as in most other things, is desirable, and are as easy to grow as the poor weedy things sometimes sold as *Primula sinensis*. Unlike many, I strongly believe in early sowing. The beginning of April is a good time, and a temperature of 60° ensures a more even germination than a greenhouse temperature.

As soon as the plants are big enough to handle prick them into pans of only moderately good soil—two parts loam to one of leaf mould and another of sand is the most suitable. Still keep in a fairly high temperature, and shade carefully from the direct rays of the sun.

Before the plants get crowded place them in 2 in. pots, keeping them in the same temperature for a week, when they can be placed in a cooler house, and gradually inured to more air. As soon as they have well filled the small pots with roots a shift should be given them, and I find that nothing suits them better than to be shifted into the flowering pot. For the very strongest plants a 6 in. pot is large enough, while for the others 5 in. pots will be found best, and fine plants can be grown even in 4 in. ones. The soil for this final potting should consist of good loam two parts, leaf mould and sand one part and half a part respectively; also a good sprinkling of wood ashes, bone meal, and Thomson's manure. Do not make the soil too fine, and neither should it be too rich. Pot only moderately firmly, and stand in a house, not too far from the glass, and which can be shaded. Wire muslin is best for this purpose. Remove all flower stems that show up to the end of October. As soon as the pots are well filled with roots feed with weak liquid manure. I find nothing better for the purpose than Ichthemic Guano, about a tablespoonful to the gallon. This given twice a week will prolong the flowering for months, and the size and colour of the blooms will be vastly improved. One point I should like to emphasise is in the final potting; they can hardly be potted too deep if the crown is clear of the surface. This instead of causing damping, as many suppose, prevents it.—C. Blair, Binny, Uphall, N.B.

VISITS TO NURSERIES.

THOMAS KENNEDY & CO., DUMFRIES.

In early April, we had a run through the prettily situated nursery of the Messrs. Thomas Kennedy firm. Though well-known locally in their horticultural connection, the firm enjoys a wider custom in its agricultural dealings. The glass department of the nursery is situated in an area toward the south-east of the pretty town of Dumfries, well famed in border tales. The class of stock chiefly to

be mentioned, embraces such as specially pertains to an up-to-date florist's business. Dahlias are in wide selection, as they likewise seem to be in every other nursery. In one of their warm houses the firm also boast of a fine collection of Begonias of the Rex and carnea types, including also others pertaining to, and requiring the temperature of a plant stove. Tuberous Begonias are arrayed in their thousands. Stage after stage is filled with bedding plants for the furnishing of many flower gardens in the neighbourhood. Early Chrysanthemums, as one might readily suppose, are grown here in grand style and in quantity. Some of the newer varieties were noted. A batch of *Sambucus laciniata aureus*, that pleasingly coloured and fine-leaved variety of Elder, is grown in small pots for greenhouse decoration. The plants are also used for the filling of vases in the open air. *Ricinus*, and the commonly called Castor-oil plant (*Aralia japonica*), were presented in no limited numbers. The plants are carefully attended to, and are very fresh. The dwarf, or common greenhouse *Cinerarias*, are well cultivated; the Messrs. Kennedy possess a good strain. Carnations are exceptionally fine, both the Malmaisons, the trees, and the ordinary border varieties; *Primula obconica*, as well as the *sinensis* types, were viewed, besides which, *Cytisus*, *Callas*, fancy *Pelargoniums*, *Narcissi*, *Amaryllis*, of which they have some fine young seedling plants giving promise of good quality; *Boragias*, *Fuchsias*, houses of Palms, and thousands of serviceable, ornamental Ferns were all noticed. The firm is in capable hands, and means to hold its place among those honourably known throughout the land.

THE BEDDING IN LONDON PARKS.

REGENT'S PARK.

REGENT'S Park is well adapted for extensive displays of naturalised *Narcissi* and other bulbous plants. It possesses many protected retreats and quiet grassy curves and swells, which are the idealistic spots for fullest effect in natural arrangement. These positions are taken advantage of. Full many a thousand bulbs have found a home in these several places, and now at this time of year, Regent's Park, even apart from her brilliant range of beds, is mantled over with yellow and pink, and blue. As one sheet of flowers passes from view, another expanse opens out. That this naturalising of bulbs may continue, is our earnest hope and desire.

Narcissus Golden Spur is everywhere good in Regent's Park. These in combination with *Squills* and blue *Hyacinths* upon the grass, and backed from behind by tall *Bamboos*, appear to us pleasingly effective. And exceedingly fine too, are those curving rings or bands of *Hyacinths* at the edge of some of the shrubberies. Pink and blue *Hyacinths* in these curving lines, seen in such regular evenness, compose a brilliant show. In the back rows, there are at intervals, groups of about eight to a dozen *Narcissi*. A few of the very largest beds are entirely filled with one variety of *Narcissus*, as, for instance, *Sir Watkin*, which we noted. This gives the Londoner the nearest approach he may see, of what thousands of these beautiful flowers look like in the great farms and fields in which they are commercially cultivated. *Sir Watkin* is one of the best for massing in beds. A mixed bed of *Tulips* and *Daffodils* which was seen did not appeal to us as being a successful combination. The *Narcissi* are early, while the *Tulips* bloom later, and though there is succession of flower, yet at no time is there the effect of contrast, except that produced by the flowers of the *Tulips* and two kinds of foliage.

Between the long narrow borders which skirt some of the walks in the flower garden, and which are pleasingly filled with *Hyacinths*, &c., there are some beautiful beds of *Primulas* and *Auriculas*. It is very evident that Mr. Jordan, the superintendent, has carefully selected the very best strains of either plant, and also that having got them, he has shown commendable taste in the grouping of colours akin to each other. The beautiful yellows, the deep pinks, and the dark, rich, velvety chocolates and crimsons, find themselves each in their own "regiment" of distinct hues.

It is likewise very lovely to see the numerous vases which ornament and give breadth to the flower-bed area, suitably filled with flowering plants of the season. Though the beds should be planted up, it is not everyone who would trouble to furnish the vases with plants for spring effect.

The combination of scarlet *Tulips* and yellow-flowered *Doronicums* in a bed, is worthy of notice. But blue and yellow form together a sweetly pretty contrast. Fine use is made of the circular borders, each a few feet wide, which run like rings around the tall vases on pedestals, and which are features of the Regent's Park flower garden. One of these "ring" beds is filled with blue *Hyacinths* and *Narcissus odoratus rugulosus*.

A number of very large oblong beds are filled with splendidly flowered varieties of *Narcissi*, *Hyacinths*, &c. An entire bed of *H. Gertrude*, yields us a fine, dwarf even mass of a soft pink colour. Another of these "ring" beds contains *N. Sir Watkin* and the light blue *Hyacinth Regulus*. This variety of *Hyacinth* seems to be one of the best for outdoor planting. *H. Van der Hoop*, which is white, and scarlet *Tulips* between, form a cheery sight.

H. Grandeur de Merveille, white and rose, on an oval bed, mixed with the soft pink *Mrs. Hodgson*, was particularly fine. Other beds of blue and pink *Hyacinths* were also exceedingly beautiful. *H. La Peyrouse* is a splendid blue variety; *H. General Pélissier* is one of the best of the deep pinks; and *H. Norma* of the paler pink varieties.

Facts worthy of notice in regard to the quality of the bulbs as evidenced by their flowering, were the general evenness of the whole amount, which was very remarkable, *Tulips* especially being very robust; and the length and fine formation of the *Hyacinth* spikes was also conspicuous. The supply of the bulbs came from Messrs. Carter & Co., High Holborn.

ST. JAMES' PARK.

The notes on spring bedding in this mid-London park, need not employ much ink in their detailing. It is more a beautiful playground, an open space with many seats, a division area which gives increased dignity to those magnificent institutions and buildings whose name and fame is known to all the world. It is a park with green, grassy meads, with avenues of trees—the boulevards of Parisiennes,—with sheets of ornamental water, trees, birds, fowls and bridges. Here and there a bright bed enlivens and brightens a turning point, but St. James' Park is well content to remain a cool, serene retreat and a restful space for the use of its thousands of daily visitors.

It looks quaint to see cows tethered near-by the refreshment stalls on the outskirts of the park, and kept there for use to yield immediate supply as is done in the larger cities of hot, dry Mexico. St. James' Park can furnish immense variety of life-phases.

RHODODENDRON SEEDLINGS.

TRUE to his word, Mr. A. MacMillan, of Trinity Cottage, Trinity, Edinburgh, sent me two boxfuls of seedling greenhouse *Rhododendron* blooms, taken from plants of his own raising. They represent seven crosses and vary considerably. Two points are particularly noticeable, viz., purity of colour and fragrance. I had not leisure to compare them when they came, but even now, after a few days, their soft, agreeable aroma is distinctly felt. We do not find this a very constant character with our greenhouse *Rhododendrons*, and if he has accomplished nothing more, Mr. MacMillan can rest satisfied. It is a case of so much done, and done well. But to the blooms. On looking them over one cannot overlook the fact that there is conspicuous variation between most of the seedlings. Even from the same seed pods this is remarkable. Some years ago Mr. Macmillan raised a large white flowering seedling, a splendid variety, from seeds of *Lady Fitzwilliam*. This he has persistently used in his recent crosses, employing it as the pollen parent. In the seedlings before me no less than six of the seven varieties are influenced by it. But among the present lot, perhaps only one (*R. veitchianum* × *Large White Seedling*) approaches the perfection of the *Mrs. Currie*, which received a First-class Certificate at Edinburgh last year. This *veitchianum* cross differs from *Mrs. Currie* in having a shorter tube to the corolla, and in being more expanded across the mouth. The large, broad lobes of the flowers have slightly crimped margins, otherwise they are smooth, well distended, of good substance, and snow-white in colour. It is an advance upon *R. veitchianum*, and possesses that variety's pleasant fragrance.

The next finest blooms are given by a seedling

cross from *R. ciliatum* and *R. Princess Alice*. The effect of both parents is evidenced in the seedling. It has the downy peduncle and calyx of *ciliatum*, and the graceful form and purity of the *Princess Alice* blooms. The texture of the corolla is peculiarly velvety, another quality due no doubt to *R. ciliatum*. The blooms are of medium size, splendid substance, and pure white save for a gentle suffusion of palest citron in the throat of the tube. The stamens contrast well. The other seedlings do not call for special note. They vary in a few ways, but chiefly in the shades of colour. A new type of form is seen, one resulting from *R. Hay Lodge* (male) and large *White Seedling*. It has five well defined lines representing the points of coalition of the petals, which do not become lobed until within half an inch from the mouth. The corolla thus forms a tube with short oval lobes. The colour is a rich cream. This would seem to indicate that some of the *R. dalhousieanum* blood has asserted itself, the latter being a grand parent. The colour may become less pronounced with age. *R. Duchess of Buccleugh* × with *White Seedling*, and a trumpet-shaped variety × with *White Seedling* are the parents of the other seedlings. The seedlings from the first described cross are decidedly the best.—*Harrison, D.*

MY APRIL GARDEN.

THE time is evening, and the earth with me is peaceful. The great red sun has just slid down through a gray band on the western horizon. The little birds are rippling their evensongs from the topmost twigs of the high headed Elms. The pee-wee pee-wee call-notes of the pretty plumed peacocks break the stillness of the soft warm air, for, though it is but April, the sunny southern breath has dissipated the north winds' chill. The green grass groweth, and makes a grand carpet, while there, and yonder, the Larch trees are swathed in a colour, which surely they drew from the green sward. My thousand *Daffodils* rise like globules of sunshine outstretched in wide array o'er the rounded shoulders of a rising little breast-bank, decked with tall trees. And the red and mauve-hued *Cyclamen* keek from under the wings of the shield-Fern fronds.

Throughout the busy day the lawn-mower sung, and the song spoke forth that summer was near. The sparkling brook, it told me, too, and the fairy-flowered *Snowdrops* that by it grew—they are gone, gone to their home in the rich brown earth. The courting of the birds, the breaking of the buds, the bustling boom of the hang-ahead bee, these, all these happy signs tell out the same sweet song to you and to me.

Spring time brings a rush of thought and frees our pulsive spirits to rise upward as they ought, stay with us, stay, do not fly soon away; thy joys they last but a short little day.

Primrose and Iris, *Daffodil* and *Hyacinth*, *Bluebell*, *Wallflower*, *Erlca*, and *Daisies*, intermixedly they flourish; *Rhododendron* and *Magnolia*, *Almond* tree and *Ribes*, with green leaved *Willow* spray and darksome *Hazel*, whose deportment is of graceful mien against the slumbering *Maple*. The tall-drawn *Poplars* look over all.

But night has covered my garden and I, and the birds they rest till the dawn draws nigh. The air feels chill, the dews they fall, and I say "Good-night, good-night to all."—*H. D.*

CULTIVATION OF DAFFODILS.

REV. E. BOURNE gave a lecture in the Drill Hall on the afternoon of Tuesday, April 24th. He said there were three main groups of *Narcissi*, the *magnicoronati*, the *medio-coronati*, and the *parvi-coronati*. The *magnicoronati* section is divided into *bicolors*, *sulphur-yellow* and *self-yellow* sorts. The *medio* class give rise to the *incomparabilis*, the *Leedsii*, and the *triandrus* sections. Of the *parvi*, or very small-cupped group, the *Barrii*, the *Burbidgei*, and the *poeticus* *Narcissi* are representatives.

SOIL.—In regard to soil, the *Narcissus* likes a good, well-drained soil, with a certain quality of grittiness. To improve a very heavy soil wood ashes may be used with the very best results. On cold soils basal rot is apt to effect the bulbs, and this is a disease not at all pleasant to have. The more delicate kinds of *Narcissi* should be planted in good maiden loams. The *poeticus* and *Burbidgei* types, and those with spuri-

ous (*N. spurius*) blood, as a rule, enjoy a nice turfy loam.

Good Daffodils are a better investment than Potatoes, and one can buy vegetables fully cheaper than a supply of Narcissus blooms, so that no one should grudge to yield to the Narcissus a portion of ground in the best part of the kitchen garden. Mr. Bourne recommended beds of 4 ft. or 5 ft. in breadth to be prepared.

POSITION AND PLANTING.—Some vigorous varieties will succeed and do well in any position, but most Narcissus like a free and open position. White Narcissus prefer the gentle shade of trees, and seem to thrive best when planted close by a hedge. Those of the poeticus section, said Mr. Bourne, seem to do best when striving for their living in competition with the roots of a hedge—to fight for their living, as it were. The digging of the land should be done long before planting time. Narcissus like plenty of moisture, but they like it to pass freely, not to be stagnant. Make the soil deep, for those bulbs in deeply worked beds do best in all seasons. Thorough trenching is absolutely necessary to permanent success. There is a rooted conviction in the minds of many gardeners that Narcissus ought not to be planted till Guy Fawkes' Day (November 5th). But this is months too late. Look at the bulbs in August and you will see around their base a certain predilection to swelling. This is Nature's method of asserting her needs and wants. Mr. Bourne first plants his poeticus varieties; secondly, his varieties of Burbidgei; and then "Star" Narcissus, which include the Leedsii and incomparabilis sections. Along with these frailer types, Mr. Bourne recommended to plant *N. spurius*, *N. Golden Spur*, and *N. Horsfieldii*. All the poeticus section should be in the ground by the end of July, and the whole lot of all kinds of Narcissus by the end of August.

Now this is the rule of culture given by one who is eminently successful in the growth of Narcissus. A change of soil is likewise beneficial to the continued vigour of this bulbous plant. Planting in rows at a distance of 6 in. from bulb to bulb, and the rows 1 ft. apart, these running north and south, was further mentioned as factors if the greatest success is aimed at. These distances allow of plenty of air and sunshine having freedom about the plants. White Daffodils, however, do best when planted thickly together. In planting, the depth of soil above the crown should be $1\frac{1}{2}$ times the depth of the bulb itself. In the case of *N. maximus* and others like it, deep planting answers best, 5 in. in depth being none too much. Plant when the soil is nicely damp. Should you find bulbs of a certain variety failing to thrive upon a certain piece of ground or in a certain position, lift them and replant somewhere else.

By employing judgment and care a suitable spot can usually be struck in the long run. When planting choice kinds place some coarse silver sand below their base. Wherever possible leave the bulbs for two or three years in the same position without shifting them. After three seasons it benefits them to be lifted and re-arranged.

NOURISHMENT.—It is generally admitted that Narcissus dislike the incorporation of stable manure in the soil. There is an exception to the rule in the strong growing Daffodils. Ground from which Potatoes have come, and which contains a quantity of decomposed manure, is very suitable soil for Narcissus. Dark yellow soil and soils impregnated with iron are also found good. Wood ashes in a soil is a first-rate constituent. Bone meal or basic slag, $\frac{1}{2}$ lb. per sq. yd., is beneficial.

LIFTING.—In this matter it is better to be too early than too late. Especially is this the case with the poeticus types. The maximus kinds and the odorus varieties should all be lifted early. Lift when the fading of the leaves sets in. If they are left new growth soon starts. The small part which connects the offsets with the parent bulb should be cut through with a sharp knife. If the sun is shining when lifting, take the bulbs at once into a shady position. After being lifted place the bulbs in a cool, dry shed or store room.

ENEMIES OR DISEASES.—Mice and birds do not trouble Narcissus, owing to their poisonous qualities. Basal rot, so destructive a disease in some collections, may be kept down by careful treatment as regards soil, drainage, and selection. The Narcissus fly never troubles Mr. Bourne's plants.

FORMING A COLLECTION.—Have first in view a collection which will give a long season of bloom.

Secondly, a collection should be representative of all the divisions, sections, and types. Thirdly, the most inferior varieties of sections should be omitted; and, fourthly, the whites, the sulphurs, the Leedsii type, &c., all of which have varieties, the most charming of any in the genus, should be largely selected for planting. Guided by good catalogues and lists one can select the more moderate priced varieties, and when experience has been gained, the dearer bulbs may be more liberally bought. *The best are the cheapest.* That means, pay for good bulbs; do not buy rubbish. Half the initial outlay should be spent in cheap and good varieties; the other half of the money may be expended on the more delicate and uncertain kinds. Mr. Bourne then referred to lists which he had compiled, but which he did not read. They will appear in the society's journal. A passing reference was given the Tenby Daffodil, *N. princeps*, *N. Johnstoni* Queen of Spain, *N. Barrii conspicuus*, *N. poeticus ornatus*, *N. Jonquilla*, *N. juncifolius minor*, and others, which are well adapted for cultivation in pots and cold frames. Narcissus for lawns were strongly advocated. Plant them in those places where the grass can be left unmown until June. The lecture was very interesting, and though some of the points are only for a specialist to follow, they serve to show how carefully enthusiasts cultivate this loveliest of all spring flowers.

GARDENING MISCELLANY.

PEACHES IN THE OPEN IN ROXBURGH-SHIRE.

ON the north side of the river Tweed at Melrose, N.B., and situated west of "pomological" Gattonside, is Friarshall, the cosy residence of Captain Erskine. He is the proud possessor of a very fine wall of Peach trees which Mr. William Stewart, his gardener, tends with great care and success. On a visit there a few days ago the trees were beginning to open bud. By this time they will be fully expanded, and during the crucial period let us hope there will be no frosts to come like a thief in the night, and spoil a season's labour. Peach walls are not common in any part of Scotland, or indeed north of the Trent. It is only in such favoured places which catch every ray of sunshine, that their culture is successful out of doors. At Friarshall the protection of a top ridge is afforded, and herring nets ward off the cutting winds or frost. The varieties grown are chiefly Royal George, Early Alfred, and Crimson Galande. Curiously enough, Apricots do not thrive or fruit so freely. It is well known that in different parts of the land, with climatic conditions almost identical, they flourish in one case and in others they are cantankerous. From this we gather that on the quality of the soil largely depends the weal of the Apricots. Thorough drainage is necessary, lime must be present, and experiments may prove the need for superphosphates and potash.—D.

A VISIT TO BARR'S.

HAVING an opportunity on Saturday, the 21st ult. (owing to the rule of one o'clock being observed), I paid a visit to the celebrated nursery of Messrs. Barr & Sons, and had an interesting drive through splendid scenery, through Esber on to Long Ditton, back through Hook and Claygate to Esber again, and then home. It made one feel it was a pleasure indeed to enjoy the country at the spring-time of the year. But our business was to see the nursery and transact some other business. On arriving we were conducted by one of the staff to the Daffodils and Narcissus beds. One could not help being struck by the magnificent sight of yellow heads gently waving in the breeze on a summer-like afternoon. Just entering the gate on a bank was a splendid lot of the blue Grape Hyacinth, which evidently was at home, and could not but be attractive by its rich colour. On into the field of Daffodils we were speedily introduced to some choice varieties, which it is difficult to describe. The richness of colouring and size of flower of a bed of seedlings were simply splendid. There were fine batches of Empress, Emperor, Barrii conspicuus, and many others too numerous to mention. It made one feel that it was a treat everyone ought to enjoy. The rich colouring of the Tulips and the contrast of everything bursting into

life were very enjoyable. The turtling of the birds seemed to fill the air with joyful music, and made one feel that indeed the works of the Creator were very good. After a few minutes with Mr. Barr and a chat, home again was the order. I and my party felt we had spent a most profitable afternoon.—A. J. Brown, School of Handicrafts, Chertsey.

PRIMULA OBCONICA.

THE class for six plants of *Primula obconica* always insures a big entry at the Edinburgh spring show. This year was no exception, for dozens of capital plants were exhibited. Seeing so many from different parts of the land, representing as they did a number of different seedsmen's strains, in one glance could be observed a host of variations. Mr. Wm. Wright, of Taymouth Castle, was the proud winner of the first prize, and besides being a well-grown and well-flowered half dozen, his lot represented practically a new and distinct break. Instead of the usual tall plants his were husby, dwarf, with well spread leafage of a spatulate form and very pretty altogether. The individual blooms of the trusses were large, well expanded, and of good form. The trusses were broad and cheerily coloured, being pinky-mauve, not the pale lavender or white so often seen. If this strain, which received an Award of Merit, is permanent, then an advance has been gained. Mr. Wright also displayed a tableful of cut *Primula obconica* blooms showing great variation. Some were very fine.

RONDELETIA AMOENA.

THE *Rondeletias* embrace a wide representation of stove or greenhouse shrubby plants, many species or varieties having been introduced at one time or other. They are all beautiful subjects, and not the least meritorious is *R. amoena*, whose specific name signifies "pleasing." The flowers of this species have a resemblance to those of the very widely known *Hoya carnosa*, they are certainly more slender, and differ in other respects. Their colour is soft pink, and borne, as they are, in trusses, they give the plant a sprightly effect. The leaves are ovate acuminate, and closely borne up to the flowers. The propagation is by cuttings, and ordinary stove routine produces serviceable plants.

A NOBLE CYMBIDIUM SPECIMEN.

MR. WOOD, of Oswald House, Edinburgh, won the first prize for a specimen Orchid at the Royal Caledonian Society's Show, on the 4th ult. The plant awarded the prize was a noble *Cymbidium lowianum*, which carried twenty-one long and strong flower spikes. In every respect the plant was a specimen, with fine foliage, proportions, display of bloom, and of good size and colour, too. Mr. Wood has other fine plants of this same species in the conservatories at Oswald House.

WINTER'S BARK.

AT the Edinburgh Botanic Garden they have a vigorous specimen of this plant 6 ft. or 7 ft. high, and in full flower in an intermediate house. *Drimys Winterii* is the most commonly met with species. The name is derived from the acrid sharpness of the bark. As an indoor flowering plant this species does admirably. The flowers are terminal, borne in trusses and of a faint primrose colour, being also star-like in form. The habit of the plant is close growing, the foliage being dark green and leathery.

CHRYSANTHEMUM FOR WALLS.

THE following list of *Chrysanthemums* are suitable for planting against walls:—Source d'Or, Pompons of the President type, singles like Purity and Mary Anderson. Elsie and George Glenny are likewise suitable. The position should be sheltered and as warm as possible.

POISON IN LILY OF THE VALLEY.

AN ardent German chemist (every discovery comes from Germany, America, or Austria now-a-days!) claims to have investigated the fact that the above popular little plant contains a poison—prussic acid, to wit. Not only is the flower full of poison but the stalks, too! His attention was directed to the Lily of the Valley because his gardener showed all the symptoms of one suffering from prussic acid poisoning after carrying in his mouth a bunch of flowers when he had chapped lips. We would assure lovers and growers of the Lilies that in the above there is more faddism than fact.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. C. Blair, Binny, Uphall, N.B., for his article on "How to save Potting," on p. 550.

QUESTIONS AND ANSWERS.

. Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Disease on Bunch of Grapes.—*Constant Reader*: The young berries of the bunch of Grapes you sent us are affected with what is popularly known as the "Spot" of Grapes. A small, irregular, whitish patch first makes its appearance on the skin of the berries; and this soon becomes brown. By this time the interior tissues are considerably affected, and shrinkage takes place, this stage being plainly observable by the sunken patches and brown colour. Some Grapes are more liable to it than others, particularly Muscats. Many cultivators regard the malady as constitutional because it makes its appearance on the same Vine year after year. The popular notion is that "Spot" is caused by sudden chills and checks to growth. This would be caused by keeping the house too close and moist and then on bright mornings suddenly ventilating too much or freely whereby the temperature is lowered and a check given to growth. The weather recently would have laid the Vines open to such a contingency, and you may remember whether you have been ventilating too freely after a spell of dull weather on the appearance of bright sunshine. The tissues are browned or discoloured right to the interior of the cells, that is to the seeds, so that you may burn the worst bunches and cut out the damaged berries from the rest. Be careful not to admit cold draughts to the house, but air carefully till we get more sunshine to harden the tissues, and the malady may not spread to any great extent.

Swellings on the Roots of Cabbages.—*R. Mathison*: The nodular swellings are caused by the Cabbage Gall Weevil (*Ceutorhynchus sulcicollis*) that pierces the roots, and lays an egg in each. Grubs hatch out, and their feeding inside causes the swellings in question. You can see them on cutting the gall open. By cutting the gall and removing the grub the seedlings may safely be planted. Those roots which are much damaged may be burnt or otherwise destroyed. If you can save the roots from further damage till the plants get to some size, the latter may produce a good crop in spite of the presence of some weevils. You should puddle the roots in a

mixture of soot and water before planting. This will keep the mother beetle from laying her eggs there for some time, after which the plants will generally be safe.

A dozen Distinct Ivies.—*J. Wilson*: The following should meet your case and give a great amount of variety:—*Hedera Helix latifolia* (the so called Irish Ivy with broad leaves), *H. H. palmata*, *H. H. cuspidata major*, *H. H. algeriensis*, *H. H. donerailensis*; *H. H. dentata*, *H. H. raegneriana*, *H. H. ficifolia*, *H. H. himalaica*, *H. H. elegantissima* (with a beautiful silvery margin to the leaves), *H. H. rhomboidea obovata*, and *H. H. conglomerata* (a very dwarf growing variety). The above are all very distinct, but there are many, bushy, upright growing varieties, generally known as tree Ivies that are well worth growing. We should have included *H. H. madeiriensis*, but it is not quite hardy for outdoor culture, though very beautiful and worthy of the shelter of a greenhouse, pit, or frame.

Sport on Ampelopsis Veitchii.—*R. Warner*: The so called sport you send is not a new one. We have seen it under the name of *A. Roylei*. The fact is that the plant in question is extremely variable, and produces three or four forms of leaves on one and the same plant, according to the size, age, and vigour of the plant. The leaves may be shallowly or deeply three lobed, the former being generally known as *A. Veitchii*. Another form with deeply three lobed leaves has been named *Vitis tricuspidata*. Your specimen has the leaves divided into three leaflets, and nurserymen sometimes give it the name of *Ampelopsis Roylei*, as above stated. Botanists now say that the correct name of the plant is *Vitis variabilis*, no doubt in allusion to the variable character of the foliage as above described, and which would, therefore, be very applicable.

Climbers for a wall in a Smoky Town.—*T. Warwick*: The deciduous climbers would be the best to plant under the conditions you name; but several of the smooth-leaved evergreens also succeed very well. Amongst deciduous kinds you could not do better than plant *Vitis variabilis* (generally known as *Ampelopsis Veitchii*), *Vitis quinquefolia* (Virginian Creeper, more rampant and not so neat as the previous one), *Jasminum nudiflorum* (yellow), *Jasminum officinale* (white), *Aristolochia Sipho*, *Clematis montana*, *C. Flammula*, *C. Jackmanni*, *Noisette Roses*, *Honeysuckle*, and *Wistaria chinensis*. Evergreen subjects are *Magnolia grandiflora*, *Crataegus Pyracantha*, *Cotoneaster microphylla*, *Ceanothus rigidus*, *C. divaricatus*, and many Ivies, if you care for them.

Names of Plants.—*A. L.*: 1, *Amelanchier canadensis*; 2, *Viburnum Tinus*; 3, *Vinca major*; 4, *Kerria japonica*—*R. M.*: 1, *Pelargonium denticulatum*; 2, *Pelargonium fragrans*; 3, *Aotus gracillima*; 4, *Acacia armata*; 5, *Acacia Drummondii*; 6, *Pulmonaria officinalis*.—*T. B.*: 1, *Oncidium maculatum*; 2, *Odontoglossum Pescatorei*; 3, *Dendrobium tortile*; 4, *Odontoglossum andersonianum*; 5, *Oncidium praetextum*; 6, *Oncidium pulvinatum*.—*T. A. H.*: 1, *Saxifraga hirta*; 2, *Mertensia virginica*; 3, *Phlox subulata* var.; 4, *Phlox amoena*; 5, *Narcissus odoratus rugulosus*; 6, *Narcissus juncifolius*.—*W. M.*: 1, *Sisyrinchium grandiflorum*; 2, *Scilla hispanica*; 3, *Fritillaria imperialis lutea*; 4, *Nepeta Glechoma variegata*.—*E. C. H. D.*: 1, *Sisymbrium Alliaria* (Crucifers should always be collected in fruit for drying and preservation); 2, *Geranium lucidum*; 3, *Calendula officinalis*; 4, *Scilla hispanica*; 5, *Gold Laced Polyanthus*, merely a garden form of *Primula*; 6, *Phalaris arundinacea variegata* (variegated form of British plant).

TRADE CATALOGUES RECEIVED.

KELWAY & SON, Langport, Somerset.—Kelway's Wholesale Catalogue of Plants for 1900-1901.

JOHN JAKSON & CO., 17, Philpot Lane, London, E.C.—Barrel for Growing Strawberries.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MAY 12th, 1900

NEXT WEEK'S ENGAGEMENTS

WEDNESDAY, May 16th.—Royal Botanic Society's Meeting in Regent's Park.

IS A NEW CHISWICK NECESSARY?—The four reports of the proposed new Chiswick at Limpsfield, which we print this week, show the soil at Chartland Farm, in the parish of Limpsfield, to be of a variable character, as is usual at and near the outcrop of several geological strata. The farm is situated on the outcrop of the Lower Green sand, and the higher portions of Chartland Farm show some of the characteristic features of this formation. The lower fields consist of deeper and richer soil, being, in fact, the washings and detritus from the higher ground with a larger percentage of humic matters. The land has been badly farmed, however, and the artificial drainage neglected, so that it is out of order and in bad condition for the cultivation of many things, and particularly for experimental gardening. All this could with reasonable outlay be thoroughly rectified. It is not surprising, however, that the land should be subject to periodical inundations during rainy periods, for although the land lies at a considerable elevation above sea level, it is nevertheless much lower than other portions of the North Downs in the immediate neighbourhood, the highest point of the Surrey Downs being at Botley Hill, about two miles to the northward or less as the crow flies. The variety of soils on Chartland Farm are just what is necessary for the trials of various kinds of plants. The natural supply of water is ample; while hills to the northward, and copses and spinneys in other directions, afford the shelter necessary for fruit trees and other subjects. About the purity of the atmosphere there can be no question. Altogether, then, the site at Limpsfield would seem to be an ideal one, as has been described by those who have inspected it.

The above represents only one side of the question, and the Fellows of the Royal Horticultural Society should weigh the whole matter in the balance before taking steps which would necessarily entail vast expense, and possibly land the Society in an untenable position, discovered, perhaps, when too late to retrace its steps. The distance from London would entail a long and slow journey, with the inevitable loss of time in changing at Croydon in the case of certain of the trains which do not start from London, and therefore do not perform the whole journey. When Oxted has been reached (the nearest station to Limpsfield) an uphill journey of between two and three miles has to be accomplished before Chartland Farm is reached. These circumstances

in themselves would serve largely to restrict the number of visitors to the new gardens; and if visitors to Chiswick, which is easily reached from all parts of London by many trains a day, are not over numerous, they would almost certainly be few and far between at Limpsfield. Nor is this all. The expense of carting manure, coals, or coke, and many other garden necessities, would rise to a considerable sum annually. Experimental gardening to equal, much more excel, what may be seen in market and private gardens around London, must be of a high order of merit to justify its existence; yet it cannot be conducted without considerable expense in the matter of manures alone, either farmyard or artificial, or both. Moreover, it is more than likely that stable manure in any quantity would have to be procured from London, as that to be had in sparsely-populated districts is all required by the farmers on the land. Furthermore, is it necessary to remove from Chiswick at all in order to grow flowers and vegetables? It has been stated that the soil at Chiswick is exhausted. Such a plea has been advanced with regard to the soil of such a comparatively young country as the United States; yet we know that many of the Americans seriously question themselves why this should be so, after coming to this country and inspecting market garden land in the valley of the Thames that has been heavily cropped for the last thousand years, yet continues to bear heavy crops and remunerate the cultivators for high-class or intense cultivation. Proximity to London cannot affect such land prejudicially, while on the other hand proximity to the Metropolis enables the cultivators to manure their land heavily yet cheaply. What can be done in one garden can surely be done in another. The soil is an inexhaustible source of plant food, and the deeper and finer the tilth the greater the supply; while the constituents removed in the crops may not only be restored but augmented by means of manures. The filthy state of the atmosphere in winter is also advanced as a reason for the removal of the gardens from Chiswick, but the trials are mostly conducted in summer when the conditions for plant life are by no means serious. Early forcing is not particularly a feature of Chiswick, nor is it very necessary, as in private gardens or in those carried on for commercial purposes. Being shut in or surrounded by houses seems to us the most serious hindrance to high-class cultivation, and whether it is sufficient to warrant the removal of the gardens from Chiswick is a matter that requires the fullest consideration and investigation.

There is a difficulty in getting the members of the committees together sufficiently often to give the trials at Chiswick the necessary inspection in order to come to a decision upon the relative merits of new varieties; but if the object of acquiring the land at Limpsfield is for the purpose of carrying out the trials more effectively, how are the committees to find time for inspecting the same? It will take a whole working day to journey by rail and road to Limpsfield, inspect the trials, and return the same day. This applies to those living in London and the suburbs, so that for members living at a greater distance, particularly to the north, the journey would be impracticable except on very special occasions and at wide intervals of time. All these things lead us to enquire whether the Council is really pledged to remove the gardens from Chiswick as a means of celebrating the centenary of the Society. The Fellows present at the annual general meeting may have been unanimous in sanctioning the proposal; but although the idea seemed plausible enough, it is more than probable

that none of them really grasped the far-reaching effects of the same, as they would have done after more mature consideration.

Appointment.—Mr. Wm. Ussher, for some time foreman to Joshua J. Pim, Esq., at Brennanstown House, Cabinteely, has been promoted to the head gardener's position.

Death of Mr. Alfred Salter.—We regret to learn of the death of Mr. Alfred Salter, son of the late Mr. John Salter, of the old Versailles Nursery, at Hammersmith, who did so much to introduce and improve the Chrysanthemum when it was still in its infancy in this country, and struggling for the appreciation of the general public.

King Leopold's gift to Belgium.—The value of the properties comprised in King Leopold's recent gift to the Belgian nation, has been estimated at £1,200,000. They comprise three royal residences at Laeken, Ostend, and Ciergnon respectively. King Leopold is a great horticulturist, and the Orangery, the Winter Gardens, and the probably unique range of conservatories which he created, are famous in the annals of garden craft. The park and grounds extend for miles and are far more extensive than anything Le Notre created on the sands of Versailles.

The value of a Comma.—There are some good stories in circulation, which illustrate the value of a comma; that little "curled thing" which has, in its way, the power of a great ruler. An instance of the value of a comma in guiding the sense of meaning in writings, is shown by a story of a tariff bill passed some score of years ago by the United States Congress. Among the articles specified were "foreign fruit plants," &c., meaning those imported for transporting, propagation, or experiment. The engrossing clerk wrote "fruit, plants," &c., and as a result of this blunder all Oranges, Lemons, Bananas, Grapes, and other fruits were admitted free of duty. This little mistake before it was corrected cost the government £400,000.

Presentations by the Queen.—Mr. David Watt, head gardener at Viceregal Lodge, was last week presented with a handsome diamond pin by Sir Fleetwood Edwards, on behalf of the Queen. Mr. R. Bell, the Duke of Abercorn's representative, who with the foreman gardener was despatched from Baronscourt, Newton Stewart, N.B., to execute the floral decorations which the Duke had sent for the decoration of the Royal Yacht at Kingstown, has had his efforts graciously recognised too. Every public department of the yacht was supplied with flowers, and after Her Majesty embarked on her return journey, she sent Sir Fleetwood Edwards to Mr. Bell to express her thanks, and present him with a handsome gold monogram pin, with a crown on top, in which rubies and emeralds are set.

Plants and their Food.—Mr. H. H. W. Pearson, M.A., continues his fascinating studies on the food of plants in the *Knowledge* for May. "That soils differ from one another in a very marked manner is a fact easily demonstrated. Differences, for example, between the stiff clays of Suffolk, the sands of Bedfordshire, and the Buckinghamshire chalk, cannot be forgotten by one who has walked over them in wet weather. If specimens of these soils are dried and analysed it is found that diversity in chemical composition is much less than would be expected. The same elements are present in them all, and in proportions not varying much from one to the other. The distinctive characters gratuitously forced upon the notice of the pedestrian are due to their dissimilar behaviour towards water. This depends upon their physical properties, the relative sizes of the constituent particles, and not the elements the particles contain, for these are the same in all. . . . As one imperfect wheel throws a watch out of gear, so a shortness in the supply of one food constituent upsets the nutrition of a plant. It seems as if the appetite of the plant must be partly satisfied by definite quantities of certain mineral components—those we have called 'essential'—under no circumstances replacable by others; at a certain stage it becomes less fastidious, and although it demands a further supply of mineral food it is able to select it from a wider range of substances."

American Plantings.—There has been a heavy planting of Apple stocks this season in Western America.

Some specimens of *Acacia verticillata* in the Royal Botanic Gardens at both Edinburgh and Kew are exceedingly handsome, laden, indeed, with showers of yellow flowers.

She is very proud.—Mrs. Hilan: "Did you ever see anybody so proud of her conservatory as Mrs. Shadyside?" Mrs. Halket: "No, she is a regular haughty culturist."—*Pittsburg Chronicle*.

Apple Canker.—The Apple tree canker is frequently found on common forest trees. The mycelium of the fungus attacks the bark wherever it can find any means of ingress. The bark cracks concentrically, the area of the diseased portion gradually enlarging until sometimes the whole trunk is girdled. Usually the diseased area is surrounded by a thick, irregular margin, which is also characteristic. In late autumn whitish cushions of mycelium come to the surface, and produce minute spores, while in spring, bright red cavities appear, containing the asci and spores. A remedy is suggested in dressing wounds, whenever they are found on trees, with a solution of green vitriol, and afterwards with a coating of tar. It is also very essential that diseased twigs be removed so soon as they are seen and that the fungus (*Nectria ditissima*) be not allowed to produce spores.—*The Canadian Horticulturist*.

Horticultural College, Swanley: Women's Branch.—The eighth annual report of the above, for the year ending 1899, has been issued. So assuring has the work and results of the women's branch of the college been, that in place of the half-dozen women students of a year or two ago, the report now states that there are fifty-nine students and three boarding houses. Through the first few years a considerable number went to the college "to see if they liked it," and a still greater number attended solely to recruit their health. There are also women students who take a special course in grafting, pruning, or such like with a view to supervising their employees at home. New and properly furnished boarding houses have been added in addition to those previously in use. The council in its reference to students and their careers, wisely admits that after the two years' course preparatory to the Diploma, "Some intermediate work is necessary before a head gardener's position, in even a small place, can be expected." Tables, which enumerate the number of appointments which have been made, what the appointments were, where to, and who received them, are very conveniently arranged. The report is candid and clear. As a recruiting station for tender ladies, the Swanley Horticultural College commends itself to us.

Novelties in Fruit.—We are only just beginning to taste the first-fruits of world-wide horticulture. Apart from the ease with which we can supply our tables with our favourite fruits out of season, each year sees some new and more or less delicious exotic finding its way to our dessert dishes. Among those which are now strange to us may be some which are destined to be sold in every insignificant greengrocer's shop in the land, as the Banana is, which but a few years ago was comparatively unknown. Of those which are undergoing probation, as it were, may be mentioned the Persimmon, which has a steady sale during the season in London. The fruits of the Australian Passion Flowers have been offered to us, but it is yet somewhat premature to offer an opinion as to their acceptance by the public at large. American Cranberries, till quite recently, at least, were seen in goodly amount even in London suburban greengrocers' shops. We are being catered for more largely with American Blackberries, Wineberries, and the new Honeyberry of Japan. The fruit of this latter is large, reddish-yellow, and so glossy as to sparkle in the light. Besides what is being done in fruits, we are beginning to be supplied from the Cape and Australia with Asparagus. Japan has commenced "feeling her feet" in the struggle. And after Japan will come India with her wealth of stored fruits. Some of India's fruits which have been tried are: the gushing Custard-Apple, Plantain, Mango, Leechee, yellow Loquat, Tipari, Guava, Kamrac, Tamarind, Toot, and Bair. Unlike Alexander, the British fruiterer has plenty of realms to conquer.

The Queen and Balmoral.—The Queen is now expected to leave Windsor Castle on May 18th for Balmoral, where her majesty intends celebrating her eighty-first birthday.

Weather in London.—Good growing weather has blessed us throughout the past seven days, and nearly everything is now in bud. Even the Ash trees have started growth. Sunday, the 6th inst., was dull and sultry, with thunder and heavy showers locally. But with a mild temperature and these occasional showers we ought to be satisfied. On Wednesday, the 9th inst, rain fell steadily.

New Houses at Edinburgh Botanic Garden.—The new propagating and Nepenthes range recently completed at Edinburgh Botanic Garden are light and very elegant. There is a good brick foundation, the sides of which rise about 2 ft. above the ground. The bottom ventilators are placed at intervals along the sides of these brick basement walls, and the incoming air has to pass up through the hot water pipes. There are two flow and two return pipes. The houses themselves are about 15 ft. broad, and 9 ft. or 10 ft. high. The top ventilators are worked from either end by a crank patent. The workmanship of the house is well furnished. Borders of about 6 ft. in width run the whole length of the house, on either side, and these are now being planted with various exotics. The range, which was erected by Messrs. Mackenzie & Moncur, Ltd., forms a valuable and useful addition to the garden.

"Tree-Night" in Philadelphia.—Not long ago the Pennsylvania Horticultural Society met for the purpose of discussing the subject of tree planting in cities. A full and free discussion by experts in the project of making a grand boulevard on one of the principal streets of the city took place, with the result that a wise selection of suitable trees and conditions necessary for their success was arrived at. The great trouble heretofore has been that every lot owner was a law unto himself, and the wrong sort of trees was selected and poorly treated when bought. Perhaps those who are strenuous advocates for the beautifying of our own public highways and cities might think the suggestion wise to have such matters discussed by prominent horticultural bodies in this country. Corporations might find this a safe and economical means of obtaining advice, and certainly there are plenty of men who are able to and would give an opinion if they were called upon.

Reading and District Gardeners.—The last fortnightly meeting of the winter and spring session, in connection with the Reading and District Gardeners' Mutual Improvement Association, was held recently in the Club Room, Old Abbey Restaurant, and was exceedingly well attended. A most opportune subject was chosen for the evening's discussion, and one which is without doubt engaging increased attention amongst lovers of outdoor flower gardening, viz., "Spring Bedding." The subject was introduced by Mr. J. B. Stevenson, head gardener to the Corporation, Bournemouth, and, needless to say, it was placed before the members in a very practical manner, spring bedding being a great feature in the Municipal Gardens. The lecturer said that this was certainly the best time to consider this important question, for it was now one could see mistakes in the planting of unsuitable varieties and the combining of colours, and to put themselves right for another year. He then went on to enumerate the various varieties of flowering plants and bulbs which he found by experience to succeed well in the South:—Wallflowers, Pansy, Viola, Arabis, Doronicum, Golden Feather, Alyssum, Polyanthus, Daisies, Sedum, Narcissus, Hyacinth, Tulips, &c., and to describe the culture of each. Then followed interesting remarks respecting the great importance of the proper blending of colours with particular varieties to be used for obtaining this object. A discussion followed, in which Messrs. Stanton, T. Bowie, who received a hearty welcome from the members on his return to the neighbourhood, he having come to take charge of the gardens at Calcot Park (A. C. Harmsworth, Esq.), Townsend, Alexander, Burfitt, and Wilson. On the proposition of the chairman, Mr. Fry, seconded by Mr. Neve, a hearty vote of thanks was accorded to Mr. Stevenson for his lecture; to Messrs. Sutton & Sons for a beautiful collection of Narcissus blooms, consisting of Sir Watkin, Horsfieldii, Cynosure, Maximus, Stella, Emperor, Empress, &c.; and to Mr. Stanton for some splendid examples of Commadore Nutt Lettuce.

The Cones of *Pinus muricata* are believed never to open naturally, never even to fall from the tree. Forest fires have been suggested as the means whereby the seeds within the cones may be liberated so as to perpetuate the species. A correspondent, however, makes the very reasonable suggestion that squirrels may be the real instruments for liberating the imprisoned seeds, having seen a cone half eaten by a squirrel.

Forced Bulbs.—Daffodils and many other bulbs, but Daffodils (*Narcissi*) especially, after being forced, should be taken due care of, as when slowly matured they recuperate from much of the strain which forcing affects on them. After the expense of very little patience or trouble, plant them out in prepared groups over secluded meadow-land, grassy knolls, banks, or shrubby edges. In two years the young bulbs will flower strongly and well.

"People's Journal" Long Service Medal.—Among the veterans who are now the wearers or owners of the well-known *People's Journal* Long Service Medal we read of Mr. John Deans, the coachman-gardener to James Oliver, Esq., Hawick. Mr. Deans has been a servant of Mr. Oliver's for the long period of 47½ years. The medals are awarded by the proprietors of the above paper to those whose names are recommended, and who prove their title to the honour.

Canker Germs and Animals.—We heard a rumour recently that the germs, spores or mycelium, we cannot say which, of the fungus causing canker in fruit trees, had been successfully (so far as the act as an experiment can be termed successful) inoculated in the blood of an animal, with the result that scabby cancerous growths arose in parts of the body as a consequence. Pity we could not inoculate Bracken spores into kine. Ferns might then grow out and the cattle could have a feed when other stuff was short.

New York Grapes.—The Grape belt of New York consists of about 30,000 acres, of which ⅔ of this area is in nine towns on the borders of Chautauque Lake in the State of New York, and ⅓ in two towns of Pennsylvania. An average yield is 7,000 carloads in a season, 3,000 baskets to a car. The bulk of these are Concord Grapes, whose value is set down as 7 cents (3½d.) per basket. Computation gives the number of "pickers" as 6,000, there being eight to ten women to one man, the latter do the heavier work, as hauling, lifting, and driving. A good picker gets 80 to 90 cents a day, boarding excluded, or 3 dols. a week and board for working ten hours a day.—*Midland Counties Herald*.

On Choosing a Country House.—"I would say to anyone who is thoroughly in earnest about a country home—make it yourself. Xenophon, who lived in a time when Greeks were Greeks, advised people in search of a country place to buy of a slatterly and careless farmer, since in that event they might be sure of seeing the worst, and of making their labour and care the largest results. Cato, on the other hand, who represented an effeminate and scheming race, advised the purchase of a country home from a good farmer and judicious house builder, so that the buyer might be sure of nice culture and equipments. It illustrates rather finely an essential difference of the two races and ages—the Greek earnest to make his own brain tell, and the Latin eager to make as much as he could out of the brains of other people."

The Flavour of Vegetables.—Flavour in vegetables, according to very many connoisseurs, is being overshadowed by the craze for increased size. A contemporary remarks:—"High sounding names are given to coarse big Beans, and priced at three times the value of the old-fashioned Broad Bean, although none are superior in flavour." We think that flavour has not altogether deteriorated. "The Broccoli sent to the London markets do not at all compare with those obtainable in France. In Paris or any of the large towns, one can always obtain French or Kidney Beans, of the right size and exquisite quality. The common Swede Turnip grown in the fields is in many cases far more delicate in flavour than the majority of Turnips. In Covent Garden it is well nigh impossible to get vegetables with a good flavour. Anything not of good flavour is not worth growing."

The Plum in America, is now receiving the closest attention from orchardists and nurserymen.

APPLES.

We have frequently read the pointed remarks of "J. C., Chard," on fruits—Apples in particular—and as late keepers, in good condition, are of special value everywhere, I would be pleased to learn if he has tried Sandringham for late service. I have some at present remarkably sound and of fine appearance; but I am afraid that I have over-rated its quality, as when tried under culinary manipulation Sandringham appears mealy and lacking of crispness, compared with such sorts (now in excellent condition, April 7) as Yorkshire Greening and Seaton House. Nevertheless the flavour is good, and loss by decay or shrivelling is at a minimum rate. Northern Greening and Wellington (Dumelow's Seedling), are shrivelling and not keeping nearly so well as those indicated. It is of the utmost importance to get Apples (which are to keep late) thoroughly ripened. Many are in too great a hurry in storing the fruit. Many Apples are much hardier than generally believed to be. Fruits of sorts which have fallen and remained out all the winter among leaves have been picked up in early spring, quite fresh and sound. We have gathered in Scotland, from a wall with north-west exposure, Margil as late as Christmas. This is one of the best dessert Apples known, being a remarkably free bearing sort, with flavour equal to Ribston Pippin. In the southern counties of England it comes to great perfection. In Scotland it does well on a wall, but I have not seen it ripen freely on standard or on bush trees. There are often far too many early Apples cultivated in some gardens, giving a glut of fruit which cannot be used when in proper condition. Keswick Codlin, Stirling Castle, and Lord Grosvenor are always a heavy crop here and give good supplies to the end of the year; and Seaton House, Northern Greening, and Yorkshire for latest, keep well for use till June. Exposing the fruit to currents of air and heat reduces their keeping qualities. We get good tuition in keeping Apples from the American grower, who packs them in barrels.—*M. Temple, Carron, N.B.*

ORCHID NOTES & GLEANINGS.

Dendrobium thyrsiflorum walkeriaum.—There is at present in the gardens of the representatives of the late C. B. Davidson, advocate, Aberdeen, a magnificent specimen of *Dendrobium thyrsiflorum walkeriaum*, which I think is well worthy of notice in the pages of your esteemed paper. The plant in question was imported from Burmah some seven years ago, put into a 9-in. pot, and has gone on improving yearly without ever having been repotted or even top-dressed, and grown in a small house all the year round of intermediate temperature. The plant would be about two and a-half feet through, and bears thirty-four large trusses of flowers, several of which measure twelve inches long, each truss having from thirty to forty-five fine individual flowers. The above specimen has been grown under the able management of Mr. Petrie, the gardener at Round Hay, who is not only conspicuous in the cultivation of Orchids, but of every other class of plants, both inside and outside.—*A.*

MARLSTON HOUSE.

MARLSTON House, Newbury, Berks, is the residence of J. W. Palmer, Esq., of the famous Reading firm, whose legend of inscription is Huntley and Palmer. The parish is a neighbouring one to Bucklebury. Marlston House is situated in a valley at the foot of rising ground, which when seen from some commanding height appears to be a thinly wooded hill. The mansion is new, having been quite recently built on the site of a less commodious structure belonging to an older member of the same family. It would be conspicuous from afar were it not for the beautifully undulated and almost hilly character of this part of Berks, which conceals many of the houses and scattered family residences until one is almost upon them. Elms here constitute the tall "ancestral trees" which afford shelter on the northern side of the mansion and grounds.

On Bank Holiday we had a hurried run through the premises, and at that time it was practically

early spring, and only the Primroses, Wallflowers, and similarly early flowers had dared to peep out, though had we gone a week later, the transformation would no doubt have been immense as it was elsewhere. The garden had been so thoroughly renovated that it was practically as new as the mansion. The glass ranges have also been rebuilt and substantially so, having been constructed of teak wood. Young trees and Vines fill the Peach houses and vineries. Bedding stuff occupied one of the former. The back wall was covered with Ivy-leaved Pelargoniums, full of healthy vigour and flowering freely. There is no question that this is the best way of growing such plants if a heavy and continuous crop of blossom is the desideratum, whether for cutting or leaving on the plants. Charles Turner and Madame Crouse are the varieties grown, and though young they are 6 ft. to 8 ft. high. Next came a Peach house with young trees against the back wall and the front glass. The Melons in the Melon house had four or five fruits on each plant. Cucumbers were bearing in another house; and here was a fine batch of *Calanthes* starting away vigorously.

In the stove some plants of a deep blue variety of *Saintpaulia ionantha* were remarkably floriferous. Crotons, Dendrobiums, and Begonia Gloire de Sceaux were also amongst the occupants, the latter being in bloom. A similarly warm house accommodated healthy *Smilax*, Palms, *Dracaenas*, *Caladiums*, *Coleus*, *Saintpaulia* (in grand form), *Cattleya Trianaei*, *Dendrobium thyrsiflorum* in bud and *Cypripediums* grown in Orchid pans.

Freesias were splendidly grown in the greenhouse and filled the whole structure with their aroma. Mr. B. Dockerill, the gardener, informed us that they constituted the stock of an old original batch of many years standing, so that there is no question of degeneracy of this bulbous Irid. The house was also rendered gay by a great variety of spring flowering subjects such as well grown *Lachenalia tricolor* in pots, *Cinerarias*, *Primula sinensis* and *P. obconica*, *Amaryllis*, Tulips, Intermediate Stocks, *Deutzias*, *Azaleas*, *Astilbe japonica* and *Streptosolen Jamesoni*, young plants opening their orange flowers freely. On the roof was a fine mass of *Tropaeolum Ball of Fire* commencing to bloom. A large stock of bedding Pelargoniums occupied the frames.

In various parts of the grounds and about the house are beds of *Rhododendrons* and choice shrubs. A bank that was too steep for grass, and otherwise requiring to be rendered attractive, was laid out as a rockery, in which were *Brodiaeas*, Tulips, Primroses, *Polyanthus* and other interesting, old-fashioned subjects. Herbaceous plants are evidently favourites here, for a large and varied stock of the more useful subjects has been got together and planted in borders, which they entirely monopolise. The White Lily (*Lilium candidum*) is making vigorous growth. Though rarely seen in private gardens, *Polygala Chamaebuxus* is hardy, neat, extremely pretty and ought to be planted on every rockery. Other plants in bloom included Daffodils, Crocuses, Scillas, *Chionodoxas*, Primulas, *Polyanthus*, &c. A succession will be kept up by Lavender, Paeonies, Irises and many other subjects that time did not permit noting. Close by these borders is the wild garden on the side of a steep bank, faced up with rockwork representing different strata, the work of Messrs. Pulham & Co. A cascade or dripping well occupies the central and lower portion of the declivity. On the shelving rocks are masses of *Periwinkles*, *Cytisus scoparius andreaus* and others.

Some of the larger beds in the immediate vicinity contain many choice shrubs, including *Ledum palustre*, *Erica carnea*, *E. mediterranea*, *Calluna Erica*, *Gaultheria procumbens* and others. Some tall plants of *Dimorphanthus mandshuricus*, and the Malden tree will be interesting presently. The Rose garden is a circular area enclosed by a Yew hedge. Standard Roses are planted round the outer boundary of this enclosed area and beds of dwarf Roses occupy the centre. The development of all these things will be interesting to watch, for the place everywhere in the vicinity of the mansion and garden is practically new. The grounds here all slope to the south or nearly so. Meadow land occupies the green valley and all up the slopes of the opposite side, which is interspersed with tall, stately and shapely trees, consisting of Elms, Limes, Oaks and others, which give the whole grounds the aspect of a park.

In another direction we noted what seems the

commencement of a village of new houses, stately enough to be styled villas. They are for the housing of servants on the estate, Mr. Dockerill's house being amongst them.

TECHNICAL INSTRUCTION GARDEN, CHELMSFORD.

In connection with the School of Horticulture, Chelmsford, the Essex County Council are gradually establishing all appliances necessary for instructing the youth of the county in the science and art of horticulture. The Technical Laboratories with their appendages are in Duke Street, and at first the classes were held in the offices close to the street; but since then a roomy and well-fitted class room or laboratory for the horticultural students has been built between the old garden and the courtyard of the premises. Provision has been made here for accommodating various appliances and apparatus for carrying on the experiments that through the eye and the intellect help to fix fundamental truths about plant life, both physiological and morphological.

The old gardens are kept up for the purpose of growing plants, flowers, and fruit trees for the needs of the laboratory, and for the giving of instruction in seed sowing, pruning, training, &c., which can be done at favourable moments when the weather in winter is unpromising enough to go to the new garden further afield. On one side of the courtyard is a potting shed where seed sowing, propagation by cuttings, grafting, &c., and potting can be carried on during the time the students are sitting. On another side of the courtyard is a greenhouse stocked with a great variety of plants used for various purposes and to give instruction in watering and the potting of the same. In order to make the students turn their observations to the best account they have to take notes of the plant or plants in hand, the temperature of the air under glass and outside, the humidity of the atmosphere with the wet and dry bulb thermometer, the intensity of light, the condition of soil, period of growth of the plant, and various other items in connection therewith.

Field botany is also encouraged in order to develop the faculty of observation of the students. There are four terms during the course of the year when the students assemble at Chelmsford for instruction in the theory and practice of horticulture, namely, in June-July, November, February, and March, the first three being elementary courses, each of three weeks' duration, and the advanced course in March, which is continued for a month. Nurseries and fruit farms belonging to different owners are also visited for occasional demonstrations.

The Botanic and Horticultural School Garden is of more recent acquirement, and is gradually being developed. It is situated at Rainsford End, Chelmsford, to the west of the town, and only about ten to fifteen minutes walk from the laboratory and class rooms. A gardener is always in attendance there. A potting shed and store room for tools, implements, seeds, &c., has been built upon the ground and a number of hothouses has been planned and will presently be constructed for the benefit and instruction of the students. A cool greenhouse, stove, propagating pit, vinery and frames will be amongst the first to receive attention.

Paths and roads will have to be put in order in due course, but the general features of the garden have already been determined, and laid out in beds, borders, and orchard plots, for the cultivation of flowers, ornamental trees and shrubs, fruit trees and bushes. Some hotbeds furnished with frames are already in use for the raising of seeds of all sorts to be planted out in due season.

Early attention has been given to the purely botanical side of the garden, some fifty or sixty natural orders being already represented. The beds are laid out on the same plan as at Kew, their oblong and formal outline being more utilitarian than ornamental, and well adapted for the convenience of the students when instructions or demonstrations are being given. All the more common orders of plants are represented, and in the case of large orders including many plants of horticultural value, the ground area appropriated by them is correspondingly great. They range from the giant herbs to those of the stature of *Gentiana acaulis*. Every bed or portion of one representing an order is carefully labelled,

so that the students have every facility for making their acquaintance.

There are already over 100 varieties of fruit trees, bushes and small fruits in the garden. Apples, Pears, Plums and Cherries are represented by good varieties, grown as standards and half standards, mostly on cultivated land, though some of them are on grass to show the different effects of the two conditions under which the roots will have to subsist. Nuts are also grown. Not all of the Orchard land is yet planted, the object being to add a portion annually so that young trees will always be coming along for the benefit of the students. Amongst other fruits are eight varieties of Currants, eight of Gooseberries, and twelve of Strawberries. Potatoes and other vegetables will also be grown in greater or less quantity and variety.

A long border runs along one side of the garden, and this has been planted with trees and shrubs, deciduous and evergreen. The outer trees are intended to afford shelter on the more exposed quarter. The more valuable and ornamental of the shrubs are planted along the front with flowers between them. *Osmanthus*, *Olearias*, *Rhus*, *Berberis*, *Prunus*, *Lilac*, *Ribes*, and *Diervilla* will give some idea of the class of material used. There are also beds of *Azaleas*, *Rhododendrons* and *Roses*, the latter being well represented in all the leading sections of garden and exhibition varieties.

All this variety of subjects has been got together by the enthusiasm and energy of the staff lecturers, David Houston, F.L.S., who lectures and demonstrates on the principles of horticulture; and Mr. Charles Wakely, who directs the operations of horticulture. Mr. Houston was long connected with the Birkbeck Institution, hundreds of the old students of which will remember the long nights of wrestling with many a tough and intricate botanical lesson.

FRAGRANT INDOOR RHODODENDRONS.

AMONG the many contributions made to our gardens by the rich Himalayan flora the above hold a high position. For conservatory or greenhouse decoration during spring they are particularly desirable, while for the decoration of rooms they are also acceptable. A glance at the available material shows what a number of fine plants we have. For elegance and beauty the large, creamy-white, rose shaded blossoms of *R. Edgeworthii* hold a high place. *R. veitchianum*, with its pure white flowers, with undulated margins, is equally desirable, while the variable *R. formosum* can always be depended on to yield a rich harvest of flowers. The pale yellow, tubular flowers of *R. Dalhousiae*, or better still, the large, trumpet-like blossoms of the rare *R. Nuttallii* afford a welcome addition, while the hybrid progeny of these species are among the most beautiful of indoor plants. Of the many good hybrids the following are most worthy of praise:—*R. fosterianum* (*Edgeworthii* × *veitchianum*), flowers elegantly shaped, 5½ in. across, pure white with lemon mark in throat: *Lady Alice Fitzwilliam*, *Lady Skelmersdale*, and *fragrantissimum*, all whites, are very good. For colour we have *Countess of Haddington*, a charming rose coloured, tubular flowered hybrid between *Dalhousiae* and *formosum*. Given good, sandy peat they do well either as pot or border subjects. Cool treatment is the best; very little fire heat and plenty of air. In mid winter freezing point occasionally will do less harm than a temperature of 45°.—*W. Boulton, Stoke Bank, Stoke, Nr. Nantwich.*

INSIDE versus OUTSIDE GARDENING.

I suppose if one were to ask 100 young men, intending learning the profession, which department they would like, fully ninety-five per cent. would reply that they would prefer the houses; but in my opinion this is a mistaken idea, for not only is the outside work more healthy, but to my mind much more interesting and enjoyable. Take for instance the study of hardy trees and shrubs, both deciduous and evergreen. How few young gardeners do we find that know anything about them, even their names let alone their culture? And yet, in after life, when they are appointed to an important charge as head gardeners in many of our best places, they have to depend on someone else to a great extent for their treatment, which means that many of the choicest and most rare become sadly neglected, and in many cases utterly ruined. The same applies to hardy herbaceous and perennial plants, and yet I venture

to say there is no branch of horticulture that is more appreciated by one's employer and visitors when good collections are formed and their various treatments studied, than those I have named. I do not for one moment wish to infer that the culture of fruits, flowers, and vegetables under glass should be neglected, but what I contend is that the study of outside gardening should first claim their attention, and the chances of becoming efficient as an all round gardener will be much more assured.—*A. Thatcher, Aldenham House Gardens, Elstree, Herts.*

AQUILEGIA: NEW HYBRIDS IN POTS.

DURING December I had a batch of these very pretty *Aquilegias* lifted from the outside and potted into 6 in. pots, using for soil two parts of good loam, half a part of spent manure from Mushroom bed, half a part of leaf mould, and a sprinkling of sharp river sand to keep the whole porous. These I placed in a cool house near the glass, the temperature of which I kept at 45 degrees at nights, with a slight rise by day during sunny blinks. I gave plenty of air on all favourable occasions to cause a sturdy growth. These started away nicely, and came into flower early in March, and the result far exceeded my most sanguine expectations, for although I have cut continuously we have still a good bloom, May 5th. A good batch of these in flower is a sight long remembered, and mixed with dwarfier subjects in a conservatory causes a lightness and gracefulness not easily surpassed; while for cutting for house decoration few flowers can compare with them, as the flowers stand so well, are so light and graceful, and exhibit such a charming variety of colours, so nicely blended as to make them favourites with all.—*D. R. Bone, Lanfine Gardens, Newmilns, Ayrshire.*

GRAPE GROWING FOR AMATEURS.

SUPPOSE your Vines are now ready to receive their first stopping, that is, at the second joint above the bunch; and those who have been using a gentle artificial heat will also have to give attention to the stopping of the laterals or removing them altogether, according to the space allowed between the Vines. If the Vines are not more than two or three feet apart, and you are allowing more than one shoot to a spur, it will be necessary to remove some of the laterals which break from the leaf joint altogether, so as to give your Vines more light and air space. The foliage should be kept from touching the glass, for the more light the bunches receive the stronger their stems will get. Give the rods a gentle shake every morning, which will help the setting of the berries, and also remove any water hanging on the leaves which often causes scalding, if the house is not ventilated before the sun tells its tale. In thinning the bunches, suppose they average from two to one pound, when finished. For a lesson I will take a one pound bunch. The top shoulders when thinned should not have more than eight or nine berries, the second shoulder seven, the third four or five, and so on, reducing to the bottom berry. When finished the bunch or bunches should be well opened, that is, each berry should be at least one inch apart.—*J. Wallace, King's Lynn.*

THE ACHIMENES.

WHEN the *Achimenes* was first introduced from the Himalayas it caused quite a sensation. A short time afterward the scarlet one was introduced. I got a plant of it, and at once crossed the blue with *A. patens*. The stigma is sunk, and I had to remove the stamens with care. I made *A. patens* the female parent, and sowed the seed when ripe. In three years I got up sixty seeds, and when the seed leaves disappeared I found that I only got one hybrid, the rest came *A. patens*. I never could get anyone to account for it. It was illustrated and I got £35 for the seedling plant. The colours of the blue and scarlet were beautifully blended. I was reading your article in this week's paper on hybridising, and will be glad if any botanist can account for it. I wish that I had sowed seed of it to know the result, but I left Crowe Hall, Bath, the same year. When the *Azalea amoena* was introduced from Japan, I crossed it with *Azalea stella*, and all the seedlings came hybrids. Many of them flowered the third year. The one I named Mrs. Carmichael I exhibited in London, and got a Gold Medal for it, and Williams, of Paradise Nursery, gave me £60 for it.—*William Carmichael, 14, Pitt Street, Edinburgh.*

Kitchen Garden Calendar.

CUCUMBERS.—The frames used for the production of early vegetables will now be empty, and may, therefore, be utilised for other purposes, amongst which Cucumbers may be included. The cultivation of these to some may be a simple matter, while to others who have had but little experience, many little things crop up that do not seem to appear with thoroughly practical men; and as it is for the benefit of those whose experience is limited that these lines are penned, it may be as well to state at the outset that to grow Cucumbers successfully close attention to their requirements is necessary. Amateurs can be excused for making mistakes, but professional men are expected to be more on the alert. It is not a frame full of rank foliage that one wishes to see, but an abundance of fine healthy fruit, and a continuation of such through the summer. To do this, the growths must be kept within bounds, and so regulated as to have fruit of various stages to succeed each other. Always stop the growths at the first or second joint beyond the fruit, and if the plants are inclined to ramble the former should be chosen. If several fruits show at a joint pinch all off except one, that the plants may not soon become exhausted. Water carefully, for as there is plenty of root room the soil will not soon get dry. On fine days ventilate a little at the top as soon as the temperature reaches 65°. Close the frames early in the afternoon, damping the foliage with a syringe so as to generate a humid atmosphere. Should the plants show signs of exhaustion thin out the growths and give a top-dressing of turfy loam, and peg some of the bine down to this so as to encourage fresh roots.

BRUSSELS SPROUTS.—Plants from the early sowings will now be large enough for transplanting; as these will occupy the ground for a considerable time it is necessary that the soil should be of a fertile character. To obtain fine hard sprouts the plants must have ample room from the commencement, that the stems may be firm and robust. Where the soil is of a light sandy nature, it should be made firm previous to planting, and if in an exposed situation it is a good plan to plant in trenches that the plants may be earthed up when they have attained strength to prevent them being rocked about by high winds. Where the plants are liable to be attacked by the club a liberal dressing of lime should be given to ward off this pest.

BORECOLES OR KALE.—Amongst the Brassica tribe these will be found most useful during winter and spring, but in order that they may be of the greatest service possible the stems should be encouraged to grow as stout as possible, as it is from such that the greatest bulk of food is produced. When the ground is in good heart, and the plants are got out early there should be no difficulty in getting them well established before the soil is too hot and dry; but when allowed to stand in the seed bed until they become drawn it is seldom they make much progress till the autumn rains set in, by which time the season is too far advanced for them to produce a great bulk of food. The finest variety we have ever grown is Sutton's Favourite. This is not a curled variety, but is of the most delicate flavour, and of a beautiful green colour when properly cooked.

BROCCOLI.—The late varieties of these should now be sown, and special care ought to be taken to ward off the Turnip fly, which in hot weather is very troublesome. There are so many good late varieties that it would be a difficult task to say which was best; May Queen, Continuity, Carter's Summer, are all good. Plants of the early varieties should be pricked out as soon as they are large enough to handle to prevent them from becoming leggy for when this happens it is seldom they are of much value.

GENERAL WORK.—Weeds of all kinds will now be growing apace, therefore the hoe should be kept at work amongst growing crops to keep them under while they are small. Watering newly planted crops and seedling plants should also receive careful attention. Plant out Lettuce while small on rich soil that they may get well rooted before the foliage gets large, as this in a great measure will prevent them running to seed. Prick out Celery plants as they become large enough that they may be sturdy. Sow Peas, for a succession, taking care to have the soil thoroughly moistened should the weather be dry. Broad Beans may still be sown for an autumn

supply, as likewise both runners and dwarfs. Plant out Vegetable Marrows under hand lights or hot-beds, or in a sheltered position. Ridge Cucumbers can also be planted out if protection can be afforded them. Have a sharp look-out for frosty nights, and see that all Potatoes are protected that are liable to be cut down. Continue to sow small salads, as these will now be in great demand.—F. W. J.

THE FLOWER GARDEN.

The present is a most active time for gardeners who have much bedding stock on their hands. Plans have to be made for the lifting and probably the re-planting of much of the stock which at present fills the beds in the formal flower garden. These beds after being cleared require to be trigged-up a little, to be manured probably and to be deeply dug. Then the summer arrangements, which I always like to plan along while in advance, have to be re-considered. An estimate of the plants required for all purposes should be made in good time. It is a difficult matter to strike the nail fair and square in all we attempt. Even after great endeavours we may find ourselves short of a particular variety of a much desired plant, with no chance now of raising others to make good the deficiency. In such cases if much inconvenience would be likely to arise from the shortage, I see no reason why gardeners should not mutually help each other by giving and taking. We as a body are a generous and bonded craft, and rely one on the other. The plants in the houses, the pits and frames, should in no wise be crowded together. If any rule in gardening is worth attention, this rule certainly is. A sturdily grown and compact plant is far safer to deal with than three or four bare and weak-stemmed spindly plants; and good plants in all ways are preferable to any amount of decrepit ones. No anxious gardener will allow his bedding plants ever to suffer from drought. Such a remark ought never to be called for, yet the fact that thousands of plants in small pots do greatly suffer from lack of moisture bids me ring out a note of warning. Too much water can scarcely be given to Pelargoniums, Begonias, Calceolarias and well advanced annuals, well rooted in small pots.

Descriptions of some fine summer flower beds were given a short while ago. Still a detail of a few more pleasing combinations and contrast suitable for summer beds here follows. For a bold massive bed *Acalypha tricolor*, *Hydrangea hortensis*, *Plumbago capensis*, *Anthericum Liliastrum variegatum*, *Ligustrum variegatum*, *Ligustrum ovalifolium aureum*, *Chlorophytum elatum variegatum*, with an undergrowth of *Tradescantia discolor*. These plants along with others, which were mentioned before, viz.: tall Pelargoniums, Bougainvilleas, *Manettia bicolor*, and the Coral tree, give a fair selection for any southern gardener. There are some which we have mentioned which are not suitable for gardens very far north of London. Still, much can be done with the plants which have proved successful. There are a number of graceful varieties of Bamboos quite hardy even in the southern parts of Scotland. These should be employed. A pretty combination can be got by using *Alternanthera amara* as a groundling, and over this tuberous Begonias and *Coreopsis atrosanguinea*, a bed cheap and pleasing. An edging of *Viola Bessie Clark*, a lavender blue variety, gives additional colouring.

Lilium speciosum and crimson and yellow *Coreopsis* with *Alternanthera major* as a carpeting, and edge plant, with *Solanum pyracanthum* at intervals along the front row, makes all a sweet and effective bed. A bed of *Lobelia Queen Victoria* with an undergrowth of white or blue *Violas* forms an exceedingly sweet bed. Mixed beds of *Cannas*, *Amaranthus*, *Abutilons*, *Araucarias*, *Iris* and other taller growing plants in their proper place should oftener be arranged than at present is the case.

The rock garden at the moment is really pretty and very interesting. Primulas and Polyanthus in variety are everywhere; *Pulmonaria officinalis* and its white variety and others less known, *Ranunculus* (in the shaded and moist corners of course) and *Calthas*, *Scillas*, a few *Narcissi*, *Phlox amoena*, *Ericas*, dwarf *Iris*es, *Aubrietias*, *Omphalodes*, *Arabis*, and quite a host of small but attractive alpine are in the height of their brightness.—J. H. D.

THE FERNERY.

MOISTURE, shade, and a steady warmth are what is wanted at the present time in the Fernery. Growth is active after the top-dressing and the potting. Some of the *Nephrolepis* and the gold and silver Ferns, of which there are a few plants in all gardens where Ferns are appreciated, will be found in the following notes:—

NEPHROLEPIS ACUTA.—Only for very large houses can we recommend this, one of the largest and strongest growing of all the genus. It bears fronds 4 ft. or 5 ft. long, and broad in proportion. Given plenty of head and root room, it is a handsome and serviceable enough species.

N. DAVALLIODES FURCANS.—This is a popular stove Fern, and one of the most ornamental and easily cultivated that there is. The tips of the fronds are furcate or twistedly forked, and the arching growth of them and general compactness furnishes a finely decorative plant.

N. CORDIFOLIA.—A very graceful species with well-arched fronds, and closely set narrow pinnae. It is exceedingly ornamental.

N. PLUMA is slender and arching, with somewhat long pinnae, which are slightly crenate.

N. EXALTATA BARTERI.—This variety has stout, erect stalks, with smooth, close-set pinnae. It is a good variety, and adds variety.

N. COLLINGIANUM.—Beautiful broad foliage, pinnae long, wavy, and tapering, with well-spread fronds. It is altogether very graceful.

N. RUFESCENS TRIPINNATIFIDA.—Tall, vigorous and spreading in its habit of growth, this variety can only be given full justice where there is abundance of space to allow. It then forms a really handsome plant, with beautifully crested fronds, which are erect and long. It requires plenty of space and attention in every way, but may be excluded from collections in which only dwarf and compact species or varieties are wanted.

THE *NEPHROLEPIS* can all be treated in the same manner, in the ordinary temperature of a stove varying from 60° to over 75°, according to season, with the moist conditions and shade which we accord to such houses. A short mention on some of the gold and silver Ferns might be serviceable to those who like this section. They must not be syringed overhead.

GYMNOGRAMME VEITCHII.—Among stove Ferns of all descriptions this species of *Gymnogramme* is one of the most popular and pleasing. So refined, so graceful, yet withal so sturdy in its growth, that as an ornamental plant that, if any *Gymnogrammes* are grown, let this one be chosen.

G. DOBROYENSE, as a pot plant, should be grown on a pedestal or suspended in the air. The fronds are smothered with sulphur-coloured dust, and they droop downward so that unless the plant is held high, its beauty may be changed to decrepitude, which repels.

G. MATTHEWSII is one of the gold-powdered species. The fronds are broad, dwarf, and gracefully dissected.

G. DECOMPOSITA.—The fronds here are widely spread, and perhaps they arch just a little too much. It is covered with silvery dust, and is exceedingly graceful.

G. TOMENTOSA can scarcely be termed a "gold" or "silver" Fern. It is a hairy or downy variety, more after the *Osmunda* type in character of pinnae, &c. It is very pretty.

G. PEARCEI ROBUSTA is one of the strongest growing varieties, being handsome, tall, of graceful mien, and gold-dusted.

G. TRIFOLIATA.—This, too, looks distinct at a casual glance, from the proper type of gold or silver Fern. It is, however, a suitable decorative *Gymnogramme* with long, smooth, linear leaves, without any powder.

G. CALOMELANOS CHRYSOPHYLLA.—Few varieties are better known or more deserving of inclusion in a Fern house. It grows nicely compact, but not crowded, has just the proper degree of slenderness to make it useful as well as graceful, is dusted with gold powder, which gives it brightness, and when matured it forms a massive and exceedingly handsome plant.

G. C. ARGENTEA and **G. C. SULPHUREA** are others whose merits are conspicuous.—J. D.

HINTS FOR AMATEURS.

Hardy Ornamental Conifers.—The notes on the above section of our ornamental vegetation are none too numerous. The following subjects are handsome, pretty, or serviceable as the case may be, and many are suitable for even the smaller gardens of amateurs. As an introductory, a few notes on the classification of the section or class will not delay us long, and may lead to increased interest from the possession of a further and clearer knowledge of what we are considering.

The word *Conifer* means cone-bearing. All our evergreen shrubs, &c. which bear cones, be they cones large or small, may broadly be included under *Conifers*. This, then, is the natural order to which they belong. We now divide the cone bearers into tribes, the members of which have some amount of agreement between them. There are four tribes, as follows: The Cypress tribe, Taxodum tribe, Fir tribe, and Araucaria tribe. Once again division is made, and we get a *genus* of trees, as *Juniperus*, a *genus* of the Cypress tribe, in the order *Coniferae*. So the divisions go on to species and then to varieties. We shall now devote some special attention to the *genus Cupressus*. For a long time *Cupressus*, *Retinospora*, and *Chamaecyparis* were regarded as distinct by all botanists. Then *Chamaecyparis* came to include *Retinosporas*, that is, all the *Retinosporas* were called *Chamaecyparis*. And now we find both *Chamaecyparis* and *Retinospora* have merged into *Cupressus*. Why such changes and shifts take place need not here be explained.

Cupressus lawsoniana or *Lawson's Cypress*.—So well known (from reputation if not by experience) is *Lawson's Cypress* that I need say nothing in its praise. For gardens with a few rods of ground surrounding the house, this is one of the first *Conifers* which can be chosen. Its hardihood no one doubts, and its handsomeness also is undisputed. It succeeds on a variety of soils and in various situations, attaining a height of 40 ft. and over. Thus, the true *C. lawsoniana*, furnishes us with what is a species, a species of the *genus Cupressus*. Some of its more serviceable and better known varieties are *C. l. erecta viridis* (green and upright), an ornamental variety of neat and erect growth very frequently used for the centres and other parts of beds. Another pretty variety is *Col. lutea*. The tips and other parts of the branches are tinted with a bright yellow hue, which is merit enough in itself. *C. l. stricta* is also neat and erect. *C. l. filifera* and *C. l. argentea* must also be named.

C. macnabiana.—This is a special favourite of mine. The tree grows slowly when once it has gained a height of 20 ft., but for the middle part of a belt of shrubbery or out upon the lawn few *Cypresses* make finer specimens. On light soils it does well, and produces abundance of deep green close growing branches.

C. nootkatensis.—This is a very hardy species frequently employed for the purpose of shelter hedges. It is known under the name of *Thuyopsis borealis*, but the proper name is now very widely applied. The leaves emit a pungent odour when brushed upon. In colour they are dark green, the general outline of the tree being pyramidal. At the same time it possesses a certain amount of grace, and is certainly one of our most useful and most frequently planted *Conifers*. Of its varieties, of only ornamental value, *C. n. pendula* is probably the most elegant, and *C. n. lutea* is distinct and handsome.

Cupressus (Retinospora) obtusa.—Though I would not select this species for inclusion in small collections, there are nevertheless some fine varieties worthy of note. Of these, *C. o. filicoides* is a desirable variety. It has Fern-like masses of bright green foliage. *C. o. filifera* is well known, and sometimes titled the whip-cord *Conifer*. *C. o. lycopodioides* has this advantage, that it occupies little space. It grows more or less upright, is dark green, the branches being compact and the leaves crowded-like masses of a Moss or Lycopod. *C. o. nana* grows compactly and is only a dwarf plant. It is planted on rockeries and at the edge of shrubberies. *C. o. pygmaea* is also suitable for parts of the rockery, as it remains under 6 in. in height for many years.

C. pisifera, or *Retinospora pisifera*, as it is better

known as, is one of the most commonly planted evergreen trees we have. It is a graceful tree, having somewhat drooping branchlets of a light colour, not exactly of a green hue. *C. p. plumosa*, *C. p. p. argentea*, or silver coloured, and also another which is golden tinted (*C. p. p. aurea*) should receive attention from those who are on the lookout for pretty evergreen shrubs. *C. p. squarrosa* must receive special notice, it being so pretty and so very desirable for a small garden. The habit is bushy and dwarf, the foliage being feathery and very light, glaucous green. Seen with dew-drops upon it this presents one of the finest sights in outdoor gardens. But the above list must conclude the meritorious varieties of *Cupressus*; and also these notes for the present.

The Garden in Spring-time.—Probably we get enough of written advice upon the practical culture of plants, and sometimes we weary for a cessation of the explanatory and directive rules so copiously supplied. Yet it is very certain that if we relax vigilance vengeance vaunts in the van. Our future joys largely depend upon present industry. The more steadfastly we employ ourselves when at work the greater satisfaction will be ours, when the leisure time comes. A slovenly gardener cannot have a pleasant garden, consequently neither doth he fully extract pleasure from his toil nor earn the right to an interval of rest. But were he to pause for recuperation and recreation (both again supplied through the agency of that upon which our past vigour was expended) he could certainly not expect to find it in his own estate. After a winter's planning and waiting the great joys of the garden are opening out for us. We ought now to know the inner and less obvious points of interest and loveliness which our garden contains. For instance, we see there the sweet flowered Mahonia (*Berberis Aquifolium*). Its stamens are sensitive to touch. When the flowers are open to the sun you may try them with a pencil and prove the truth of it. In an instant they will close inwardly, just as a hedgehog does. The purple fruits are eaten by birds, but should not be taken by children. Their juice furnishes a violet-purple staining.

Then there are the Primroses with their differences in the positions of the anthers and stigmas, about which Darwin had so much to say. Some bear a little knob in the mouth of the corolla tube, others have a number of anthers. The first represent the "pin-eyed" Primroses; the latter are what are called "thrum-eyed." It has been found that this arrangement of the sexual organs exists for the purpose of securing cross-pollination and fertilisation. The "thrum-eyed" Primroses having the anthers with their pollen at the mouth of the tube, fertilise the pin-eyed ones, which have their stigma high up, and their anthers toward the base. In like manner, the low situated anthers fertilise the short-styled stigmas.

Newly opened Rhododendrons and Crown Imperials contain lovely drops of nectar within their corollas at the base of them. In both plants there is quite a lot of nectar. At the base of the petals of Buttercups you may also find a very minute nectary cup. Pull off the petals and observe the base of the "claw" or narrowed portion. Violets or Violas have two of their stamens prolonged to form a spur; these spurs bear nectaries.

Place a narrow pencil well into the mouth of the corolla of the Sage flower and observe its arrangement for fertilisation. There are many flowers open just now whose petals are arranged in the form of a cross—a Saint Andrew's cross. The little white Arabis is one, the Aubrietia is another, the Wallflower is a good sample, and the Iberis or Candytuft can also be compared. There are six stamens, two shorter than the other four. These plants are crucifers, that is, they belong to the order *Cruciferae*. All the Brassica tribe are members of the same natural order.

Magnolias have been in flower for some time, but where there are fresh blooms, it would be interesting to watch when the stigma becomes fully matured, and also the time when the anthers ripen. It will be found that the stigma and anthers in the same flower do not develop and ripen at the same period. The pollen of one flower may be ripe for shedding, while the stigma is fast closed. But in another flower a stigma will be found ready for fertilisation, while the anthers are un-opened. This dichogamous development is meant to insure, in another way

from that already described, the cross-fertilisation of the flowers. The result is we have better seeds and more of them. Later on there will be much more to point out in connection with the fertilisation of the flowers, of their structure and of their various arrangements for different purposes. It is such little points of interest like these that make the garden and the flowers so enticing to us, and make the garden such an enchanting place.

Daffodils.—The planting of the tenderer species and sections of Daffodils, such as the poeticus section, the Burbidgei, and the Barrii types, commences within a few weeks from the time the last flowers of this year's Narcissi wither and disappear. While there is yet a fair number of kinds to be seen, amateurs and others should make out lists of those they most prefer, and if the price is within the reach of one's means an order should be made out and sent very early, that is, whenever the bulb dealers begin to advertise for orders, otherwise the best value will go to some one else.

Present Work.—In the warm plant stove damp down the stages or lightly syringe the plants early on all bright mornings. Again, about two o'clock in the afternoon, repeat the light syringing, and close the house. Let down the blinds about half-past nine in the morning. The greenhouse should be kept cool and freely ventilated. Whenever the weather sets in warm the whole of the house should be shaded. Fresh plants or batches should be substituted for those going out of flower. The outdoor garden claims a deal of time, for hoeing, weeding, mowing, edging, thinning of crops, watering and staking must all be kept in mind. In the fruit garden attend to the thinning of fruits where they have set too thickly, and also to disbudding of young growths. Syringe to prevent attack from greenfly, and water if necessary.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Daffs in Beds.—*J. Broomer*: Many a thousand of Narcissi and other bulbs have to be lifted before their time, to allow of the summer bedding being substituted for bulbs. Leave them alone so long as you can, which should be for three weeks yet. Then lift and place them in lines closely together, covering up the bulbs with soil and firming them. In any warm border not required, they can thus be dealt with and matured.

Violets in frames.—*J. W.*: We pointed out three weeks ago that runner plants should be taken and separately planted in good turfy loam, in the open. You, of course, must select the best and plant now.

Temperature of Vinery.—*Vitis*: For a house in flower 55° at night, up to 70° during the day. For a house with swelling fruits, which have been thinned, 60° minimum up to 70° with sun heat. Cautious ventilation is necessary in the early morning to prevent scalding. Always ventilate by small degrees, beginning by opening the ventilators on the sunny or lee side, and the top ones before the bottom ones.

Dahlias—*W. Smith*: A 5-in. pot is a suitable size for young Dahlias to be potted into for growth previous to their being planted out. Very often, 3 in. and 4 in. pots have to do service for a larger one. You should have them in a pit, frame, or greenhouse, and near the glass if possible. Water copiously when well rooted, air freely whenever the atmosphere is mild, and soon you may prepare the land for their reception. Make it rich. Old tubers which were started a short while ago, must now be undergoing the hardening off treatment.

Pot Roses Mildewed.—*J. K.*: We have checked the spread of mildew on Roses by a persistent use of warm soapy water. This sprayed over the leaves and stems does effectually check the fungus. The following solution might be taken. It appeared in THE GARDENING WORLD for May 15th, 1897: "Boil nine pints of water for ten minutes, turning into this 250 grammes of flowers of sulphur, and the

same quantity of slaked lime. Allow the liquid to become clear, decant, and put it into bottles. The preparation will keep for years. When about to use, put one and a-half pints of the solution into 150 pints of water."

Protection for Strawberry Blossom.—*W. Somerville*: Light, long straw or dried Asparagus shoots placed over the flower trusses on those evenings when frost seems imminent will prevent injury. It is unfortunate to have had a touch of frost at this time.

Solution for Spraying Gooseberries.—*W.*: Try this:—6 lbs. soft soap, 6 lbs. paraffin, 100 gallons of water. Boil up and well stir. When it is cool it is ready for use. For red spider use either "Niquas" or XL All Insecticide, both of which solutions can be obtained through the seedsmen.

Good Shading Wanted.—*L. M.*: "Summer Cloud" is easy to use, lasts perfectly all summer or longer, and answers its purpose admirably. Or you might make up a wash of the consistency of paint, by adding lime to water, and then straining the water. To this strained water may then be added

CLIMBERS ON A COTTAGE.

THESE play an important part in garden ornamentation. Many an ugly spot is made bright by their use. Many a bare unsightly wall is converted into a glorious picture. Nothing is more offensive to those that have an eye to beauty, than walls, fences of wood, &c., unclothed. There is not a position but may be made ornamental, with climbers of some kind. Added to this, let the soil or position be ever so unfavourable some sort or other can be grown in it.

In proof of this I may say the climbers, here illustrated by the accompanying photograph of my cottage, show how well high buildings can be covered, and this where the root room is not of the best. Those growing over this cottage have a very small, narrow border, 1½ ft. wide. Adjoining this is the gravel path, under which most of the roots are. This walk is 6 ft. wide.

Their larder must be a poor one, having been planted here from twenty to twenty-five years, and the narrow border is so filled with roots that I make a point of growing Wallflowers in it continually, as they give a fine scent when in bloom, and do not object to the poor dry position.

Many of the disappointments attending the use of

with the Ivy. When in bloom the Ivy is a good setting to the yellow. I may say, as can be seen, all these are happy together.—*J. C., F., Chard.*

THE PROPOSED NEW CHISWICK.

REPORT ON PROPOSED SITE FOR NEW GARDEN AT LIMPSFIELD, NEAR OXTED, SURREY (KNOWN AS CHARTLAND FARM).

IN view of the fact that one report on the proposed new site for the Royal Horticultural Society's Gardens has been published, the Council think it desirable that the following four reports should also be made public if you can oblige by so doing.—*W. Wilks, Sec.*

I visited the above site on Wednesday last, April 18th, as requested, in company with Messrs. Bunyard, Paul, and Poupart. We carefully investigated and I beg respectfully to submit my report on same: "Arable field marked on plan 344, test hole No. 1.—A good depth of heavy loam resting on strong sandy clay sub-soil. No. 2 test hole, do., do. Position S. and S.W., protected from N. and E.—unquestionably very suitable for Strawberry culture.



CLIMBERS ON A COTTAGE.

some linseed oil, milk, and salt. Do not add too much of the oil, else you will not be able to wash off the paint in autumn; half a pint per gallon of paint should be enough. Still, if you have little shading to do obtain "Summer Cloud," and save further trouble.

Chrysanthemum leaves injured.—*J. Durevard, Brentwood.*: The leaves you sent do not exhibit any trace of fungus either within or without. They are soft and thin, and appear to have been punctured pretty severely by an insect. *Mdme. Carnot* and its varieties are, at the same time, very susceptible to the attacks of *Puccinia*, or "rust." We should advise you to allow your plants to have greater freedom to light, air, and dew. Ventilate as freely as possible at all times, the plants, indeed, so soon as they are doing well in the 5-in. pots, should be grown in the open air, being protected during chilly evenings. Adopt all the measures you know of to strengthen and fatten the foliage. Cautious watering and feeding is necessary. Syringe the foliage briskly twice on all fine days, and an occasional use of paraffin-emulsion (a wineglassful to gallon of water) will serve to ward off any injurious flies.

climbers is from planting unsuitable kinds. I will name some of the kinds growing as here illustrated. On the left hand side running up to the tall chimney is *Lonicera japonica* (known as *L. halleana* also). This covers a big space and being an evergreen form, looks cheerful through the winter. In spring it puts forth new shoots and these bloom the whole length, flowers appearing at every leaf. When in bloom the perfume is lovely. Close to the door on the left hand side is *Lonicera japonica aureo-reticulata*, with some old fashioned Roses amongst it.

The porch is covered with a few shoots of *L. japonica*, *Gloire de Dijon*, and *Cheshunt* hybrid Roses. Twining amongst these is a plant of *Clematis lanuginosa candida*, with a Black Hamburgh Vine. These are allowed to intermingle, and I have had good Grapes from this Vine.

On the right hand side close to the porch is the common white *Jasminum officinale*. Above this is a close growing Ivy, and adjoining on the lower portion is *Rose Dunbar* Rambler, the shoots of which we train amongst the Ivy, and when in bloom the bunches of white Rose coming out of the Ivy is charming. The portion close to the lower window is *Jasminum nudiflorum*, and this is allowed to mingle

Field marked on plan No. 343, sloping to S.W. Test hole No. 3—Practically the same as the last.

Field No. 323 facing S. Test hole No. 4—Slightly lighter and better depth of surface soil, a small portion of this field is water-logged, owing to the water courses being blocked.

Field No. 342.—Grass Pasture, south aspect. No. 5 test hole—A similar kind of soil to the last, and also badly drained.

Field No. 324.—Grass Pasture sloping to S.W. No. 6 test hole—Fully a foot of surface strong loam of good quality, sub-soil sandy clay. We tested this field at four stations and found it to be all of about the same quality.

Field No. 310.—Now cultivated as a Hop garden, on southern slope. Test hole No. 7—Excellent depth of surface soil of a much lighter quality. Test hole No. 8—About the same nature as foregoing.

Field No. 311.—Arable, good light, sandy loam, resting on rock falling rapidly to S.W., about half-way down a better depth of soil, and of superior quality."

In my opinion nearly the whole of the land requires to be thoroughly drained. No difficulty should be found in carrying this out as the lie of the

land lends itself admirably for this purpose; most of the land also is in a very poor condition and would require thorough cultivation and manuring; the variety of soils and positions would make the site an admirable one for an experimental garden. The whole of it is particularly well situated and protected from N. and E. winds, and hardly any fruits, flowers, or vegetables should fail to do well upon it, *Rhododendrons* perhaps excepted.

I consider it an ideal soil for all kinds of vegetables, and apparently a good supply of water could be stored, and a delightful bog and water garden might be formed. The climate appears to be all one could wish, and the site could be made both interesting and beautiful.—*Edwin Beckett, Aldenham House Gardens, Elstree, Herts, April 20th, 1900.*

Aspect of the Farm.—The upper portion of the farm is some 400 ft. above the sea, and gradually falls to some 300 ft., the whole (speaking generally) having a most desirable exposure to the south.

Shelter.—The estate is naturally sheltered from the N. and E. by the adjacent hills and woodlands, and the spinneys and tall hedges provide all the shelter required for fruit and vegetable crops.

Soil.—I took notes of the soil in about eighteen positions, but as some trials were exact duplicates, I only record nine instances.

Field 344.—Starting at the lower end next the main road in field 344, now in clover and seed, the soil proved to be an unctuous heavy loam with a subsoil of pervious sandy clay which can readily be improved by drainage, a grand position for Pear trees on Quince stock, Black Currants, and Strawberries of the later sorts and the British Queen race.

Field 343—In Wheat.—This field has a slight slope to the west, and is a trifle lighter in texture than 344. A grand spot for Roses.

Field 323—In Grass.—This lies at the lowest point, and although the drains and ditches had been neglected I found no part saturated with water and the opening of the ditches and draining will make this a valuable plot for vegetable crops, as it contains more humus than the previous plots.

Field 342—In Pasture.—Very similar to 323, and only the neglect to keep the drains open causes it to be damp, as the sub-soil is not impervious; and there are two outfalls for drainage with a fall of 2 ft. to provide ample outlet for any winter rains. This would make a fine Pinetum.

Field 324 is a fine pasture field from E. to W. The soil is a very rich heavy loam, eminently suitable for fruit of all kinds, as the surface soil is deep, and the subsoil is lighter than in other parts. I consider it the best field on the farm.

Field 310—In Hops.—Here the necessary culture for the crop has rendered the land in good heart and condition, and I should fix on this spot for an experimental orchard or plantation. The top of this position is even better than the lower part.

Field 311 (a)—In Corn.—The upper portion is on the bed-rock at 2 ft., and is of a lighter description than any yet noticed, eminently suitable for bulbs and root vegetables, as Beet, Carrots, &c., also for Nut bushes, Plums, or Kidney Potatoes.

Field 311 (b).—Half-way down, this land becomes heavier and is then fine retentive loam suitable for Pea and Bean trials, Apple culture, or main crop Potatoes, and Strawberries.

Field 311 (c).—At the base of this large field and towards the W. it becomes heavier, and requires to be ameliorated by drainage, although fine land for cereal crops in its present state. There is a 2 ft. fall into a ditch on the other side of the hedge, ample for all drainage purposes.

Field 311 is not well farmed, and will require a heavy coating of manure to bring it into full use.

The Present Oast House.—If Hops are not continued it will make a capital fruit store on the top floor, and Potatoes and roots can be kept below.

General remarks.—I consider the site an ideal position for an experimental garden for horticultural purposes, as there are several features which can be made the most of. For example the road sides can be utilised as an Arboretum (forest trees, etc.). The fields 323 and 342 for a Pinetum; other spots suggest a collection of flowering shrubs, a Salicetum, or Willow bed, for the purpose of correcting the nomenclature of this useful family, and for selecting the best Osiers for basket work. Trials of suitable fancy hedge shrubs, trials of artificial manures, &c.

Water.—The water supply rising at a fair altitude

can be utilised by gravitation for greenhouses, Vineries, etc., ornamental ponds for Aquatics, tanks for the smaller water plants, and water for all purposes can be stored where desired.

There is ample choice of soil for all the families of herbaceous plants, sandstone rock at hand suitable for rockeries, alpine gardens, &c., and positions for every kind of hardy fruits and vegetables.

From the condition of the old trees in the garden (uncared for), it is evident that fruit will succeed in the district, and younger trees planted near were evidently in congenial soil.

Drainage.—A complete system of drainage will be required, and the trend of the land favours this operation as it falls naturally to the outlet.—*George Bunyard, Maidstone.*

As requested I inspected on Wednesday, the 18th April, the farm land at Limpsfield by Oxted, offered to the Society.

My instructions I understand were to report upon: The lay of the land, its quality, condition and suitability for the culture of fruits, vegetables, and, in my case more especially, of flowers, Roses, herbaceous, and similar plants. Messrs. Bunyard, Poupart, and Beckett, are each sending a separate report, but there will be found much upon which, after discussion and a frank interchange of opinion, we were agreed.

The site is a southern slope of a continuous range of hills bearing to the east, upon the lower greensand, ascending half up the hill and thus sheltered thoroughly from the north and east by the higher portion of the slope. The meadows referred to further on lie at the foot of this slope, and are consequently as regards 323 and 342 of the Ordnance Survey map, the recipients of the storm water of the somewhat basin-like shape of the higher slopes. This accounts for a fact which we gathered from inquiry of the neighbouring cottagers that a part of these two fields is subject to an occasional flooding after sudden storms, but which quickly passes away (these fields having a thoroughly good outlet now needing clearing), but which I consider as a valuable element in the estate for water supply and other purposes. The estate is entered through two fields, with long frontages to the main road, across the extensive adjoining commons, from Oxted Station.

Field No. 344, in turf of many years standing (old pasture), falling slightly to north and foot of hill.

Field No. 343.—The adjoining field, arable, under wheat, frontage to road, same fall, fairly clean and fair crop.

Field No. 323.—Adjoining field to north of 343, with entry over roadway at the east side of 343, is old pasture, with a covered drain or culvert to take the storm water from the upper sloping basin to the outfall ditch which is by the side (east) of the entry road on 343.

Field No. 342.—Old pasture, with a slight fall to the ditch referred to on its western side.

These four fields are all more or less of one level. The flat land at the foot of the three sharp sloping fields lying above them. The soil is a heavy, clayey loam, of good fertility, of about 1 ft. in depth, the sub-soil being the sandy clay or moist sand of this formation. I should say this position of the estate would grow Roses freely, herbaceous plants, evergreens, Pears, and Apples among the large fruits, Strawberries and bush fruits among the small fruits; and, with regard to vegetables, it would be good Pea, Bean, and Broccoli soil. It requires draining, and, had I to deal with it for practical nursery or market garden work, I should, along its centre and in the lowest part of the two last named grassfields, make a wide ditch or small moat with a controllable outfall into the brook near the road, and which, I understand, flows into the Eden, and so I should secure a water storage supply which could be pumped to the highest level of the estate, and so lay the whole of the experimental garden under water control. The brook which, after turning a ram for the owners of the higher land, flows through the estate, might, I think, be used to lift this stored water to the higher point alluded to.

Such a basin would be invaluable in a trial garden for the growth of the newer Water Lilies and other water plants. Altogether, I conclude this water supply to be of value for a garden applicable to experimental purposes.

The three additional fields are of a totally different

character. They form the sloping sides of the land basin of which the lower fields are the bottom.

Field No. 324.—Old pasture in good condition, facing S.W., rising quickly some fifty feet; soil slightly lighter than the preceding fields; subsoil rather charged with the water from the upper greensand lands; requires, as do also the adjoining sloping fields, good subsoil drainage. Fine Strawberry and fruit land.

Field No. 310.—Arable, under Hops, which are breaking strongly. The brook in question falls rapidly along its eastern side. Slope to the east, rising rapidly to a level of about 400 ft. The soil is somewhat lighter, but of greater depth, and the subsoil is decidedly more sandy. I should consider it, as far as its suitability for fruit culture, as good Plum, dessert Apple, and choice Pear land. At the top of the field, lying, as it does, close to the stone Cherry-land, I think Tea Roses, shrubs, and Conifers, requiring lighter soil, and hardy plants with like requirements, should do well.

Field No. 311.—Upper part of this field light sandy loam, resting 1 ft. above stone used for building. Arable, with a fall of some 200 ft. to the meadow below. A fertile, lighter soil, with the different quality, invaluable in such a garden. Half-way down the slope the soil changes, and gradually approaches that of the lower level; it is here somewhat moist from the flow of water from the rock, but needs only drainage. This difference of soil again affords from its variety opportunities for trial of fruits in the different lighter or heavier soils. Roses would do well here. Conifers on the rock, underlying upper part of the field, and it is either here or in the exposed rock hill-side by the farmhouse that alpine plants would be tried.

Conclusively, I look on the soil as good, sound heavy soil; the large proportion of old turf is most valuable; the sheltered position as beneficial; its water supply valuable and available; and its difference of altitude, slopes, and variations of soil as essential for the purposes for which the garden, as an experimental garden, is required. The whole estate from its altitude is, I should imagine, above the dangers of spring frosts, but I cannot be positive as to this.—*George Paul, Cheshunt.*

According to instructions I attended on April 18th at Chartland Farm, Limpsfield, Surrey, with a view of reporting as to its adaptability for a fruit, vegetable and flower garden. I made a careful inspection with the following result:—

The farm consists of about fifty acres and is situated in the lower and middle portion of a sharp rising valley mostly facing the south and well protected from the north and east. It is divided into eight enclosures, which I report on separately using the numbers on Ordnance survey.

No. 344.—Wheat stubble, a comparatively flat field, has about 10 in. of heavy loam on slightly sandy clay.

No. 343.—Young wheat, very slight slope to S. and S.W., soil same as 344.

I consider these two fields well adapted for the growth of most vegetables, fruit and many flowers.

No. 323.—Grass; soil a medium loam on sandy clay. This field shows signs of wet in a portion running down the centre.

No. 342.—Grass; soil same as 323. This field is also very wet through the centre part.

These two fields are the middle of the lower part of the valley, and form the natural outlet for the whole. The drains appear to have been sadly neglected, in fact some have almost disappeared. I am of opinion that with good open ditches and the land well drained and cultivated these fields would make excellent garden ground.

No. 324.—Grass field, sharp slope facing S.W. Soil 12 in. good loam on stiffer loam over sandy clay. This is a capital piece of land.

No. 310.—Hops; slope facing S. and E. Soil 12 in. to 15 in., good medium loam.

No. 311.—Large arable field, good slope to S. Soil, upper part (about half) 12 in. light sandy loam on rock; lower part little stiffer on sandy clay; about two acres of bottom corner of this field show signs of wet, but could be easily drained in conjunction with 323. The two fields (310—311) would do well for fruit, vegetable and flower growing.

Generally.—The land has been badly farmed, the drainage utterly neglected. I am of opinion that with proper attention to the drainage (the final out-

let for which appears to be ample) and good cultivation, the land would make a good all-round garden.—*W. Poupert.*

CHEMISTRY FOR THE GARDEN.

X.—BACTERIA.

As this subject has been somewhat vigorously forced upon the attention of the gardener of recent years, perhaps a few words on the matter may not be out of place in connection with our chief subject. We, however, intend to treat only of the more outstanding traits attending this, apparently friend of him who tilleth the land. Bacteria are evidently microscopic fungi, and they seem to pervade all animated space, from the snowy peaks of the Grampian Mountains to the streets and ill-ventilated cellars and slums of the metropolis. There appears to be little, if any, part of the globe, aerial, thermal, or aqueous, where oxygen can penetrate, but colonies of the ubiquitous microbe in question are more or less in evidence.

Anaxagoras, the disciple of Thales, about 2,500 years ago taught that the atmosphere was teeming with the seed germs of vegetable life, and that by the influence of the rains they were brought down to the earth, and thus he accounted for the spontaneity of plants in Nature. Had he had the microscope doubtless his anticipations would have solved the problem which destiny retained for a grand copestone to complete the marvellous discoveries and inventions of the nineteenth century. Bacteriology, like Darwinology, has gone, perhaps, a little too far in making good its claims, however meritorious these may be. The investigations of Pasteur, Koch, and others drew to the rescue of the germ theory quite an army of minor satellites, who often had more to offer on the history of the microbe than was consistent with its individual magnitude in space.

It was quite a common thing a few years ago to find some pseudo-scientists inform us that at every inspiration we inhaled a number of microbes, which numerical notation is incompetent to describe. The smallest morsel of bread contained more than there were inhabitants on the globe, and, of course, these were all healthy, living, and very suspicious microbes. Well, the people have survived the dread of these discoveries, and live as happy and as unconcerned about the continual inhalation of microbes as our ignorant blessed ancestors did. No doubt we must make great allowances for exaggerations, misconceptions, and even delusions, when much enthusiasm is exerted in forcing discoveries, and make them fit our theories.

Bacteria are said to resemble, in many respects, the initial unit of a plant cell, and, like plants, are propagated by divisions and seed (spores). Propagation by division appears to be more in favour than by spores. The bacterium enlarges to a fair size (.0002 to .002), or something approaching that when it splits up in two, generally, and sometimes in to four parts. There are, of course, exceptions to this as to most things. A bacterium occasionally grows to great size, and separates into a large number of offspring. They multiply when conditions (heat and moisture) are favourable in a short period, at a rate which puts the horse-shoeing problem far in the rear. Some kinds are very energetic in their movements, others are very lazy, or at all events much less active. The healthy, energetic species are said to be the chief agency, causing fermentation, putrefaction, decay and decomposition, and turn it into nitrogenous matter such as ammonia. They seem to lurk in the healthy body awaiting for a weak spot to appear when they then proceed with the chief work set apart, viz., to crumble the structure into dissolution. The albuminous matter of animal and vegetable tissues is their favourite food.

There appears also to exist a very considerable number of kinds, and for all we know each has a name very many million times larger than itself. The one that most concerns the gardener is named *Proteus vulgaris*, for it is everywhere. It is like the "Old Man and the Scythe" waiting, always gnawing at the cords of life, to reduce everything into its elementary constituents. Theoretically, the animal digestion is the result of the micro-organisms. We are not aware if any attempt has been yet made to show that animal life itself is an aggregation of microbes! The above species is a motile one. It is, therefore, one of those which has the power of

motion. As already said it causes putrefaction, and there evidently its work ceases. Others come in to complete the chemical changes which supervene, such as the conversion of the albuminous matter into ammonia carbonate. Then it is not very clear whether it is *Proteus vulgaris* or some other species whose domain is cultivated soil, that converts the ammonia carbonate into nitrites and nitrates. This is the process known as nitrification of ammonia. It appears that one species of bacterium is not capable of performing more than one kind of work.

Investigations made by bacteriologists claim to show that one species has for its duties the conversion of ammonia into nitrites, and another into nitrates. If this is so, why, bacteria is a correlation of oxygen! Moreover, the soil bacteria can absorb nitrogen from the atmosphere. The knotty protuberances seen on many of the legume family are said to be caused by bacteria, and are believed to be receptacles for the fixing of ammonia.—*Oxygen.*

(To be continued.)

FERGUSLIE HOUSE, PAISLEY.

THE Coates, of Paisley, in Renfrewshire, are the best known family in that quarter, and their fame for munificent endowments is a well-known tale in most parts of the south and west of Scotland. The family have a number of small estates variously situated in proximity to the town itself. Their business as thread manufacturers is known not only in Paisley but over all the Kingdom and over all the Empire. Thousands of people are employed by the Coates, of Paisley.

Ferguslie House belongs to Mrs. Coates, and is a pleasantly situated, compactly built mansion, having distant views north and south. The Kilmalcolm Hills lie to the north, while on the east side is Paisley, to which very easy access is obtained. The gardens in attachment to the house are chiefly ornamental, that is, as opposed to the strictly utilitarian. The glass-houses are both good and numerous. And though the grounds are not greatly diversified, they are at the same time pleasantly laid out and nicely planted.

In the plant houses, on a recent visit to this place, the ordinary stock of bright flowering spring plants and forced bulbs was viewed in large amounts. The quantity of bulbs grown for flowering in pots is quite immense. Tulips of all sorts, Duc Van Thol, Keizer Kroon, White Pottebakker, Tournesol, and others are chiefly employed, and for early work these are universally favoured. Mr. McDonald, who is the head-gardener in charge at Ferguslie, requires to look to a plentiful, immediate supply, and to have successive batches, because of the demand on him for church decorative plants and flowers. Azalea mollis, Lilacs, and Lily of the Valley were in large amount.

Hydrangeas are cultivated to perfection. Chrysanthemums, as one might naturally expect, are grown by the thousand. A mere reference to names of varieties at this time would be instructive or interesting to very few. This much may be said, however, that whatever the varieties, the plants in their young state were very sturdy. Little and Ballantyne's strain of greenhouse Cinerarias is well represented by fine, dwarf, free-flowering plants. Japanese Maples for house decoration were seen in some amount. The pretty little Kerria, so seldom grown as a forced plant, had been thus employed by Mr. McDonald. Of Kalosanthus they have a finer lot at Ferguslie than any the writer ever saw elsewhere. Begonia manicata, of which a special note was made some time ago, is grown in exceedingly fine condition beneath the stages of an intermediate house. It forms a beautiful, natural fringe and screen to what would otherwise be an uninteresting void. Kalmia latifolia, a plant with curiously constructed flowers, was represented by good specimens. Zonal Pelargoniums are grown on into specimens. Richardia elliottiana made an excellent show, and was seen in fine condition. Malmaison Carnations, which are favourites everywhere, are likewise largely cultivated. All the best varieties are grown. The collection of scented-leaved Pelargoniums is very complete. We should like to see more full collections of such fine old-fashioned plants. Roses in 8-in. pots are quite a feature. The stout, green foliage and plump wood was evidence of proper treatment, from which fine blooms and plenty of them will be culled. In the large conservatory Spiraeas on tall pedestals, Cro-

cuses and other bulbs, greenhouse Rhododendrons, Curculigos, Livistonas, Phoenix rupicola, Cocos weddelliana, tree Ferns, and larger Palms, Ferns, &c., were gracefully arranged therein.

Orchids are a feature of the gardens here. Some fine pieces of *Oncidium altissimum* were throwing up tall spikes. The stages are covered with coconut fibre. *Cypripedium barbatum superbum* was also good. *Angraecum sesquipedale* was well shown, bearing a number of fine blooms. *Coelogyne cristata* was very fine; *Masdevallias* are also taken in hand and successfully treated.

Stove plants receive attention. *Anthurium scherzerianum*, *Tillandsias*, *Dasyllion Hookerii*, *Maranta albo-lineata*, *M. zebrina*, and others; *Codiaeums*, *Dracaenas*, *Pandanuses*, *Ananassa sativa variegata*, *Eucharis*, *Aralias*, and *Asparagus* in variety were all seen in very good condition. A large house is devoted to *Camellias* and *Clivias*, some of which are very fine.

Nothing but praise can be given to the fruit houses. The early vinery was just in flower at the time, and everything was promising grandly. Black Hamburg, Trebbiano, and the Syrian varieties are those grown. Figs do favourably. Peaches of the Violet Hâtive and Stirling Castle varieties were promising well for good crops. Everything in and out of the houses proved that care and attention are bestowed upon them. Around the house sloping lawns stretch, and these are belted with shrubberies.

In front of the house, but at a considerably lower level, there is a pretty little pond, which adds variety to the grounds. It says much for Mr. McDonald's skill that he is able to cultivate so well with an impure and smoke-laden atmosphere to contend against.

VISITS TO NURSERIES.

MESSRS. LAING & MATHER, KELSO.

THE firm of Messrs. Laing & Mather is one of the most energetic in the South of Scotland. As florists they are well known; as agricultural seedsmen better known. In their florists' trade Carnations are their forte. They grow, of course, all manner of other subjects—Conifers, flowering ornamental trees and shrubs, Roses, herbaceous plants, and conservatory stock. Everything is thoroughly well cultivated, and neatness and orderliness are the rule in every corner of their sunny nurseries. These grounds are well situated, open to sun and air, well drained, and conveniently sheltered. In the open ground Carnations occupy a good deal of space. They are arranged in beds, so many of one variety running backward in straight lines, according to name. None but the best are admitted in any quantity. A note was made of a few varieties, and the tabulation of these at this time may help those who wish to do immediate planting. There was Kelso Abbey, Dundas Scarlet, Mrs. Scott Kerr, Queen of the Yellows, Duchess of Fife, Ketton Rose, Uriah Pike, Primrose League, Mrs. Reynolds Hole, The Pasha, Redbraes, Lady Nina Balfour, Lady Tweedmouth, Mrs. R. V. Mather, Duchess of Westminster, Bessie Mather, Scarlet Clove, White Clove, Bendigo, and Crombie's Pink. The plants were strong and good, and the selection embraces nearly every desirable kind. There are great quantities of Carnations in frames.

MALMAISONS.—The Malmaison varieties in pots were marvellously fine. They included Lord Rosebery, Nell Gwynne, Prime Minister, Princess May, The Churchwarden, Trumpeter, Mrs. Martin Smith, Calypso, Sir Charles Freemantle, and others. Tree Carnations were also seen, but these in lesser amount.

Outdoor Coniferae are largely represented. The beautiful *Cupressus lawsoniana lutea* was typified by some splendid specimens. *C. l. Alumi* with its glaucous foliage and closely set branches, is also a favourite, and numerous grown. *Thuopsis dolabrata* in sturdy vigour; *Abies albertiana* for shrubberies and ornamental grounds; *Picea nordmanniana*, nice young pieces, 2 ft. and 3 ft. high; *Pinus excelsa*, of which there were beautiful types; *Cryptomerias* in variety; and *Hollies*, *Yews*, *Podocarpus*, *Junipers*, &c., are all grown by the firm. *Berberis Aquifolium* is extensively grown for the sake of its purple-leaved branches. The flowering shrubs in-

clude Rihes, Lilacs, Cornus, Deutzias, Diervillas, Prunuses, Genistas, Berheris, and other things.

Roses in all sections, hut particularly Tea Roses, thrive amazingly well in the good loamy soil. They are well attended to, and in their season they draw many visitors to admire them. We shall probably have more to say on the flowering subjects (the Carnations especially) when their flowering season arrives.

ROYAL GARDENERS' ORPHAN FUND.

ANNUAL DINNER.

THE annual dinner of this institution was held in the International Hall at the Monico, Piccadilly Circus, on the 8th inst., when about 120 sat down to dinner under the presidency of the Right Hon. Lord Battersea. Amongst those present were Messrs. N. N. Sherwood (the treasurer), Leonard G. Sutton, M. H. F. Sutton, William Marshall, James H. Veitch, J. G. Veitch, D. Pell-Smith, G. H. Richards, J. W. Moorman, Thos. Bevan, E. Ranger Johnson, W. Y. Baker, A. J. Baker, J. F. McLeod, S. T. Wright, Geo. Reynolds, W. J. Brewer, Ward, R. B. Gilson, F. Q. Lane, H. B. May (chairman of committee), W. E. Billney, H. Hlcks, R. Deane, Arnold Moss, J. Assbee, George Monro, T. A. Morris, H. E. Williams, P. Rudolph Barr, G. H. Barr, T. Rochford, Wm. Sherwood, E. Sherwood, P. C. M. Veitch, H. J. Cuthbert, H. J. Jones, G. H. Cuthbert, W. Cobb, G. J. Ingram, Glendinning, S. M. Segar, J. T. Anderson, G. Anderson, R. J. Day, R. Gifton Salmond, A. Turner, H. J. Wimssett, W. Nutting, J. Moss, G. Gordon, Bryan Wynne, C. H. Curtis, Cove, Horace Wright, A. S. Galt, T. G. Swales, J. Fraser, &c.

After the usual loyal toasts, which were heartily responded to, the Chairman introduced the subject of the evening "The Royal Gardeners' Orphan Fund." He said the cause had his sincere sympathy and respect. At the approach of the 20th century people were enjoying privileges that the people of olden times had no conception of, and the increased cultivation of flowers was one of them. In every city, town, and village, the cultivation of flowers went on increasing every year. He visited the Drill Hall meetings, the Temple Show, Covent Garden, and there also he saw the same elevating influences at work. He could observe everywhere a rising intelligence amongst the people. He advised those who cultivated flowers for themselves or for employers to take increased interest in the welfare of the Gardeners' Orphan Fund. It is true there is an older institution, the Gardeners' Royal Benevolent Institution, and it also served a useful but different purpose. There were many calls for similar or such institutions; and in the gathering that night he saw a vast concourse of men interested in plants and in the welfare of the Gardeners' Orphan Fund. He remembered that Lord Bacon laid aside the hurly-hurly of politics and active life to take refuge from their cares in a orchard. He himself (Lord Battersea) took the same pleasure in his garden. He was reminded by the flowers present that certain politicians of the present day took an interest in certain flowers. No names were mentioned, but the assembled diners took it for granted. Orchids, to-day, filled him with surprise. A friend of his had an Orchid, not from Birmingham, which he sold for 400 gs. to 500 gs. Those who spent so much money on flowers and Orchids might give more to such institutions as this. People in the country enjoyed their gardens, and had the privilege of conversing with their gardeners, who often knew more than their employers. It was good to study plants botanically and commercially. He himself was most attached to Roses, hardy herbaceous plants, &c. He had taken some trouble to get together a library of the old herbals and books on botany, and he was astonished at the prices they commanded. When he was a boy there was a system of gardening, namely, "bedding out," he could neither understand nor admire, but it is swept away. If one goes into the country to study gardens now, it is found that much broader views are taken. Men study gardening, ay, and women, too. He himself studied Greek and Latin lexicons to help him where he did not understand, as well as the lists of nurserymen who delighted in adding "iana" to their names in christening their new plants. In concluding he advised all to give the Gardeners' Orphan Fund increasing attention.

N. N. Sherwood, Esq., replied to the above toast,

and said that the Fund had been in existence thirteen years, and had accumulated £10,000, but he hoped to double it. Gardeners were well-educated but underpaid men, but he hoped more of them would become subscribers. They gave children 5s. a week and £13 kept one for a year. They did not spend money in building large and useless houses, and when over the age the children had some assistance in starting life on their own account. A little over a penny a week was not much for gardeners to lay aside so that they could give 5s. a year to the Fund. He advised gardeners to start subscriptions amongst their men. The children of noblemen might have a collecting box so that they might assist the Fund. They gave away £1,000 a year, but only received £350 in subscriptions. He referred to the loss the institution had suffered through the resignation of Mr. Wm. Marshall who had too great a distance to travel to London to the meetings. There were many funds this year, but he hoped they would not forget the Gardeners' Orphan Fund.

James H. Veitch, Esq., proposed "Gardeners and Gardening," and said that gardeners had to devote their whole working hours to the raising of flowers and vegetables, of which he was expected to keep up a supply all the year round. He referred also to the progress of horticulture during past years. Mr. R. Dean replied, stating that the subject was so comprehensive and ramified that he had no time to do it justice. There was an enormous amount of interest attaching to gardening, and gave a number of instances, alluding to the work done by Mr. J. W. Moorman, of Victoria Park; Mr. Jordan, of Regent's Park; and Mr. Brown, of Hyde Park. The duty of a gardener is not only to cultivate but to improve plants, and he hoped that gardening would be more successful in the future than it had been in the past.

Mr. Herbert Schartau, who had charge of the musical entertainments, gave a very amusing sketch of the amateur and his troubles in gardening, being a clever parody on R. Kipling's style.

Mr. B. Wynne, said that the subscription list had greatly exceeded his expectations. The chairman had given £25; Messrs. Rothschild & Sons, 50 gs.; N. N. Sherwood, Esq., £50; Messrs. J. Assbee, J. Rochford, T. Rochford, G. Monro and other Covent Garden men, £75 15s.; Messrs. Barr & Sons, £28 16s. 6d.; Martin H. Sutton, £25; Leonard G. Sutton, £25; Sir Trevor Lawrence Bart., Baron Schroder and H. J. Veitch, each 10 gs.; R. Dean, 15 gs.; Thames Bank Iron Co. and Mr. G. Reynolds, each 7 gs.; Messrs. R. G. Cuthbert, Dicksons (Chester), H. B. May, and Protheroe & Morris, each 5 gs. Other sums made the total up to £595.

Mr. H. B. May proposed "The Chairman," and said he had one of the finest gardens in the kingdom. The chairman was grateful that the list of subscriptions had been so great a success. He wished to become a member of the association. Mr. B. Wynne replied and thanked the chairman for the acknowledgment of his services, and said that last year's list was only £620, being a little higher than the present one.

Mr. William Marshall proposed "The Press," which had helped them so freely and readily. Mr. George Gordon replied in suitable terms.

BARR'S DAFFODILS.

(Continued from p. 556).

THOUGH the Narcissi are now past their hey-day of beauty, the Nelsoni varieties, also some of the Silver-star Narcissi, and numerous varieties of Jonquils are yet aglow in their splendour. N. Nelsoni anrantius and N. N. pulchellus are two of the finest in their section. The former has a well expanded orange-red cup, and broad white perianth. Mrs. E. G. Knight, which is one of the newer ones, is certainly a splendid variety. The perianth is broad and pure white; the cup, clear yellow.

Then there is that fine Burhidgei variety, John Bain, with a citron cup, a very handsome flower. The perianth is broad and of good substance. N. M. J. Berkeley is a general favourite. It, with Maximus and obvallaris, form a trio of the best large yellow Daffodils we have. N. Ada Brook is also exceedingly good, although it will not bear comparison with Empress. It can still be a good Daffodil without rivaling the well known Empress. N. grandis is later than Empress and has a somewhat paler trumpet. It is one of the dwarfest of the

hicolors. N. Countess of Annesley, one of the earliest, has a large pale yellow trumpet, and a finely expanded perianth.

We have not yet referred to the double Daffodils, the old favourites of rural gardens, where little else than themselves and Crocuses and Snowdrops are grown in springtime. They are well liked yet by our older aunties and uncles who take their recreation from gardening.

The "Butter and Eggs" (N. incomparabilis plenus), the "Eggs and Bacon" (N. i. Orange Phoenix), and the "Codlins and Cream" (N. i. Sulphur Phoenix), with the commoner *Telamonius plenus*, were all seen at Long Ditton in great array.

Not less pleasing, in fact for grace and beauty they are more so, are the Cyclamen-flowered Narcissi, the *Triandrus* section. Those who love and grow Narcissi most, prefer to have a potful or two of these exceedingly pretty varieties. N. *triandrus albus*, popularly titled "Angel's Tears," captivates the least enthusiastic admirer of flowers. The flowers are white having a beautifully reflexed perianth, by which they are likened to Cyclamen. When good hulhs of N. t. *calathinus* are obtained and are properly potted up, they furnish a subject equally as elegant as *triandrus albus*. N. t. *pulchellus* might also be more largely grown. These valuable varieties were collected by Mr. Peter Barr himself, in mountainous parts of Spain. They grow in hard, gritty soils, and sometimes in fissures of the rocks. N. *odorus* and others of the *Campernelle* section, are now regarded as indispensable for pot work. In the grass, or under clumps of trees, they very speedily establish themselves, and certainly present a beautiful composition. N. *odorus* (the *Campernelle*), and the tree N. o. *rugulosus* throw up tall stalks crowned with the deepest of yellow, fragrant flowers. The following lists enumerate varieties which are particularly suitable, though not exclusively so, for culture as per headings:—

FOR POTS.

Narcissus maximus, *Barrii conspicuus*, *poeticus ornatus*, *Horsefieldii*, C. J. Backhouse, *odorus*, *amabilis*, Frank Miles, *Duchess of Westminster*, *triandrus albus*, *triandrus calathinus*, *princeps*, *Johnstoni* Queen of Spain, *obvallaris*, and *Countess of Annesley*.

FOR BEDS.

N. *Emperor*, *Empress*, *Horsefieldii*, Sir Watkin, *maximus*, *Golden Spur*, *grandis*, J. B. M. Camm, *Ard Righ*, *Barrii conspicuus*, *pallidus praecox*, M. J. Berkeley.

FOR PLANTING IN GRASS.

N. *obvallaris*, *cabeceiras*, *princeps*, Sir Watkin, *Empress*, *Emperor*, *Horsefieldii*, *Telamonius plenus*, *poeticus ornatus*, C. J. Backhouse, *Barrii conspicuus*, *odorus rugulosus*, *Stella*, *Minnie Hume*, *Maurice Vilmorin*, *Cynosure*, and *Frank Miles*.

FOR THE ROCK-GARDEN.

N. *cernuus pulcher*, *moschatus*, *muticus*, *Queen of Spain*, *poeticus ornatus*, *poeticus poetarum*, *triandrus calathinus*.

GARDENING MISCELLANY.

FORSYTHIAS.

Now that these very handsome and beautiful spring flowering shrubs are past flower they should have this year's flowering wood pruned hard back. Strong shoots for next year's flower display will then start up.

THRYSACANTHUS RUTILANS.

THIS beautiful stove flowering plant or sub-shrub is so handsome and ornamental when well grown that it certainly is a thing to be wondered at, why it has not found its way into many more gardens than is the case. The flowers are of a bright ruby-crimson colour, tubular, velvety in appearance, borne on short stalks on a drooping axis, which forms a long raceme from the axil of a leaf. Many racemes may be seen on one plant. The plant itself attains 1½ ft. to 2 ft. in height, and bears oblong lanceolate leaves which are shining and dark green. It can be propagated by cuttings or by seeds. A warm house is what it needs. Flowering as it does at this time it should secure all the greater appreciation.

PHOTINIA SERRULATA.

At a recent meeting of the Royal Horticultural Society, Mr. Joseph Pitt, gardener to F. W. Campion, Esq., Trumpets Hill, Reigate, exhibited a bunch of flowering shoots of *Photinia serrulata* taken from a fine bush about eighty years old, being one of the original plants imported from China. The primary introduction was in 1804. It is grown against a south-west aspect wall and never receives any protection, yet it produces about 2,000 cymes of its white, Hawthorn-scented flowers in April and May. The unopened buds are reddish, and the expanding leaves are equally handsome in their way, being of a beautiful mahogany red. The soil and climate of Reigate must be very favourable to its welfare, for in many gardens it is liable to be injured by severe frosts, so that the younger portions of the shoots get more or less killed back. The plant under notice must be a striking exception, and this would seem to indicate that old and well established plants ripen their wood better and so escape injury. Such a wealth of blossom as 2,000 trusses must be handsome.

CHIONODOXA LUCILIAE WITH FOURTEEN FLOWERS.

As a rule four to six or eight flowers on a scape of *Chionodoxa Luciliae* are considered ample and satisfactory. Some four plants came up as seedlings in different parts of the garden at Twyford Abbey, near Ealing, Middlesex. All were of exceptional vigour and two of them carried fourteen flowers each on a scape, the blooms being of large size and certainly handsome. If this character proves to be constant the seedlings will be worthy of perpetuation under a varietal name. We trust that Mr. Duncan, the gardener, will keep his eye upon them and give them every chance of showing their true character and value for garden decoration.

THE FIMBRIATED CYCLAMEN.

COMING so suddenly, and with such perfect leaf fimbriation as the plants recently shown by the St. George's Nursery Co., Hanwell, bore, it is no matter for surprise that their debut has elicited some amount of later reference and moralising. They are distinct. Both flowers and leaves are fimbriated, the leaves particularly so. Tortuous and sinuous, deeply incised and doubly notched, some of the leaves were like bunches of moss, so crimped were they. And one may suppose that regard for this new strain of *Cyclamen* would be appreciated or rejected, according as we viewed them from various points of view. For the sake of variety, for the field of probability they open up, and for the sake of the commercial aspects of *Cyclamen* in general, we welcome them.

DIERVILLA FLORIDA.

THE *Diervillas* or *Weigelas* as they are often called can oftener be seen in our shrubberies than in our greenhouses. Nevertheless, just as so many more of our lovely hardy shrubs make beautiful pot plants and take on a new elegance with their more refined conditions of growth, so with *Diervilla florida*. One can tend more minutely to the culture of pot shrubs than ever can be the case with those out in the open. This *Diervilla* which can be had in flower in any greenhouse at this time, yields us a colour (pink-rose) of flower, not at all abundant in any other race of spring-flowering plants. It also is exceedingly handsome. Young plants from the open ground trained, pruned and otherwise attended to, furnish nice plants in a short period, and it would be worth the while for gardeners to buy it by way of change.

SOCIETIES.**ROYAL HORTICULTURAL.—May 8th.**

ORCHIDS were very well represented at the Drill Hall on Tuesday last. Hardy flowers were also very abundant, including collections of Tulips, Parrot Tulips, Polyanthus, Irises, Daffodils in all the late species, varieties and strains, Azaleas, hardy flowering trees and shrubs, hardy herbaceous plants, and many other subjects.

Messrs. James Veitch & Sons, Ltd., King's Road, Chelsea, exhibited a very large and choice collection of Orchids, prominent amongst which were fine masses and little groups of the pretty *Oncidium pulchellum*, *Laelia Latona*, *Cattleya Schroderae* in great variety, *C. Mendelii*, *Cymbidium lowianum*, *Onci-*

dium phymatochilum, *O. concolor*, and others that made fine masses of colour. Choice and very interesting were such things as *Miltonia Phalaenopsis*, *Bifrenaria Harrisoniae*, *Chysis langleyensis*, *Zygocloax Veitchi*, *Epiphronitis Veitchi*, *Laeliocattleya G. S. Ball*, *Lc. Zephyra*, *Lc. highburyensis*, and many others. The *Cattleyas*, *Laelias*, *Laeliocattleyas*, and *Cypripediums* had certainly a bold and fine effect. They were backed with Palms, and interspersed with Maidenhair Ferns. (Gold Medal.)

Leopold de Rothschild, Esq. (gardener, Mr. George Reynolds), Gunnersbury Park, Acton, set up a splendid group of *Vanda teres*. The plants were arranged round three sides of a square, and backed up with *Cocos plumosa*, and *Dracaenas*. In the centre a few of the dwarf specimens were dotted about on a carpet of Maidenhair Ferns, interspersed also with *Cocos weddelliana*. The largest box contained a splendid mass of plants, beautifully flowered, many of the dwarf pieces carrying flowers so low down as 18 in. from the soil. (Gold Medal.)

H. T. Pitt, Esq. (gardener, Mr. Thurgood), Rosslyn, Stamford Hill, set up a very showy group of Orchids, including *Odontoglossum crispum pittianum*, *O. wilckeanum Pittiae*, and numerous other choice forms of *Odontoglossums*. *Oncidium sarcodes*, *O. ampliatum*, and *Laelia purpurata* were also conspicuous. *Miltonia Roezlii*, *M. R. alba*, *Oncidium concolor*, and others added considerably to the interest of the whole. (Silver Flora Medal.)

Col. Shipway (gardener, Mr. W. Walters), Grove House, Chiswick, exhibited a group of well-flowered *Cattleya Mendelii* in variety, augmented with *Laelia purpurata*, *Dendrobium Pierardi*, *Epidendrum rhizophorum*, and other subjects set up with Ferns. (Silver Banksian Medal.)

L'Horticole Coloniale, Brussels, Belgium (general director, M. Lucien Linden), exhibited a group of choice new varieties, including *Miltonia vexillaria Memoria Lindenii*, *Odontoglossum crispum rodigasianum*, *O. c. Magister*, *O. c. tessellatum*, *O. Adrianae* var., *O. zebrinum*, *O. crispo-triumphans*, *O. Pescatorei* var. *Empress Frederic*, and some other well-shaped flowers, often richly blotched. (Silver Flora Medal.)

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited *Cattleya Schroderae* albens, *C. Mossiae* Edgar, and another fine variety of it; also *Laelia boothiana*, *L. purpurata* Ethel Grey, with white sepals and petals and a dark purple lip.

Brassia Cannoni, in fine form, was exhibited by Messrs. F. Sander & Co., St. Albans. C. Bovill, Esq., Grove Park, Chiswick, exhibited a fine variety of *Dendrobium nobile*. W. M. Appleton, Esq. (gardener, Mr. J. Brooks), Tyn-y-Coed, Weston-super-Mare, staged a very pretty hybrid, named *Cypripedium Vipani*; also *C. Phoebe*.

Messrs. J. Veitch & Sons staged the showy, new bigeneric hybrid, named *Laeliocattleya hyeana*. Rev. Frank W. Mason, The Firs, Warwick, exhibited *Cattleya Mendelii*. J. Coleman, Esq., (gardener, Mr. P. Bound), Gatton Park, Reigate, exhibited two showy baskets of Orchids, tastefully arranged.

De B. Crawshaw, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, exhibited a very pretty and choice yellow *Odontoglossum crispum*, named *O. c. aureum rosefieldense*. R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), Cambridge Lodge, Flodden Road, Camberwell, staged *Masdevallia obrieniana*. F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, showed *Cattleya Schroderae*, and *Dendrobium nobile Farmeri*. A. H. Smee, Esq., (gardener, Mr. W. Humphreys), The Grange, Hackbridge, exhibited the strangely peculiar *Epidendrum vesicatum*.

Messrs. John Laing & Sons, Forest Hill, London, arranged a massive and effective group of greenhouse flowering plants, consisting, for the main part, of *Mollis Azaleas*, *Viburnum plicatum* and *V. Opulus*, tree *Paeonies*, Japanese *Azalea* named *Yodogama*, of a beautiful lilac-purple colour. They also showed Maples, Lilacs, *Cytisus*, and *Euonymuses*. They had one or two new *Yuccas*, which, for grace and high colouring, ought to stand popular in sub-tropical bedding. These are *Y. gloriosa argentea*, *G. pendula variegata*, and *G. p. aurea*. (Silver Banksian Medal.)

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, were again very strong in their exhibition of

alpine and cut hardy flowers. Among the numerous pretty plants on view, and which were greatly admired, were: *Gentiana verna*, that gem of the rockery; *Phlox setacea compacta*, *Dodocatheon splendidum*, *Ramondia pyrenalca*, *Aquilegia Stuartii*, *Morisia hypogaea*, *Cypripedium pubescens*, *Daphne Cneorum major*, *Chrysogonum virginicum*, and many other things. *Clematis Princess of Wales*, a lovely deep lavender variety, with flowers of large size, and finely formed flowers with slant overlapping petals. An admirable stand. (Silver Banksian Medal.)

Messrs. Wm. Cutbush & Son, Highgate, London, N., showed seedling Ghent *Azaleas*, *Erica ventricosa magnifica*, *Epiphyllum Gartnerii*, *E. v. coccinea minor*, *E. erecta*, *Calla elliottiana*, double Lilac *Mdme Lemoine*, together with *Boronia elatior*, Maples, Palms, and Maidenhair Ferns. (Silver Flora Medal.)

Messrs. Carter & Co., High Holborn, London, again showed *Cinerarias*, this time a beautiful collection of *Cruenta* hybrids. These hybrids seem to touch on all rare shades of colour, and then for gracefulness of form and beauty of flower head what is there lovelier in our houses at the present time?

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, attracted lovers of hardy alpine by their collection of these, which they effectively arranged. Also in great conspicuousness were a fine array of the much-talked-of *Iris susiana*. The blooms on this table were remarkably handsome. Some of the other more notable plants were *Anemone sulphurea*, *Aster alpinus speciosus*, *Dodocatheon splendidum*, *Arabis albida* fl. pl., *Gentiana verna*, *Phlox procumbens*, *Viola pedata bicolor*, *Iris verna*, and other things. Saxifragas were numerous, and all on the table were particularly good. The *Iris* blooms especially prove that the Feltham firm have mastered the secrets of its culture. (Silver Flora Medal.)

Mr. Amos Perry, Winchmore Hill, London, N., made a splendid exhibit with hardy plants and cut flowers, a class of garden subjects he is a specialist in. His *Trollius europeus*, *Geum Heldreichii*, of a cochineal-orange hue, *Dodocatheon Media*, *Iris pumila* "Blue Beard," *Phlox setacea Edina*, pale lavender, *Viola pedata bicolor*, a sweet and not common variety, *Arabis albida plena*, some fine flowering shoots, *Polemonium Richardsonii*, *Doronicum magnificum*, *Euphorbia polycroma*, and numerous vases of Tulips were all seen in perfection. Various hardy ornamental grasses were likewise shown. (Silver Gilt Flora Medal.)

Mr. M. Pritchard, Christ Church, Hants, arranged a like-exhibit to the above. This was also of as good quality as it was representative in its character. *Eomecon chionantha*, *Phlox canadensis*, *Geum Ewani*, *Phlox The Bride*, a pure white one, *Iris lutescens statellix*, a very fine pale creamy variety; *I. pumila azurea*, *Anemone fulgens*, a strikingly fine and brilliant form; *Camassias*, *Leucojums*, *Saxifraga peltata*, and other things were included in this fine exhibit. (Bronze Banksian Medal.)

Messrs. Laxton Bros., Novelty Raisers, Bedford, showed an improved Strawberry named "St. Antoine de padogue," resulting from a cross between St. Joseph, now so well known, and Royal Sovereign. This new French variety is moderately large in fruit, continuous in its bearing qualities, of a beautiful rich crimson colour, and a r flavour. It is a decided acquisition combining as it does the merits of two first water Strawberries.

The Marquis of Salisbury (gardener, Mr. G. Norman), Hatfield, showed two boxfuls of Strawberry Royal Sovereign, magnificent fruits, of enormous size, grand colour, and most tempting flavour.

Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, set up cut Rose blooms, *Mdme. Cusin*, *Innocente Pirola*, *Mdme Watteville*, *Marechal Niel*, *Comptes de Nadaillac*, and numerous sprays of the *Polyantha* and *Brier* Roses.

Messrs. Hogg & Robertson, 22, Mary St., Dublin, arranged an immense collection of cut Tulips, single varieties and others of the Parrot-flowered section. *Duchess de Parma*, *Yellow Prince*, *Duc de Malakoff*, *La Dorei*, *Proserpine*, *Moucheron*, *Silver Standard*, *Paul Morcelse*, *Admiral Reyneir*, *David Fennier*, and then among Darwin Tulips we have *Sulian*, *Henner*, *Mr. W. Roberts*, *Mr. G. F. Wilson*, and *Cluck*, mostly dark maroons and crimsons. The firm received Awards of Merit for two new varieties. (Silver Gilt Banksian Medal.)

The Duke of Northumberland (gardener, Mr. George Wythes, V.M.H.) set up a magnificent collection of sixty dishes of early vegetables. The table upheld fine samples of The Lyon Leek, Veitch's Maincrop Cabbage, Sutton's Dwarf White Broccoli, Syon House Prolific Potato, a splendid variety, late Purple Sprouting, Market Favourite Cucumber, Early Large Red Tomato, Victoria Imperial Round Spinnach, Seakale, Asparagus, Kidney Beans, Carrots, Onions, Peas, Turnips, young Potatoes, Radishes, Parsley, and other things. The collection was the more commendable after such a season, with its paucity of rain and its fluctuating temperature. (Silver Gilt Knightian Medal.)

Messrs. F. Sander & Co., St. Albans, received a First-class Certificate for a white leaved variety of Asparagus Sprengeri. This is a most remarkable new form.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, made an exceedingly interesting exhibit of flowering shrub shoots. Some of the finer of these were *Pyrus halleana*, *Pyrus japonica*, *P. imperialis*, *P. florihunda* (large fruited variety), *P. spectabilis rosea* fl. pl., *Berberis dulcis*, *Spiraea prunifolia* fl. pl., *Elaeagnus edulis*, *Kerria japonica*, *Ribes aureum*, *Pyrus Malus atro-sanguineum*, a very lovely form of it, and with these there were some very fine bright foliaged shrubs such as *Acer Nizetti*, *A. Pseudoplatanus lutescens* and *Spiraea opulifolia aurea*. Messrs. Cheal also showed two new free flowering and growing *Pyruses*. *P. niedivitzkiana* is one of these new varieties, having large ruby-pink flowers and purple wood and foliage which add great merit to it; the other is *P. Malus kaido* large flowered, free in growth and of a soft sweet rosy-pink and silver. (Silver Flora Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, London, gave us a feast in Darwin and single and double Tulips, Narcissi, Irises, and other hardy cut flowers. Among the Darwin Tulips, The Sultan, Peter Barr, Gipsy Queen, Violet Queen, Purple King, Coridon, were fine. Maurice Vilmorin, Flora Wilson, Cernuus Pulcher, Falstaff, Stella superba, Frank Miles, Hon. Mrs. Barton, Ray Smith, Gloria Mundi, Madge Matthews, William Goldring, Mdme. de Graaff, Red Star were good varieties of Narcissi, while of single and double Tulips there was a fine host to choose from. (Silver Gilt Banksian Medal.)

Messrs. J. Veitch & Sons, Ltd., The Royal Exotic Nurseries, Chelsea, set up a beautiful group of hybrid mollis Azaleas, Hydrangea Mariesii and Maples, the former showing marked improvement. Monsieur Desbois is a fine variety of the "Hybrid mollis," Byron, a double-flowered white form; Dulcinii, a deep orange variety, and others were of first-rate quality and beauty. (Silver Flora Medal.)

The Earl of Camperdown (gardener, Mr. M. Masterson), Weston House, Shipton-on-Stour, received a Silver Knightian Medal for a small but fine collection of fruits. The Apples Blenheim Pippin, Allen's Everlasting, Nutmeg Pippin, and the stewing Pear, Uvedale's St. Germain, of which there were two dishes of monster fruits.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had one of the finest tables of cut flowers of any staged in the hall. Irises were a particularly strong feature. Tulips and Narcissi were likewise in varied amount, and all were of the very best quality in colour, size, form, and substance. The Spanish Irises Jupiter, Chrysolora, Thunderbolt, Snowball, and Baron de Humboldt were exceedingly sweet. Narcissus Agnes Barr, N. grandis, new and fine, Barrii conspicuus, and many of the Polyanthus section were liberally displayed. Tulips, early singles, doubles, and Darwins were as fine as any we ever see either in the Drill Hall or elsewhere. (Silver Flora Medal.)

Messrs. J. James & Son, Farnham Royal, showed some beautiful gold-laced Polyanthus.

Mr. Knowles, Woking, set up a basket of Daphne Cneorum, well-flowered plants.

Miss Jekyll, V.M.H., received a Bronze Banksian Medal for two beautiful baskets of Polyanthus and Primroses, mostly shades of yellow and white.

Messrs. R. Veitch & Son, Exeter, showed a number of Himalayan hybrid Rhododendrons, and of which the finest was Coombe Royal, a variety with large flowers of a white colour, faintly suffused with soft pink and speckled on the upper petals with purple spots.

ROYAL CALEDONIAN.—May 2nd.

ACCORDING to their arrangements (which we previously referred to) the Council of the Royal Caledonian Horticultural Society held the first of their smaller exhibitions on Wednesday, May 2nd, in Dowell's Rooms, George Street, Edinburgh.

The result of this inauguration has been most satisfactory. The society in this connection has taken a leaf from the rules of the Royal Horticultural Society of England, for a lecture on "Primroses and their Allies" was delivered during the afternoon by Mr. R. Lindsay, late of the Royal Botanic Gardens, Edinburgh. This adjunct was well devised. The continuance of these extra shows wholly depends on the public encouragement they receive. The gardeners and nurserymen themselves are sure to provide a pretty selection of whatever is in season, and it behoves the society to do its utmost to establish these meetings as concrete features of the year's business. In time we should hope to know of monthly exhibitions and lectures. The trade and gardening generally would surely receive much stimulus thereby, and Scottish horticulture and the votaries thereof would be bonded together as a more evident power.

Mr. Robt. Lindsay had about forty species and varieties of Primulas to illustrate his lecture. Exhibits of Polyanthus and Primulas, including twelve varieties of doubles, were set up by Mr. Robert M. Reid, Ashiestiel, Galashiels.

Messrs. R. B. Laird & Sons, Ltd., arranged a group of Caladiums, most of them seedlings of their own, and a number of new zonal Pelargoniums.

Mr. John Downie, Beech-hill Nursery, Murrayfield, exhibited a group principally of Ericas, and new exotic Ferns. Bougainvilleas, Ferns, &c., were also set up.

Messrs. W. Gordon & Sons, Coltbridge Nursery, Murrayfield, had on view a fine collection of Primulas and alpine.

Mr. C. W. Cowan, Valleyfield, Penicuik, sent up an exceedingly fine exhibit of Narcissus. The varieties were all good, as Glory of Leiden, J. B. M. Camm, Mdme. de Graaff, Mdme. Plomp, Monarch, and Mabel Cowan.

Messrs. Thos. Methven & Sons, Warriston Nursery, had a fine display of Rhododendrons from the open ground.

Messrs. Storrie & Storrie, Nurserymen, Dundee, had on view a basket of Borecole, which they name Invincible Albino. It seems to be an ornamental variety.

Mr. R. P. Brotherston, gardener to the Earl of Haddington, Tynningham, Prestonkirk, staged a collection of forty dishes of Apples, truly a wonderful exhibit from a private garden so far north. Hoary Morning, Bess Pool, Paradise Pippin, and Beauty of Kent were included in the collection.

The Messrs. Glass put up more than 100 varieties of cut Narcissi blooms. Victoria, Glory of Leiden, Katherine Spurrell, General Murray, and others were shown.

Mr. Alex. MacMillan, Trinity Cottage, exhibited a fine lot of his seedling Rhododendrons, about which THE GARDENING WORLD has had recent notices.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. R. Thatcher, Lockinge Gardens, Wantage, Berks., for his article on "Forcing Iris," p. 565.

QUESTIONS AND ANSWERS.

Scirpus setaceus.—E. C. H. D.: In the edition of "The Student's Flora of the British Islands,"

which you mention, you will find the plant recorded at the bottom of p. 398, under the generic name of *Isolepis*. At p. 400 you will find it described under the name of *Isolepis setacea*. Strangely enough the name does not occur in the index at all. We rarely look at the index, the natural order of arrangement being a sufficient guide for us in finding the order and page without consulting the index. This is the reason why we did not previously discover the omission of the name in the alphabetical list.

Species of Erica in Cultivation.—E. C. H. D.: Something like 381 species of Erica, including a few hybrids are recorded as having been introduced to this country; but whether all these are in cultivation at the present day is quite another question. It is more than probable that the greater portion of them have been lost to cultivation, while a few may linger here and there in isolated gardens, the largest collections most likely being in botanic gardens. For exhibition purposes they have all but disappeared, so that only those remain which are found to be useful for greenhouse decorations, &c., in winter and spring.

Climbing Roses for Arches in Exposed Position.—D. W. D.: Some of the Ayrshire Roses should answer your purpose, as they are hardy and of rapid growth though the flowers are only single. Some of the best are Bennett's Seedling, Queen of Ayrshires, Queen of Belgians, and Dundee Rambler. The double forms of *Rosa multiflora* should also prove hardy with you. The flowers are of various colours, such as white, blush, pink, rose and similar light shades, but they are produced in great abundance over a considerable period and are very showy though of small size. There are now many varieties of bunch or Nolsette Roses, which belong to *R. multiflora* and which we think would prove hardy with you. The difficulty, we think, with you is that the summer is too short and too cool to ripen the wood properly, otherwise they would stand the winter and flower freely. You might also try the common Honeysuckle also the late Red and Dutch Honeysuckle. *Forsythia suspensa* is very hardy and ought to do well with you. *Jasminum officinale* ought to succeed, and *J. revolutum* we have seen growing very vigorously on a south aspect wall in the far north.

Names of Plants.—Botan.: *Narcissus cernuus plenus*, or the old Double White Trumpet Daffodil. It is now very scarce and valuable.—E. C. H. D.: 1, *Erica carnea*; 2, *Helianthemum polifolium* (you might say where this was found).—*Philomathus*: 1, *Boronia heterophylla*; 2, *Pyrus elaeagnifolia*, sometimes called *P. salicifolia*, in parks and gardens.—A. M.: 1, *Phlox amoena*; 2, *Alyssum saxatile*; 3, *Iberis tenoreana*; 4, *Spiraea prunifolia flore pleno*.—R. M.: 1, *Pyrus Malus floribunda*; 2, *Amelanchier canadensis*; 3, *Berberis stenophylla*; 3, *Ribes aureum*; 4, *Veronica hulkeana*; 5, *Clematis azurea*.—A. C.: 1, *Potentilla Fragariastrum*; 2, *Vinca major variegata*; 3, *Pulmonaria officinalis*; 4, *Pulmonaria saccharata* var.; 5, *Euphorbia Cyparissias*; 6, *Omphalodes verna*.—A. G. B.: 1, *Pyrus Maulei*; 2, *Gentiana acaulis*; 3, *Myosotis sylvatica*.—R. W. G.: 1, *Dendrobium devonianum*; 2, *Odontoglossum wilckeanum*; 3, *Maxillaria luteo-purpurea*; 4, *Oncidium sarcodes*; 5, *Miltonia flava*.—D. R.: 1, *Hutchinsia alpina*; 2, *Phlox subulata*.

Communications Received.—A. D. Webster.—R. Dean.—Mrs. Keane.—D. W. D. (your other question next week).—A. W.—D. C.—H. J.—A. L.—W. W. G.—J. Day.—R. H.—W. B. G.

THE GARDENING WORLD.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MAY 19th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 22nd.—Kew Guild Dinner at Holborn Restaurant. Paris Exhibition (temporary show).
WEDNESDAY, May 23rd.—Royal Horticultural Society's Show in Temple Gardens, London (3 days). York Florists' Exhibition. Devon County Agricultural Society's Show at Barnstaple (3 days).
THURSDAY, May 24th.—Linnean Society (Anniversary Meeting).
FRIDAY, May 25th.—International Congress of Horticulture and Arboriculture at Paris Exhibition (2 days).

DOVER HOUSE, ROEHAMPTON, SURREY.—Though within the municipal county of London, Dover House, the English residence of J. P. Morgan, Esq., enjoys the quietude of a strictly rural estate. On the one hand it abuts on Putney Heath, while in another direction it touches on the village of Roehampton, a small part of which it includes. Two houses and a piece of ground were recently purchased to rectify the outline of the estate. Putney Park Lane is another boundary, and the open space of Putney Park itself bounds the fourth side of the square. The many large trees on the estate are some indication of its antiquity; and include umbrageous specimens of American and other Oaks, Elms, Sweet Chestnuts, Limes, Horse Chestnuts, Sycamores, Black and Lombardy Poplars, now in the exquisite beauty of the spring leafage of many charming tints and shades of green. Even on the edge of Putney Heath are some fine trees, including male and at least one female tree of the Black Poplar of large size. The latter is already covered with dark green leaves, and a little later on it will smother the pleasure grounds with the cottony down of its scattering seeds. The male trees are later in leafing, but are now hanging out their tender leaves, tinted with amber and gold.

On the pleasure grounds by the mansion is a magnificent Purple Beech, one of the finest in the country. The same may be said of a specimen of the Judas tree, 25 ft. to 30 ft. high, and as much in the spread of its branches. It stands clear of any protection whatever, yet is healthy and simply laden all over with deep purple flowers on the point of expansion. All these tall, umbrageous trees shelter, seclude and adorn the place.

Arriving on the estate the other day we called upon the gardener, Mr. J. F. McLeod and passed through the extensive ranges of fruit and plant houses, at present all in full working order. The first house entered was the Black Hamburg viney, the bunches and berries of which are barely half-grown. About eighty bunches had recently been removed, yet the Vines bore a heavy and evenly distributed crop. The borders are both outside and inside. A house of Peaches was started in November and the fruits are now fast swelling after having finished stoning some time ago. On

the back wall are heavy wreaths of *Asparagus plumosus*, very serviceable as a substitute for Fern fronds. *A. retrofractus arboreus* has its needle-like branches arranged in tufts, reminding one of miniature branches of the Scotch Pine. A tree each of Elruge and Pineapple Nectarines occupy a house, and worthily too, for the first-named carries a splendid crop of some 480 fruits. Two vineries came next in order, one of them filled with Lady Downes, Gros Maroc, Mrs. Pince, Gros Colman, and Appley Towers; this being the latest house, the Vines are only now in flower. There are two sets of Vines in the Muscat house, those intended as the permanent set along the front being in their first year of bearing. Temporary Vines are in pots, plunged in the bed, the rods being taken up the higher portion of the roof glass. There is a fine batch of *Lilium longiflorum* eximium approaching the flowering stage and distinguished from L. l. Harrisii by having shorter flowers, later in blooming, and being incapable of or unsuitable for early forcing. The plants are of vigorous though dwarf growth.

A large Palm house has recently been built and filled with a variety of Palms, including Kentias, Phoenix, and Cocos, some of the first named being tall and stately plants. They are much used for the decoration of the London house when the family is residing there. These Palms are stood upon the ground, but along the sides are stages occupied with Crotons, Dracaenas, Caladiums, and other stove plants in variety.

The Fig house has one large tree of Brown Turkey Fig along the front, two along the back, and some smaller specimens in pots. The first crop was an enormous one, but has mostly been gathered, and the trees are now swelling up their second crop. Some *Cypripediums* occupy the benches beneath. Close by is the earliest vinery filled with plants in pots plunged in the beds. Along the back of this house is an enclosed space beneath a very high bench, and very useful either for resting plants or forcing vegetables in winter. Cucumbers are in bearing in another house, and upon the benches along the back are newly-imported batches of *Cattleya labiata* and *Dendrobium wardianum*.

Behind a wall and in another part of the grounds are more fruit houses. Pineapple Nectarines occupy one of them, while Strawberry Royal Sovereign is ripening its fruits in another. This variety is the only one grown at Dover House for the purpose of forcing. On the stages beneath are large batches of Gloxinias, well advanced, and Cannas also in pots. The Tomato house contains a batch of Tomato Sutton's Earliest of All, in pots, carrying a heavy crop of fruits, now commencing to ripen. It is the best for setting in winter when light is bad. One side of the house is devoted to planted-out batches of such varieties as Earliest of All, Duke of York, Perfection, Hackwood Park, and Imperial, intended as a succession to the first variety named. More Strawberries are ripening in this house, as they are in the Melon house, where the fruits of the latter are about the size of a turkey's egg, and abundant. The most is made of the houses, and here a fine batch of *Hydrangea paniculata grandiflora* was just being started, though another batch elsewhere is now showing the flower buds. In another division of the garden, largely devoted to fruit culture, both under glass and in the open air, are 350 ft. run of glass, including a large Peach house in three divisions and some Peach cases. In the latter there is a good set of Peaches and Nectarines, while cordon Pears are also well set along the front against the

glass. In the large house are many fine trees, some of them being of great size. Dymond, Condor, Grosse Mignonne, Buckinghamshire Mignonne, Rivers' Early York, Prince and Princess of Wales bear heavy crops. Most of the trees monopolise the light along the front, but in one of the divisions, at least, the back wall is occupied as well. Amongst Nectarines is a large tree of *Precoces de Crousel*, never a good cropper and only of average flavour. Lord Napier and Pineapple Nectarines, on the contrary, give every satisfaction.

The plant houses are also numerous and contain a considerable variety of interesting subjects, some of which have already been mentioned, especially those that have to be temporarily accommodated beneath the fruit. Two of the most attractive houses are those which contain the collection of Malmaison Carnations, which has now swelled to magnificent proportions. They are great favourites with J. P. Morgan, Esq., the proprietor, and Mr. McLeod has completely mastered their cultivation and exterminated the Carnation disease which has had no footing here since 1895. This desirable consummation has been effected entirely by hygienic treatment, by keeping the atmosphere, floor, and stages of the house thoroughly dry, particularly in winter. During the latter period the floor would not be washed out for months to guard against the harbouring of moisture about the plants. All the other houses are washed out about twice a day; so that it is almost needless to say everything is kept spick and span, and clean as a brass pin. The old blush Malmaison Carnation is grown, but it seems out-classed by the pink variety which is wonderfully bright in colour. There are many large plants, each consisting of about fifteen leading stems, in the first house entered, but there is a splendid collection of the newer varieties in smaller pots. An idea may be gathered of the high-class quality of the collection from the fact that it includes King Oscar, Mrs. Martin Smith, Calypso, Ivanhoe, Tom Carter, John Coles, Lord Welby, Mrs. Torrens, J. F. McLeod, Churchwarden, Lady Grimstone, and Trumpeter. There is also a fine batch of the pink Malmaison in 32 size pots, and which are now throwing up their solitary flower stem for the first time. They are stocky plants with the requisite number of fifteen or more shoots which will make good sized specimens by this time next year. The second house used to be a plant stove. Here the smaller plants are two years old and the larger ones will be three in August next. All are healthy and vigorous. The same plants have been flowering more or less all the winter, and will continue up to the middle of July. They are full of buds at the present moment in various stages of advancement, so that one can see how the succession is kept up. It depends on the growth of the stems and branches which are of different ages, yet all reach the flowering stage in due course. Some of the larger plants have as many as fifty flower buds.

Caladiums are very gay at present in the bright and sparkling colours of the young foliage. Golden Queen is notable for the handsome golden-green hue of its leaves. Mrs. McLeod is one of the best of the dwarf varieties, with uniformly soft red young foliage. It received an Award of Merit at the Temple Show in 1898. The collection consists of some 160 varieties, so that it would scarcely be possible to give particulars of even the cream of the varieties here. Crotons in another house run to something like 60 varieties, the plants being of useful, decorative size. The flowering house is kept gay all the year round, the

forced subjects being now 'practically over. At present there is a wealth of Rhododendrons, deciduous and evergreen Azaleas, Spiraea confusa, Statice profusa, Pelargoniums, Richardia africana, R. elliotiana, Prunus sinensis flore pleno, Hydrangeas, Astilbe japonica, &c. Of Richardia elliotiana there are about 100 seedlings, which have all been raised here through the industry of the gardener. A considerable area of glass frames, in different parts of the garden, but particularly in a space recently put in order for their reception, is now packed to overflowing with all sorts of subjects, although the bedding plants are mostly under temporary shelter. A large batch of healthy specimens of Cypripedium insigne is making satisfactory progress in one of these frames. The same may be said of large plants of Statice profusa, Hydrangeas, &c. One house is, indeed, monopolised by Hydrangea paniculata grandiflora and Lilium eximium. Celosias, already about 6 in. high, make a fine lot. Those frames that were occupied with Asparagus in winter now house Vegetable Marrows, which will soon be ready for use. One batch of Melons in frames has been set, and another is now ready for pollination. The conservatory by the mansion is kept gay with Hydrangeas, and Ivy-leaved Pelargoniums set in greenery of Dracaenas, Bamboos, Fatsia japonica variegata, and other subjects. The outdoor flower and fruit gardening we must refer to on another occasion.

Appointment.—Mr. Thos. Foster, late head gardener at St. Douglough's Park, County Dublin, has been appointed head gardener to E. Downs Martin, Esq., J.P., Sprigley, Killyleagh, County Down.

Weather in London.—The weather conditions of the past week have been unsettled and deceiving. Everyone complains of the lingering coldness, for while the sun shines bright an east wind blows steadily and keen. Showers of rain have fallen at intervals, but the force of the wind has in most cases carried them over. Flying dust is a present nuisance.

Drastic Treatment, but Satisfactory.—In the entry for a single specimen Palm Mr. Geo. Wood, gardener to J. Buchanan, Esq., Oswald House, Edinburgh, generally, or always, secures first prize at the Edinburgh shows. He has a beautiful Kentia, tall and of noble leaf growth. This he manages to confine to a comparatively small tub by regularly slicing off an inch or two from the circumference of the root-ball. Some care is required till the plant re-establishes itself.

The "Hurst & Son" Cricket Club.—We are reminded that cricket has substituted football, by placards announcing "1 o'clock scores," by young men with their leg-pads among their train luggage, and definitely by the arrival of "Hurst & Son" membership ticket and cricket match list. As usual N. N. Sherwood, Esq. is president; Messrs. Aiton, Cox, Wm. and Ed. Sherwood, vice-presidents; Mr. W. Cox, hon. treasurer; Mr. T. Swift, hon. auditor of the club's affairs. Mr. S. N. Sampson is again the captain, and Mr. W. Riden, hon. secretary, in connection with matches, &c. Their list of engagements lasts them throughout the summer, and these we hope they will mostly win.

Moderation in all Things.—The supply of cut flowers, particularly Daffodils and Callas, has been overwhelmingly abundant this spring. So many hundreds of acres have recently been planted up with spring-flowering bulbous plants, and so many more tons of flowers as a consequence have been offered on the market, that the cut flower trade (in certain of its sections) has as a consequence suffered in profitable returns. A case was recently instanced in the *Daily Telegraph*. A Long Sutton grower despatched to Sheffield seventy-eight dozen bunches of Violets, six dozen bunches of Narcissi, and three dozen Arum Lilies. His return is said to have been twelve postage stamps. Though the story seems far-fetched, there surely is a danger that immoderate quantities of flowers are being supplied.

Taxodium distichum.—On behalf of the Hon. Charles Ellis, F.L.S., the president of the Linnean Society of London recently exhibited photographs of a large tree, *Taxodium distichum*, growing at Oaxaca in Mexico, and of another gigantic tree a native of Cambodia. The circumference of the former, at a height of three feet from the ground, was stated to be 143 feet, while the height was estimated to be not more than 100 feet. The native name for this tree is Sabino. Mr. Daydon Jackson read an account of it, quoting from Loudon's *Mag. Nat. Hist.*, vol. iv. (1831), p. 30, and Humboldt's "Views of Nature," p. 274. The second gigantic tree, which could not be satisfactorily determined from the photograph, had been observed growing on the Makong River, near the celebrated ruins of the great city of Angkorwat, in Cambodia.

Beckenham Horticultural Society.—On Friday evening, May 11th, a paper was read before the members of the above society by Mr. James Hudson, V.M.H., of Gunnersbury House Gardens, entitled "Fruit Trees in Pots." Peaches, Nectarines, Plums, Cherries, Figs, Apples, Pears, and Apricots were each dealt with, cultivation carefully described, and varieties recommended for various seasons and purposes. Mr. Hudson's long experience and success as a grower of fruit trees in pots made the subject of great interest, and value to those privileged to hear him. One of the principal recommendations was the rotation of crops that could be followed by growing fruit trees in pots, numerous instances being given by three crops of various subjects being perfected in one house annually. Nine or ten-inch pots were considered ample for any tree, repotting every year, using Banstead loam and a local loam containing a large percentage of iron, and mortar rubble, bones and horn shaving being sprinkled on the few crocks necessary. Great stress was laid on low night temperatures. Every detail was carefully described. A discussion followed, in which Messrs. Burge, Taylor, Crosswell, Webster, Price, and Russ joined.—M. W.

Syndical Chamber of Belgian Horticulturists.—At a meeting of this body in conjunction with the Royal Horticultural and Botanical Society of Ghent, in the Casino, Ghent, on the 6th inst., Certificates of Merit for culture and flowering were awarded to *Polygala dalmatiana*, presented by M. Em. de Cock; to *Corea speciosa*, *Kennedy purpurea*, *Pimelea spectabilis*, and *Adenandra ciliata*, all presented by Mr. E. Collumbien; to *Eriostemon myoporoides*, and *Polygala dalmatiana*, exhibited by M. le Comte O. de Kerchove de Denterghem (with unanimity); to *Acacia Drummondii*, *Veronica diosmaefolia*, *Eriostemon floribundus*, *Bauera rubioides*, and *Acacia linearis* (with unanimity), all exhibited by M. E. Bedinghaus; to *Anthurium Souvenir d'Antoine Chautin*, shown by M. Louis de Smet (by acclamation); and to *Azalea balsamiflora*, staged by M. Oscar de Smet. At the same meeting Certificates were granted to cut flowers of *Odontoglossum crispum* var. *Cymbidium eburneo-livianum*, *Odontoglossum crispum Souvenir du Jubilee*, *Zygopetalum Perrenoudii*, *Cattleya intermedia Parthenia* (by acclamation), and *Odontoglossum crispum punctatum*, all presented by M. G. Vincke-Dujardin, of Bruges; to *Odontoglossum Cervantesii lilacinum*, shown by M. J. de Cock; to *Odontoglossum ruckerianum colorans*, shown by the Company "La Lys," Ltd., of Peteghem-lez-Deynze; to *Masdevallia Pourbaixii*, shown by M. E. Vervae; to *Dendrobium atro-violaceum*, and *Cattleya Schroderae* var. *Ami Arthur Vanden Heede*, both exhibited by M. le Marquis de Wavrin; to *Azalea Mdlle. Germaine Van Coppenolle* (a sport) presented by M. J. de Kneef; to new *Dracaena Armand de Meulenaere* (seedling 1898), shown by M. L. Denobele; to two seedling Azaleas and a collection of six new Azaleas, all shown by M. J. Vervae (with unanimity). Honourable Mentions were accorded to *Hardenbergia monophylla* fol. var., shown by M. E. Bedinghaus; to *Correa ventricosa*, shown by M. Em. de Cock; to *Libonia floribunda*, presented by M. Em. Collumbien; to *Genista evaistiana*, exhibited by M. le Comte O. de Kerchove de Denterghem. Honourable Mentions were granted to *Aerides sanderianum*, shown by M. G. Vincke-Dujardin; to *Laelia purpurata* var., shown by M. J. Boeleus, and to a seedling Azalea, shown by MM. Versypt Brothers and Sisters.

A Choice Laelia elegans turned up at the sale rooms of Messrs. Protheroe & Morris, Cheapside, on the 11th inst., and created a keen competition as to who should become the happy owner. Eventually it reached 35 gs. at the fall of the hammer.

Primroses and their Allies.—Mr. R. Lindsay, in his lecture on "Primroses" at the Caledonian Horticultural Society's recent exhibition in Dowell's Rooms, stated that about 220 species of the Primrose genus are known to botanists. One-third of the whole are found in the Himalayas, one-third are natives of Japan and China, and the rest are natives of Europe and America. Somewhere about 120 of the species are in cultivation. The popular species number only about three dozen, and from these many varieties are being developed. Five species are natives of Britain. In conclusion Mr. Lindsay observed that while there was ample evidence in hand of hybridisation occurring, no one had yet been able to hybridise Primroses artificially.

Potato Trials.—Trials were carried out last year by the Yorkshire College at Leeds with the object of testing the relative merits of a number of leading varieties of Potatoes. The trials are certainly of more value to farmers than to gardeners, yet the results are also interesting for the latter class. In the trial the varieties which yielded the heaviest crops were Up-to-Date, General Roberts, Scotch Triumph, Hough Giant, and Challenge. The first-named gave a yield of 11 tons 2½ cwt. per acre; Gen. Roberts, 10 tons 1½ cwt.; Hough Giant, 9 tons 9½ cwt.; Scotch Triumph, 9 tons 8 cwt.; and Challenge, 8 tons 15 cwt. But on the score of quality Sutton's Abundance stood clearly first, though its yield per acre was down as low as 6 tons 7½ cwt. Next it in point of quality came Up-to-Date, General Roberts, Challenge, Maincrop, Hough Giant, British Queen, and Scotch Triumph. The best keeping Potatoes were found to be Maincrop, Hough Champion, Bruce, Beauty of Bute, Saxon, and Market Favourite.

Sweet Pea Bicentenary Celebration.—Seldom, if ever, has a proposed exhibition of a special flower received such general support as that of the Sweet Pea, to be held on July 20th and 21st next. At the present time, about two months ahead of the exhibition and conference, financial matters are in a most satisfactory condition, while the applications for schedules serve to indicate the widespread interest that is being taken in this popular flower and its exhibition. On Friday, the 11th inst., the executive committee met at the Horticultural Club, with Mr. George Gordon, V.M.H., in the chair, when it was reported by the honorary secretary, Mr. R. Dean, V.M.H., that the whole of the North Nave of the Crystal Palace would be devoted to the forthcoming exhibition, and a suitable room be provided for the conference proceedings. The trade displays will form a border around the competitive exhibits, and these latter will be relieved by tables of plants. One great improvement promised is that the tables will be draped with green baize, and consequently there will be no unsightly array of boxes and other impediments below the flowers. In connection with the conference arrangements were made for papers to be read as follows: "The History of the Sweet Pea," by Mr. S. P. Dicks; "The Evolution and Improvement of the Sweet Pea," by Messrs. J. Eckford and C. H. Curtis; "Classification of Sweet Peas," by Mr. W. P. Wright; "Sweet Peas in America," by Rev. W. T. Hutchins; and "Some New Points in the Cultivation and Decorative Use of the Sweet Pea," by Mr. H. Dunkin. Fifteen judges, including three ladies, were selected for the competitive exhibits, and it was decided the Exhibition Committee should judge the trade exhibits. Applications for space must be made to Mr. R. Dean, Ranelagh Road, Ealing, as the entire arrangements for the show are in the hands of the committee. Intending exhibitors and others will be interested to learn that a luncheon will be provided at the Crystal Palace on July 20th; tickets, 5s. each, including wine; breakfast will also be provided earlier in the day at 1s. 6d. per head. With a view to secure as large an attendance as possible, the Executive Committee is calling a general committee meeting for 4 o'clock on Thursday, May 24th, the second day of the Temple Show, at Anderton's Hotel, Fleet Street. It is hoped that all committeemen in town will make a special effort to attend and receive the report of the Executive Committee.

Grass Seed Imports.—Last year Great Britain and Ireland imported Grass and Clover seeds to the value of £549,535 sterling.

Mushroom House.—The best position for a Mushroom house is wholly or partially under ground. Thatched roofs are also to be recommended.

Royal Horticultural Society.—Temple Flower Show, May, 23rd, 24th and 25th.—The thirteenth great flower show of this society held annually in the Inner Temple Gardens (Thames Embankment), will open on Wednesday next at 12.30. Judging from the large number of entries received, the show promises to be quite up to its usual standard of excellence. The following well-known amateurs are among the names of intending exhibitors:—Duke of Northumberland, Nepenthes; Lord Gerrard, Carnations; Lord Wantage, K.C.B., Fruit and Vegetables; Sir Trevor Lawrence, Bart., Orchids; Sir J. Pigott, Bart., Crotons and Palms; Sir J. Pease, Bart., Fruit and Vegetables; Sir F. Wigan, Bart., Orchids; Alex. Henderson, M.P., Fruit and Vegetables; Henry Little, Orchids; R. I. Measures, Insectivorous Plants; Ludwig Mond, Orchids; Leopold de Rothschild, Water Lilies in Tubs, and Fruit Trees in Pots.

The Chiswick Garden.—Anyone visiting Chiswick and the garden of the Royal Horticultural Society at the present time would find abundance of gay colour and fresh greenness. The large orchard of fruit trees is laden with blossoms and everything, of course, has its first viridescent mantle. Tulips have been "on trial" in the garden this year, so that a present visit would reveal a galaxy of these glorious bardy bulbous bloomers. Paeonies are in bud and the large and well treated collection will soon be waving its pretty mop-heads to the passing breezes. Phloxes seem to be on trial; there is a fine collection on a sunny brake. Tomatos are being treated on the one-shift system and are as happy and healthy as need be. Vines and Peaches are well furnished and clean. Caladiums, of which there is a representative collection, are splendid specimens all of them, and marvelously grand in contour and colour. The frame ground with its lengths of pits, is completely filled with Chrysanthemums (now established in 5-in. pots), hardy alpine in pots, bedding plants and miscellaneous stock. The alpine garden bears its far-gathered gems—sheets of various Aubrietias, Alyssums and Arabis, Primroses, Scilla nutans, Pblox setacea, Saxifraga rotundifolia, Doronicum plantagineum, Ranunculus amplexicaulis, Iris pallida variegata and Orobis vernus. A very bright leaved little plant is represented by Thymus citriodorus aureus, and a pretty shrub just at the back of the Thyme, viz., Kerria japonica variegata. The entire keeping of the place leaves nothing to be desired.

Dutch Horticultural and Botanical Society.—In a pamphlet of some 14 pages we have a register of the plants, flowers, &c., which received First-class Certificates, Certificates of Merit, Botanical Certificates, medals, &c., from the permanent committees of the Dutch Horticultural and Botanical Society during the past year. Cannas and Chrysanthemums have received a fair amount of attention and encouragement; but in the case of Chrysanthemums, at least, the society has been moderate in giving awards by comparison with this country. Cactus Dahlias must be popular amongst our Dutch neighbours across the water, for as many as fourteen received First-class Certificates, and six varieties received Certificates of Merit. Some of them were placed on the table by four different exhibitors; and many of them have received awards in this country, particularly those raised here. Some of the Delphiniums certificated were also raised in this country. Of the other plants certificated several are well known in this country, so that such honours cannot all be given to new plants. Others, however, are more than likely to find their way to this country in course of time. Fragaria vesca fol. var., Leontodon autumnale fol. var., Arrhenatherum fol. var., and Spiraea Ulmaria var. aurea variegata are variegated forms of British plants, of which the three former may find their way into gardens here, although we are afraid they would have failed to get certificates here. Dianthus caesius albus is a white flowered form of a British plant, and Myosotis palustris Sensation should be a superior form of a British wilding that might take well here.

Worthy of Imitation!—From *Gardening* (American) we learn that "The City of Berlin has set aside the sum of 2,000 marks for the purchase of plants to be placed in the hospitals."

Bermuda and its Floral Productions.—Bermuda, that land of the Lily and the Rose, is known to gardeners and florists all over the world. In a recent number of *The Florists' Exchange* appears a very interesting article under the above title. Bermuda furnishes nearly all the Easter Lilies, so that the references made upon the growth of the bulbous plants are timely. Landing at the wharf of the Island, ten minutes' walk will take one to the Lily fields. Very few pieces of available ground are without a crop; if not Lilies, then Onions, Potatos, Bananas, Grass—something. About this season of the year many of the fields are waving tracts of flowers and green stems. All around, from nearly any part, glimpses of the green Atlantic, glistening in the sunshine, can be obtained. Since the adoption of a more scientific husbandry the improvement in Lily crops has been most marked. More careful selection of stock has been practised; the sets are now rather generally treated with one of several mixtures to kill mites and diseases. The problems of fertilisers and humus supply are also carefully considered, and the plants are now being sprayed with Bordeaux Mixture to prevent disease, rather than be dripped upon after a disease has obtained a sure footing; and in general cultivation is receiving closer attention. As before stated, selection is being carried out. If one or a number of plants flower earlier than the others, these are marked separately and propagated. Thus, in the course of a few years, the growers hope to have extra early flowering varieties. Such stock would also be of value to the importer and he who pots the bulbs for forcing. The forcing would be a speedier and a simpler business. At the same time care is being exercised so that only the most robust are chosen, for without constitution they are of no value. Disease-resisting strains are likewise being specially evolved. Many of these outcomes are the result of the experiments being made in parts of the United States to prove whether or not the Easter Lily could not be successfully cultivated as a commercial product within their own borders. The cultural operations in Bermuda are all manual. Ploughs are light, one-horse, and reversible harrows and cultivators are almost unknown. Lilies and Onions are grown in beds four feet wide, and weeded with finger and thumb. Freesias are grown in large quantities for exportation, one year being sufficient to develop a marketable crop. Among other plants which grow freely or wild, and which used to be, if not now, cultivated for export, are Roses of all kinds, Cycas, for their foliage; Bryophyllum and Cacti, which flower freely on any old wall; Euphorbias, or Poinsettias; Acalypha Hibiscus, Geraniums, Crinum, Hippeastrums, Bougainvillea, and some members of the Palm tribe.

APPLES.

I WAS pleased to read the remarks of your valued correspondent, M. Temple, re the above, especially so as regards Margil a great favourite here, and as he says bears most freely, while the flavour is not far behind Ribston Pippin. It is a sure cropper with us, and the trees this year are again full of blossom, and look most promising; but to-day, 13th, the east wind is awfully cold again and certainly will do fruit blossom no good; while on the morning of the 11th, quite a white frost was seen in the low lying meadows, our thermometer falling as low as 35°, too great a change from three weeks back, when all thought summer had come to stay. For the well-being of vegetation, it is to be hoped milder weather will soon return, or, I am afraid, the Apple crop, the nation's fruit, will fall short of our expectations a few weeks back in this part of the country. Of course Margil is much earlier with us than in Scotland, and is usually ready to store early in October, and generally used up quite by Christmas. We have Northern Spy in good condition at the present, but unfortunately it is not one of the free croppers, though it carried a heavy crop last season and is again covered with blossom. Lord Burghley is a good late keeper in the dessert class. I have only sent in the last dish during the past week, though with us it is not a heavy cropper. Tom Putt is a good kitchen Apple up to the new year, bears well most years and should be more often met

with than it is. It is preferred here before any other for jelly making, probably on account of its brilliant colour. Beauty of Kent is a grand Apple, large size, and good for kitchen use or dessert; the specimens being as firm as could be a few weeks ago when sent in. We have grafted a few trees more of this, this season.—J. Mayne, Bickton, Devon.

CARNATIONS FOR LATE FLOWERING.

PERHAPS the following few remarks on extending the period of Carnation flowering may be useful to some of your readers. I saw the practice carried out in one of our biggest establishments, and with very good results. The notes, however, will apply only to tree flowering Carnations. During this month select a few plants of any well known variety (say, Miss Joliffe), pinch out the points of the growths and place them in a cold frame to break afresh. Towards the end of June this will have taken place, and the plants should then be repotted. This process must be very carefully carried out, only pricking away a little of the old soil, so as to allow for a slight shift into a larger pot. The potting finished, replace the plants in the cold frame and strictly shade them from all sun. It will be helpful until re-established to dew them overhead with the syringe, and, of course, water most carefully. The plants may need a second stopping; but this must be left to the grower's discretion, it depending upon how late he wishes them to bloom; and also upon the strength of the variety. Any grower to whom this method is new should give it a trial, and I think he will be fully satisfied with the results.—C. Turner, Middlewich.

DOUBLE WALLFLOWER IN POTS.

THIS is one of the most showy and useful hardy spring flowers we have. And I have often been sorry that it is so much neglected for greenhouse decoration. It is also greatly valued by most ladies for room adornment. So I think a few hints might lead to its more frequent use. The present time will do nicely for sowing the seed, and I find it advantageous to sow in pans or boxes placed in a cold frame or greenhouse. Prick out into boxes as soon as ready, and plant out in good garden soil 1 ft. apart each way as soon as they are strong enough. Keep clear of weeds all summer, and if the season is very dry they pay for receiving a good dose of water occasionally. About the beginning of October I lift the plants carefully with as good a ball as possible, and place in 7 in. or 8 in. pots. If only single spikes are wanted 6 in. pots will do. Drain well, and pot in fairly good soil. Stand on the north side of a wall for ten days till quite established, when they ought to get all the sun and air possible. On the approach of frost remove to a cold frame, giving air on every suitable occasion. About the beginning of March, if taken into a cool greenhouse and given frequent supplies of liquid manure, the result will more than repay any little trouble they may have caused.—C. Blair, Binny, Uphall, N.B.

ARUM CULTURE.

THE Arum is a great water-loving plant. The most satisfactory way is to plant it in trenches for the summer. By this time, May, they will have done flowering. Stand them in a cold house or frame to harden a little. In June choose the sunniest part of the garden, making trenches north to south. Turn the plants out carefully, remove the crocks and reduce the ball to about half. Plant firmly in good rich soil, finishing with a good layer of rotted manure on the top. Plenty of water must be given through the summer, with manure water twice a week. Keep the hoe among them lightly for weeds. By September they should be strong plants and should be taken up and put three in a 10-in. or 12-in. pot, two in 8-in., or one in 5-in. pots. The smaller ones make nice decorative plants for table. Pot very firmly in a mixture of loam, rotted cow manure, leaf soil, sand, and a sprinkling of soot. Water, syringe and stand in shady place facing north. On the appearance of frost remove them indoors. Syringe with solution of soft soap and water for greenfly or sponge when the flowers are opening, or the pest will spoil them. As soon as the spikes are showing, manure water twice or thrice weekly would be beneficial, and about once a week a little Ichthemic watered in. I have cut Arums before Christmas and still have a few.—R. J. Howell, Middle Aston House Gardens, near Oxford.

ALL AMONG THE WOODS AND MEADS.

AFTER a prolonged spell of cold dull weather, which if it did not retard the advent of the cuckoo with its jarring, discordant, although welcome notes, certainly did the opening of our native spring flowers, among them being the Cuckoo Flower, *Cardamine pratensis*. To see this in its glory, interspersed in a woodland with either the common Primrose or the Wood Hyacinth, *Scilla nutans*, is one of the most pleasing sights to be met with in a country ramble, and an example of nature's spring bedding on a large scale, which might more easily be envied than imitated. Then again there is the Wood Anemone, often in company with the Pilewort. Among the latest there may often be marked wide divergencies, awakening the thought that possibly this much abused plant may be taken in hand by someone, and widely different types may be evolved from it. I pass on by a pond covered with *Ranunculus aquatilis*, and exclaim, "Can anything be more beautiful?" Then standing out from the hedge rows I see bushes of the Sloe. Do any of the *Spiraeas* imported from afar present objects of more real beauty than some of these? The Hawthorn is decidedly very late this season, not quite so late as once within my memory, but for a special reason, I think, later than for some thirty-five years or so, but alas! as one gets on, memory will play tricks, so I cannot feel absolutely sure about it. Then the ever-blooming Furze is now in the zenith of its glory. I came across some of the double-flowered form by the road side recently, and could but regret that this fine old plant seems to be neglected by planters, compared with what it used to be. Of course, I take it that these had been planted.—W. B. G.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Odontoglossums from Ravenswood, Melrose.—We are in receipt of a branching spike of *Odontoglossum polyxanthum* from Mr. William Yea, gardener to Lady Falrlfax, Ravenswood, Melrose, N.B. The spike is 30 in. long, and carries twenty flowers, of which the lowermost six are borne on three branches. Both on the branches and on the main axis the flowers are of the first size for the species and handsomely coloured. There are several large, dark chocolate blotches on the sepals, and about three smaller ones on the base of the petals, the ground colour in both cases being of a bright, rich yellow. The lip is of the usual shape and of a rich glossy brown with narrow white edges; the basal area is yellow, thus making the two front plates of the crest very prominent, as they are white. This is certainly the finest spike of *O. polyxanthum* which we have ever seen, even although we have seen some very fine things grown by Mr. Yea, who is an enthusiastic and successful cultivator of Orchids. Accompanying the above is a spike of a handsome white variety of *O. Pescatorei*, the flowers of which measure $3\frac{1}{2}$ in. or a little more across the petals. The whole of the flower is well proportioned according to the above measurements, so that it really rivals many a first-class form of *O. crispum*. There were only nine flowers on the spike in this case, which may account for the remarkable size of the individual blooms. There is a violet blotch in front of the golden crest, otherwise the flowers are of snowy purity, and reflect great credit on the cultivator. Both were carefully packed and arrived without a bruise.

A fine *Odontoglossum triumphans*.—About a year ago Mr. James Whitton, superintendent of the Parks Department, Glasgow, procured some cases of imported *Odontoglossum crispum*, the plants of which are now expanding their flowers from day to day. One specimen hitherto has proved entirely different from the rest, and Mr. W. McIver, the foreman at the Camphill Nursery Gardens, sent us a bloom, which proves to be a magnificent variety of *O. triumphans*. The sepals and petals measure close upon an inch across the middle, the petals being slightly the broader. They have a large crimson blotch about the middle with a golden tip, while all the lower area is blotched or marbled with the same dark colour on a white ground. The sepals are of a dark chocolate hue with a golden tip, and an

irregular yellow band near the base. The lip is very broad, with the upper half of a bright chestnut-red, and the lower half creamy. It is one of the finest forms in cultivation, and Glasgow may well be proud of it.

Sobralia macrantha.—This is one of the freest flowering and most handsome of the *Sobralias*. The slender stems are 6 ft. to 8 ft. high, and bear lanceolate acuminate leaves. The flowers are large, rich velvety-purple in colour, with a fluted lip having a white throat, and broad, wavy sepals and petals. It flowers from April onward well into summer. A position in the Cattleya house should be given to it.

Cattleya labiata Schrodæ.—This is one of the finest of the labiata varieties. The sepals and petals are pale lilac-pink, the lip being of a deeper colour. This lip is finely fluted and fimbriated, and has a fine, deep orange-yellow throat. A good piece is at present flowering in an Orchid house at Kew.

Laelia schilleriana.—This also is at present in flower. It is not at all common, and is allied to *L. purpurata*. Sepals and petals lanceolate in form, white, or nearly so, the lip elongated, three lobed, and of a beautiful deep violet-purple. In habit this species resembles *L. elegans*.

Laeliocattleya highburiensis.—A very pleasing and distinct hybrid. The sepals are light cinnamon-brown, petals rose tinted with salmon, lip narrow and bright purple with yellow throat. The seed parent of this bigeneric hybrid was *Cattleya lawrenceana* crossed with *Laelia cinnabarina*. It was raised by Mr. H. A. Burberry, gardener to the Right Hon. Joseph Chamberlain, of Highbury, and received an Award of Merit in 1896.

Laelia Latona.—The sepals and petals of this very fine *Laelia* are ginger-yellow, lip purple with yellowish base.

CINERARIAS.

CINERARIAS for autumn flowering should be sown in April or May. For prolonging the season sow in June or July. Prepare shallow pans by draining and filling with fine sandy soil, pressing this down evenly and forming a perfectly level surface. Give a thorough watering, and two hours later sow the seeds thinly, scarcely covering them with sifted soil. Place in a cold frame, rather than in a dry heat, standing the seed pans on inverted flower pots, cover with squares of glass, over which spread brown paper, and close the frame. The soil must never be allowed to become dry; moisten as often as necessary with a fine-rosed watering can. When the seedlings appear remove the paper and glass by degrees, but carefully shade from strong sunshine throughout the summer. When large enough transplant into pans of loam, mould, and sand, returning them into cold frames again. A northerly aspect suits them well, the base on which they stand must be kept moist in bright weather. Remove the sashes on mild nights in summer, to enable the plants to be invigorated by the dew. A good compost for them is, two parts rough fibrous loam, one part crushed cow manure, with leaf mould, and a little sharp sand and charcoal. Pot firmly but not hard. Keep the frames close till growth starts again, giving plenty of space for the plants to develop as they grow. A weak liquid manure may be given them twice a week when established.—W. Hogarth, *The Gardens, Norton House, Ratho, Midlothian*.

LIBONIA FLORIBUNDA.

THIS is a very ornamental plant, suitable for greenhouse or conservatory decoration, and also for the supplying of cut flowers, although in the cut state the flowers do not last long. It is not at all a difficult plant to grow, but to induce it to flower well the wood must be well ripened. Cuttings should be inserted in sandy soil, and potted off singly when well rooted. Another and perhaps better way is to put three cuttings round the outside of a small pot. When rooted put them into 4 in. pots, and when these are well filled with roots transfer to 6 in. pots. By this method good specimens may be had by the autumn. The soil should consist of turfy loam, leaf mould, well decayed manure, and sand. The plants should have a warm position for a time to induce free growth. In the summer it is best to grow them in a cold frame in a light position. Plenty of air must be admitted to induce them to make short-jointed growth, but a little shade should

be given in very bright weather. Towards the end of the summer, when growth is completed, a sunny spot in the open must be afforded them. The wood will then get well ripened and abundance of flowers will be produced. If larger specimens are required, the old plants may be pruned a little into shape after flowering, transferred into larger pots, and treated as advised for the young plants.—A. Keen, *The Gardens, Holly Bush, Burton-on-Trent*.

DIGITALIS MONSTROSA.

WITH regard to the illustration of *Digitalis monstrosa* in THE GARDENING WORLD of March 10th, Mrs. Keane wishes to say that she has had it in her garden for the last thirty years. She supposes it is a native of California, as a friend of hers saw it growing wild there. It probably was unknown here twenty-five years ago, as Dr. Moore, of Glasnevin, had never seen it, and was very much pleased, and asked Mrs. Keane for some seeds. Possibly Messrs. J. Carter & Co. obtained it from Glasnevin. The seeds always come true. The name "monstrosa" does not seem applicable; surely *Campanula* would be better. When planted singly it is not much, but in a long row or in clusters is very effective. In Mrs. Keane's garden a few years ago there was a beautiful group, all pure white, self sown. If this should occur again she will have it photographed for THE GARDENING WORLD. Mrs. Keane saves seed every autumn; if any of the "G. W." readers would like it she would be glad to give some. Her address is Tivoli, Cappoquin, Ireland.

HOW TO GROW MUSHROOMS.

HAVING procured the manure from the stables and shaken most of the straw from it, place it in a shed in a heap. Turn it over as soon as it gets into a gentle heat. Do this until all rank smell is gone. It will then be ready for use. I grow my early Mushrooms in one of our vineries which has a brick pit in the centre. The bed is now in full bearing. This is how I proceed:—Lay 6 in. of manure in the bottom, sprinkle over this the soil you intend to use, which should consist of three parts loam to one of leaf soil; tread the first layer well down then proceed with another layer of manure and soil. Follow this on until the bed is from 15 in. to 18 in. deep, treading the bed very firm. The soil used should be moderately dry. Insert a pointed stick in the bed when you find the bed is getting warm; take note how much warmer the stick is at the bottom than just under the bed. Do not wait until the bed begins to cool before spawning, do it as soon as the heat begins to rise. The spawn should be fresh; it should feel spongy, for if the bricks are hard and dry you may know they have been kept in stock some time. Although the spawn may be good it is some weeks later in working than newly made bricks. Break them in pieces and place the pieces about 1 ft. apart on the bed. Make a place with the garden trowel and lay your spawn on a level with the top of the manure. There will be no fear of the spawn being burnt by the over-heating of the bed. Now cover the bed with your soil, which should be on the dry side; wet soil means ruin to the spawn. Rake the soil level and beat it firm with a clean spade. In three or four weeks your bed should show signs of working; if not, find a piece of the spawn, examine it and see if it has started to run. If so and the bed has got very dry on the surface sprinkle it with a fine rose just enough to moisten the top soil. Cover over with boards, leaving a good space between, and wait. Do not use a quantity of water it only means ruin to the bed. Beds can be made up on the vinery floor, and if made when the huds begin to swell, and the giving of air is properly seen to and the heat regulated, you need have no fear of the Vines or plants taking any harm. I might state the Grapes are now ready for thinning, with a good show of Mushrooms underneath. Beds made up in sheds should not be covered with litter until the spawn begins to show signs of working.—J. Wallace, *King's Lynn, Norfolk*.

THE PROBLEMS OF HEREDITY.

AT the Royal Horticultural Society's meeting on Tuesday, May 8th, Mr. W. Bateson gave a lecture on "The Problems of Heredity as a subject of Horticultural Investigation." We all know, he said, that there are capabilities of improvement in the

flower. The question was "How far can we go toward estimating the certain transmission of qualities of the parents upon their offspring?"

Horticulturists more than any other class of workers had ample opportunities to experiment and collect statistical records upon this very important phase of natural science. Plants can be grown, and bred, in much greater numbers than is possible with animals. Considering how easy the statistics can be laid hold of, it passes comprehension to understand why it is we know so little about the facts of the subject. The reason very probably is that few know exactly how the problems are to be approached, and young men who are enthusiastic find the experiments a trifle slow. But if stock breeders and practical men would only interest themselves deeply enough to take note of their crosses, accurate and full note, the need for further researches by scientists would be abolished or at least greatly simplified.

One of Mr. Bateson's main reasons for having chosen this subject for his lecture was that he might take opportunity to appeal to those who were interested in other problems of hybridisation and crossing, to embrace in their notes, references to the hereditary influences which they might observe. We want to know the exact laws which govern the transmission of characters. We want to know, with some degree of surety, what we may expect to get from crossing these or those parents. Examples of extreme prepotency, of very abnormal seedlings and other strikingly distinct cases had been recorded in the past, but beyond this we had not gone. Without in any way disparaging useful work he considered that the most direct mode of attack is to study and record the normal cases of heredity. The studies and labours of Francis Galton have turned our minds to what is essential in connection herewith.

Mr. Bateson enunciated Galton's law on the subject, which is that of the total heritage of an individual, half will be contributed by the parents, a quarter by the grandparents, an eighth by the great grandparents and so on, the transmission power becoming less the further back we go. It has been found that this is an approximation to what can be proved, and further evidence can only be adduced from experiments on a large scale. But under all the variations possible, this law might not hold good, and to discover how far it does apply, and in what manner it may require to be altered to fit certain cases, is what we have yet to know.

Prof. Hugo de Vries' work, experiments and tabulated results, were touched upon, to show how though a parent may be predominant in one generation, yet when the progeny are further crossed with the suppressed parent, changes of character are detectable.

FRUIT UNDER GLASS.

VINES.—Houses started at the beginning of January have bunches whose berries are now showing colour. From this time onwards, a warmer and less moist atmosphere should be maintained. At the first glimpse of maturity, which is proved by the colouring change, the borders should be specially examined. If these in any way lack the amount of moisture which will be necessary to carry through the crop, they should for the last time be thoroughly soaked. But this matter must be gone about in a thoughtful manner. The berries must not have begun to firm their skins, else it would happen that the fresh flow of sap from below would result in the wholesale cracking of the berries. There is little fear of this, however, if the borders have had constant attention and have not been allowed to become exsuccous.

The houses which have ripe Grapes, require a free circulation of air, and a temperature of 58° to 65°. While the Grapes are colouring or are still continuing to undergo the ripening changes, some of the leading laterals and others down the rods, should be left unpinched. Their presence uses up the sap which had gradually become less and less needful.

In succession houses where development in all phases is under weigh, the processes of thinning the bunches, stopping and tying the shoots, syringing, watering, and foraging after mealy bugs all demand attention. According to the strength of the Vines, the number of bunches which they will be likely to bear, and finish properly, should be determined.

It certainly is wiser to finish to perfection eight or nine bunches, than to attempt three or four more which cannot obtain all that is necessary for their fullest upbuilding and concentration of quality, and that which gives flavour. At some of the weekly waterings a dressing of a fertiliser should be given over the border. The evaporating troughs may be kept primed with natural liquid manure, diluted.

PEACHES.—The earliest of the Peach houses require much the same atmospheric conditions as that of a vinery ripening its crop. Where the crop is in the ripening state, at which time many of the finest and heaviest fruits fall, a net should be placed loosely on the under side of the trees to catch those that do give way. The flavour is considerably improved in those fruits which can be allowed to remain until they have thus perfected themselves. Many on the other hand like to gather all fruits which seem to be about ripe. Where the crop has to be packed off on rail, it certainly is necessary to cull while the fruit is comparatively firm. Thinning, tying, supporting and watering as recommended for the present treatment of succession Vines, applies also to Peaches. Syringing should be done before extra air is given in the morning, which will be before the sun has alighted on the house or has just touched its off-side. Ventilate from the top, a little at a time, keeping pace in the amount of extra air allowed, according to the rising increase of warmth and sunshine. Some days may be so dull and damp that a considerable turn of heat must flow; on other days the doors and all ventilators may be open to their widest. Maintain a day temperature of 68° to 72°, down to 60° at night.

FIGS.—A slightly higher temperature than that sanctioned for Peaches, should be accorded to the Fig houses. They may be syringed almost persistently, for in warmth, and a moist moving atmosphere, they seem to revel. Ripe fruits should be allowed to become perfectly dark and soft before being gathered from the trees.

MELONS AND CUCUMBERS.—The roots of these should regularly be top-dressed with a compost which contains the elements for nourishment. Fresh loam with a quarter part, or rather more, of lime, and one part of spent Mushroom bed manure, should be mixed, and warmed previous to placing the compost upon the older soil of the beds, then firmed by the hands. In the case of Cucumbers, the older parts of the plants may be cut out to allow the younger wood to spread out in place thereof. Moisture, free light, gentle ventilation, and a temperature ranging from 65° up to 80° will keep the Cucumbers in good condition.

Melons may be treated more moderately in regard to atmospheric moisture or syringing, and extreme care should be preserved so that the base of the stem suffers nothing from dampness. Lime and charcoal are antidotes against canker if used early enough. Support the fruits which are becoming large and heavy. Shade Melons in pits and frames, and close early to store the sun heat.—*J.H.D.*

HARDY FRUIT GARDEN.

ONE of the most essential and significant factors in high-class fruit culture is the means adopted to secure the uninterrupted supply of moisture during the whole period of progressive growth. No one can guarantee the downfall of necessary rain, nor can we find the time to devote to watering, even if this were desirable. Means have to be planned whereby the moisture in a dry soil may be kept there, or how best it can be drawn up by capillarity from below, and these ends can be secured by mulching.

MULCHING.—There need be no dissensions upon what is most proper to employ. Wherever good sappy dung can be obtained, that is the stuff. Failing this, or this wholly, lawn mowings are very suitable. First loosen the surface soil with a fork, and if time and labour can be spared, let the root-surface be thoroughly soaked. Then place on the mulch, and be generous with it. A mere covering will avail but little, a thickness of material will secure a moist and cool under surface. Young trees may need a mulch even more certainly than long established trees.

Some may have been inclined to mulch a trifle earlier than this month. But then did we not take off the winter protective matter a few weeks ago to allow the sun, and the air, and the rain to "seep" downward for the aerating, the moistening and the

warming of the ground? So that only now after these ends have become accomplished, is it advisable to place on the cap, which this time is meant to conserve for the use of the tree, that which we planned for, and which might materially escape and the ground be impoverished.

STRAWBERRIES without longer delay should be "strawed." Long (and some "short" mixed) stable manure is often used, and so long as it gets a washing and a bleaching before the coming fruits become tainted it is all right. Otherwise it is "all wrong." Short grass I abjure. Hay may answer the purpose. Whatever is chosen let it be material that will remain clean, and which dries speedily.

APRICOTS.—Look over the trees, removing misplaced, malformed, or too thickly placed fruits. Thin out the fore-right or breast-wood shoots. It is even advisable to pinch shoots which will never be of service. Still, severe pinching at so early a date does no good, rather the opposite. It tends to cause fresh outbreaks lower on these lateral shoots or from the spurs, and keeps back the ripening season of wood and fruit.

PEACHES AND NECTARINES.—It is a grand practice to employ the garden engine once a day upon the trees. Giving a hearty wash with the garden engine even three times a week during these days of rapid growth promotes a wonderful pulsation of vigorous growth. The leaves are cleansed so that their growth is smart as well as stout, and the dreaded red spider and greenflies, which spoll in a month as much as we can repair in a year, are kept in subjugation. Go over the trees to thin out the young growths. Preparations for netting Raspberries, Strawberries, Currants, and Gooseberries should now be planned to facilitate the execution later on.—*D. K.*

The Orchid Growers' Calendar.

ZYGOPETALUMS.—Carried away by the gorgeous Cattleya, the varied colours of Dendrobiums, and the chasteness of the ever popular Odontoglossums, to say nothing of the quaint Cypripedium, growers and writers are apt to forget the usefulness of this genus. Take our old friend, *Z. Mackayi*, common, of course, it is, but yet how useful to those who only grow a few in a mixed collection, coming into flower as it does during the winter months. It accommodates itself, too, to all kinds of conditions; first you find it doing well grown very hot with the usual stove plants, throwing up two strong spikes to each growth; again, under much cooler conditions it does equally well, but flowering later in the season. Being a strong grower the compost best suited to its requirements is that similar to what we use for Cymbidiums of the giganteum section, which consists of peat, loam, chopped sphagnum moss, and silver sand, with a small quantity of dried cow dung, thoroughly incorporated with the other ingredients. Having large, fleshy roots too firm potting should not be adopted, neither should the pots be more than half filled with drainage, but a few bits of crock may be worked in with the soil as the work proceeds with advantage. *Z. intermedium* and the garden hybrid *Z. Sedenii* seem to do best when treated similar to the two preceding varieties, but quite of a different class is the beautiful *Z. Gautierii*. This does best when fastened to a piece of tree Fern or grown in a basket or on a raft that can be suspended where the air can play all around it. The compost, too, must be of a much lighter description, therefore we advise that the loam be left out, but not the small quantity of cow dung, as, though a more delicate plant, it is, nevertheless, a gross feeder.

We have ourselves hybrids from the one under notice crossed with *Z. Mackayi*, which has for a long time bothered us, making but slow progress grown warm. We have hung the plants up near the glass over the Odontoglossums, and they are doing splendidly, so that those who have failed with *Z. Gautierii* should take the hint, and at least during the summer months put them in the cool house. It is the extra shade I think that they like, and a careful examination of the foliage would point to their being found in rather dense forests.

Z. ROSTRATUM.—This is a fine free-flowering variety, and lasts a long time in perfection. It does well when fixed to tree Fern stems or on rafts with peat and moss; and does well in the cool house during the summer months, but must be returned to the Cattleya house early in autumn.

In each case the scales come up with the young growths, and must be protected from the ravages of slugs by having a bit of cotton-wool put round them, as slugs are very partial to the tender spikes.—*S. C.*

HINTS FOR AMATEURS.

Bedding-out Preparations.—So much has been written in other parts of *THE GARDENING WORLD* than this amateur's page, about what we ought to do and how we should proceed to do it, in reference to the filling of our summer flower beds, that there is little now that I need say. Amateurs like to take their money's worth out of their beds, and possibly they will not be in such a hurry to clear out the plants which now are affording a show of flowers. Bulbous plants should be left alone until the new stuff is ready for planting. If bulbs must be lifted, secure some other bed or border wherein to plant them. Lay them together in shallow trenches, then firm, and water them. Or, better still, if you can afford to do what has at times been advocated here, plant them out in good sites on the grass, then do so. You are laying up treasure for yourselves by doing so, and by looking about you at the buying time next year, it need not cost a great deal to re-stock your beds with bulbous plants. Let me diverge for the nonce, to say that many florists and gardeners in large places, who force a great quantity of bulbs every season, are often enough willing to let any one take away these forced bulbs. I know of one very famous public garden wherein it is a delight to wander in April and early May, from the fact that thousands, perhaps millions of bulbs, are in flower all over the rising grounds and around the trees. These bulbs, or a very great deal of them, had been forced in other places near by, had been secured, cared for, and ultimately planted. Now they are established and are lovely.

After the beds have been prepared, pegs and stakes may be required. It is well to look them out. What the beds or borders are to be filled with, ought not to be left to chance of circumstances. The garden is the place for recreation and for pleasure during the summer; see to it then that you furnish your garden so that the greatest amount of happiness can be got from it. The bedding plants should by this time be placed out in the open yard with only the surrounding protection of a tiffany screen, and a like overhead covering. This screen can be rolled up and removed during the day-time. Plants which are so carefully and gradually inured to the changed conditions under which they will shortly find themselves, lose little of their freshness and receive only a very slight check. If plants have to be bought choose only those which have a sturdy and firm appearance.

Roses.—The growth that Roses are making is remarkable. Newly pruned standards are sending out strong shoots in all directions. To enable the best shoots to produce the finest blooms possible, it is sometimes necessary to "thin out" the neighbouring shoots. I would therefore advise anxious Rosarians to go over their bushes on a few occasions to substract one where two shoots emerge from the same eye. Or where shoots are too thickly set along the length of a branch, judicious thinning should be done. In soils which are light and dry—the worst for the Rose—use one of the lawn sprinklers. They but require to be fixed and allowed to revolve for a length of time sufficient to allow of a thorough soaking to the ground. The constant shower of water generally cleanses the bushes from those ubiquitous pests, green and black flies. So soon as the surface of the soil has become dry enough for hoeing, this operation should immediately follow. By so doing the moisture is conserved in the soil and aeration is more perfectly facilitated.

Schizanthus pinnatus and its varieties are about to bloom, or indeed they are in flower. Where they have yet to develop and open, they will do so more freely and will be of better substance and size, by having liquid manure afforded to them in a weak state. Do not pinch in any of the lateral growths, nor stake them up too stiffly.

Cinerarias.—These are still at their freshest. The greatest care at present is to keep the plants entirely free from greenfly or other insect pest. These insects very soon establish themselves and ought to be dealt with while they are scarce and weak. Fumigating with XL All Insecticide, Tobacco-paper or any of the known materials is alone to be recommended, as syringing would more speedily destroy the plants than the flies which we battle against.

Ventilate the Greenhouse night and day, a very little top air at night, with both top and bottom ventilators open (unless on harsh, cold-winded days) when daylight lasts. Allow a temperature of 47° or 50° minimum, up to 60°, when the day is at its warmest. Any plants out of flower may be thrown away. I do not advise saving one's own seeds. Where seed-saving is done, it ought to be exchanged for seeds of good quality from another district. Seeds should be sown early next month to provide plants for next year's flowering. Prepare shallow pans, crock them 2 in. deep, cover the crocks over with fibrous material such as the stuff which can be sieved from very fibrous loam, or clean moss or leaves do well, when used judiciously. Mix up a sandy compost and fill the pans, pressing the soil moderately firm, over the even surface of which the seeds may be carefully scattered. Merely cover them with sifted soil, then to moisten the soil, immerse the pans to their rims in tepid water, and after the pan and its soil has become properly damped, withdraw and place a circular piece of glass across the surface rim of the pan. A shaded position in a warm pit should then be given.

Dahlias.—I hinted last week to see about preparing and enriching the sites for the Dahlia plants. The plants about to be planted ought to be inured bit by bit to fuller and yet fuller exposure. The air is nearly always genial at the present season, so that except for the evenings and nights the Dahlias should now have the frame sashes always tilted about 1 ft.

Chrysanthemums.—Sometimes a break-out of "rust" has to be combated with at this changeable season. It is now, if ever, that vigilance should unremittingly be given. The summer spores of the rust are beginning their active life. Soon they spread from leaf to leaf and from plant to plant. Nothing but being first in the field and proving more persistent than those uredospores will take you through to victory. Three pounds of Kill-'em-right dissolved in 2½ gallons of water when boiled and stirred, should be used (when cool) at the rate of a wine glassful to every two gallons of water. These two gallons of water are sufficient to spray both sides of a row of 160 plants. Or half an ounce of sulphide of potassium to each gallon of water, syringed twice a week, will pronouncedly effect a check to the advance or establishment of the fungus. Other cultivators again use a solution made from 3 lb. of sulphate of copper, 2½ lb. of lime with thirty gallons of water.

Potting into 5-in. pots is the order of the day. Bush plants should be pinched when about ½ ft. high. Place the newly-potted plants in a cold frame, well-positioned to secure good light. Keep the frame nearly close for a couple of days, and give slight shade. After this they may receive more ventilation. Dew them over in the mornings of all bright or warm days.

Coleuses.—The final shift can now be given to Coleuses. If bushy and pyramidal plants are desired pinch the basal shoots when they have grown to a length of just over 1 ft. By their length the point at which to pinch the longer ones can be judged. The top-most or leader shoots will be required for the increase in height. A porous but rich soil and well drained pots should be employed for this final shift. Coleuses for sub-tropical bedding ought to be grown hard.

Neat Lawns and Walks.—There is no comparison between a half-kept and a neatly trimmed garden. If we are to "garden" let us garden thoroughly. I refer here more especially to smaller gardens, which are strictly, or at least in large part, formally designed and surrounded on all sides by dividing walls or hedges. Few of us could expect extensive portions of larger gardens to be so thoroughly ordered as those small gardens of one or two acres. Lawns should be as level as possible, firmly rolled, and mown very closely. They should be watered to preserve their freshness, and have their edges closely and constantly trimmed. The garden paths should contain not a weed, and should be smooth and firm.

Cyclamen.—The earliest batches of these, sown last August, should now be in 3 in. or 4 in. pots, according to circumstances. Whatever you do be sure you keep them free from insects. Plants which have been flowering during the past season for the first time should now be rested. Growth ought not to be at a complete standstill, but very nearly so.

After four weeks or four to six weeks of rest they may be shaken out and repotted in a compost consisting of two and a half parts of nice, fibrous, maiden loam, that is, loam never before used, and quite fresh, one part of clean leaf mould, one part of dry cow dung, a small quantity of broken up charcoal, and about half a part of coarse silver sand. After potting start the plants (which are now eighteen months old), but do not hurry them, and treat them as the young plants should later on be managed.

Other Work.—Hollyhocks may be planted out in richly prepared soil at any time. Petunias need not be too soon planted out. The pot plants should be kept clean and freely ventilated. An early sowing of Wallflowers should be made. Zinnias may also be sown during the present month or early in the following one. Ten Week Stocks may be planted out in thoroughly well prepared beds or borders. Mowing and general cleaning up must be persistently attended to.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Covering unsightly Fences.—*V. W.*: Climbing annual Tropaeolums (otherwise known as Nasturtiums), and *T. speciosum*, Canary Creeper, *Ampelopsis Veitchii*, *A. quinquefolia*, *Convolvulus major*, Sweet Peas, Hops, Roses planted from pots, and Clematis in the same way, are subjects often suggested and unique for the purpose.

Pelargoniums losing Flower Buds.—*J. Kellor*: The probable causes are: (1) A severe and sudden drying at the roots; (2) Too cold an atmosphere. Though we have had some warm weather, yet this spring seems loathful to leave the lap of winter; therefore, it is possible that your greenhouse has become too chilly and damp. Keep up a mild heat in the pipes and regulate the temperature by judicious ventilation. Fancy Pelargoniums require a good deal of careful watching. Maintain a day temperature of 58° to 63°, down to 50° to 55° at night.

Violets for Outdoor Planting.—*L. M.*: Given thoroughly worked borders or sites, which are enriched and prepared to the liking of Violets (deep, cool, moist, and sweet), your frame plants might be expected to do fairly well, and to return some flowers after the shift.

Roses for Planting Now.—*L. H.*: Climbing Roses, Teas, and some H.P.'s, which can be obtained as pot plants, may safely enough be planted out. Make the space for the roots open and unconfined, plant a well moistened root ball, loosening as many of the roots as can safely be done, and firmly fill in the soil. Water thereafter, syringe the foliage twice or thrice a day, and shade the plants from bright sunshine.

Smilax in Boxes.—*A. McK.*: Try a little feeding. Perhaps the roots have quite filled the box. Thomson's, Clay's, or Canary Guano manures should all be effectual in increasing the strength of the shoots. A slightly warmer house, too, say with a temperature of 65° to 70° seems more likely to incite robust growth. A moist, moderately shaded position, absolute cleanliness and care in watering are necessary items of culture which you should look to.

Insecticides.—*W. S.*: The "Hints," which referred particularly to Insecticides, will be found on page 616 (May 27th, 1899) of last year's volume. Besides the commonly advertised insecticides we find London Purple, arsenate of lead, and Paris Green employed against sawflies, gall insects, and the like. These are all deadly poisons, and can only be used with the greatest of caution. For insects like Aphides, bugs, and scales, petroleum and paraffin emulsions, that is, these with water and soft soap are highly effective. Kerosene is also used. Pyrethrum and tobacco powder, with hellebore, sulphur, and resin washes. Fumigants are adopted, and these include sulphur, tobacco paper, XL All Insecticides, &c.

Zonal Pelargoniums for Winter Flowering.—Young plants for flowering next winter should be potted on now into 4-in. pots. They like a good, substantial soil and firm potting. Grow them in a greenhouse in the meantime on shelves not far from the glass. Next month they may be placed in frames, and as the weather becomes warmer they will do well grown out in the open air altogether. Place them on one of your garden paths, where they will receive plenty of sunlight and air. Syringe them early in the morning and again about four or five in the afternoon. Keep them pinched to form bushy plants. Remove any flower buds until about the end of August. Their pots will then be well filled with roots, and they should be nourished with liquid manure. Take them indoors about September, allowing them a nice, airy, light house. Maintain a temperature of from 55° to 60°, with a slight amount of air even on dull, chilly, autumn days.

Planting Vegetable Marrows.—S. K.: To start with the pure manure would probably be too rich: later on, when the plants are strong and growing vigorously, nothing is too stimulative. Make an opening and fill it with good, loamy compost. Plant the young Marrows in this loam, and leave them there. They will want no further care. Marrows also do well on the top of a leaf mould heap, the opener to the sun the better.

Balsams.—T. Romily.: Your plants should be potted on and grown close to the glass in a pit or house having a mild heat. Never permit them to become pot-bound. A moist air and a plentiful supply to the roots should be given.

Planting Irises.—The present is late enough if you expect a good return of flowers this year. If you are careful in the planting they will do well enough. Water them regularly till they become established. The *Iris laevigata* and varieties may be planted in a semi-aquatic position free and open to the sun, but sheltered to the north and east.

May Sweet Peas be Sown?—L.: Sweet Peas may be sown up till the end of this month. For those which you mean to sow, put into the trench a good bottom layer of manure, covering this with two or three inches of soil. The Peas may be sown three inches deep. Tread the surface of the drill, or, at least, firm it with the back of a rake. Earth up and stake your earliest rows.

Lettuces in the Open.—Quiz.: Hardy young Cabbage-Lettuces will succeed perfectly well in the open ground after this time of year. Batches have been growing for some time now, and, to help these, hoeing between the drills should be practised. Lettuces may be grown in Celery trenches.

Forced Strawberries in Pots.—J. Knox.: As a matter of fact, many gardeners do take the trouble to plant out their earliest forced Strawberries, and by so doing, they secure a second crop from them. This second crop succeeds the later crop from those which have been established out of doors for, perhaps, a year or more. Before planting them out, have them nicely hardened off, and prepare the ground to the best advantage. Water the plants if need be after placing them out.

Selection of Pyrethrum Varieties.—H. F.: On medium or heavy soils Pyrethrums do best. They are gorgeous flowering plants, and you exhibit splendid taste in desiring a good selection of the beautiful single varieties. The following are good doubles:—Captain Nares, bright crimson; Aphrodite, pure white; Alfred Henderson, large deep purple; King Oscar, crimson-scarlet; Celia, very bright pink; Melton, deep crimson; Pericles, yellow; Beauty of Laeken, crimson; Brilliant, rosy-purple; Dr. Livingstone, flesh; Perfection, rosy-lilac; and Snowball, white. Singles:—Psyche, cherry; Warrior, deep carmine-purple; Goring, rosy-purple; Ayrshire, crimson; Albicans, white; Maud, soft rose; Neptune, maroon; and Turco, purple.

Begonia Gloire de Lorraine.—D. Waite.: So soon as rooted, put the leaves into the smallest size pots. Use the following compost:—Two parts mellow, fibrous loam, one part finely sifted beech-leaf mould, and one part sharp sand. Keep the crown level with the surface. Water with tepid water, and place the plants on an ash-bottom shelf in a moderately moist shaded house, having a temperature of 60° to 65°.

WATER PLANTS IN GREENWICH PARK.

"FANCY planting some of the choicest and most expensive kinds of Water Lilies in the smoke-infested park at Greenwich" was the remark made by a well known horticulturist when I ordered a number of these and other aquatic plants exactly three years ago. But care and perseverance have won the day, and it is questionable whether in the whole London district there is a more interesting and pretty little sheet of water than this quiet lake in the Royal Park at Greenwich. The accompanying illustration speaks for itself, the masses of pink flowered Water Lily to the left showing that this rare and prettiest of water plants has become quite established, and will increase in vigour from year to year.

It might be mentioned in passing that a much finer form has just been planted in the pond, in which the well expanded flowers are of a rich crimson hue.

The Pigmy Water Lily has also become quite established, the neat little leaves and tiny star-shaped flowers, about the size of a lady's watch, offering a strange contrast to those of the larger forms. A pretty yellow flowering variety has likewise been added.

But the Water Lilies do not form the only feature of the Greenwich pond, for the beautiful and sweet

terrible rapidity, and though only introduced a few years ago has already cost the country thousands of pounds in keeping the lakes and canals open for navigation. Its introduction is thought to be due to the scientific zeal of the Cambridge Professor of Botany, and after whom it was nick-named *Babingtonia damnabilis*.—A. D. Webster.

MAY IN EAST DEVON.

THIS is a most delightful month in the country. Neither too hot nor too cold, and the majority of trees and bushes daily unfolding more of their flowers or foliage, and in many instances both, which all tends or adds to the beautiful scenery around. What better picture can we hope for than the many tints of leafage the host of deciduous trees present us with at this time of year? unless it is in autumn when the country is aglow with crimson and gold, a sure guide that winter is fast approaching. Of this, opinions differ, but give me the early summer when all is full of life and vigour, the trees as before mentioned putting on their summer suit as it were, the hedges decked with flowers of almost every hue, and the delicate new fronds of many varieties of Fern, for which Devonshire lanes have long been noted. The wealth of blossom, the numerous orchards in this cider producing county



THE PINK WATER LILY IN GREENWICH PARK.

scented Cape Pond Weed (*Aponogeton*) may be seen by the dozen, and if not seen readily detected by the hawthorn-like fragrance for which the plant is justly remarkable. The Bog Bean from the Welsh hills here too finds a home, in company with the Water Ranunculus, the Frog-bit Water Plantain, and hosts of other native plants. Two other interesting native plants, though local in distribution, are the great and lesser Reedmace or Cat's-tail (*typha*), both of which occur in the pond, the former sending its dense cylindrical, velvety flower spike to a height of from 5 ft. to 6 ft. The Bur-reed (*Sparganium*) occurs in plenty, and is interesting on account of the curiously pleasant aroma emitted by the bruised plant.

Of the Iris several ornamental foliaged kinds may be seen, such as the silver and golden striped, and the typical British species. Several of these plants have no doubt been introduced by the water fowl—the moor-hen, lesser grebe, &c.; for certainly three years ago at least four of the native species were not known on the pond, and have not been brought by human agency, as far as I am aware. But the American weed (*Elodea*), unless well kept in bounds is to be the pest of our water, for already nearly one hundred cart loads have been removed from the pond. Throughout the country it spreads with

are just now presenting us with would more than startle many a toiler in our big cities who perchance never get outside its boundary from one year's end to another. Nor must we forget the beautiful singing and warbling of the birds from about 4 a.m. up to 8.30 p.m., which fill the air as it were with their melodies, especially so when the locality is well wooded as here. With such an earthly paradise one cannot help wondering why so many of our rural population at an early age flock away to the already densely crowded towns in preference to country life.

We can but hope that the new code the Education Department is about to introduce into our elementary schools, such as gardening, farming, &c., may have the effect of retarding this wholesale immigration, and help men and women alike to look more to the land for a living than to the factory and warehouse as heretofore. But I must apologise for dwelling so long on this subject and will at once turn to the heading of these notes.

The meadows will soon be a mass of gold (glitter) with the Butter-cups; Primroses, so modest, are on the wane, and being succeeded by the blue Violet, unfortunately scentless in Devon. But the array of Wallflowers in our gardens of rich and poor make up for this deficiency, doubly so after a shower, or

when a heavy dew is upon them. The gorgeous Rhododendrons (Rosydendrums as they are so often called by Devonians) are about at their best from pure white to deep scarlet; and the Ghent Azaleas, so rich in colour of some and delicious scent of others, are fast expanding their petals. Prunuses of sorts, shrubby Spiraeas, the double Cherry, the cup-shaped Magnolia conspicua, and its varieties, Anemones, late-flowered Tulips, of many colours, Irises of sorts, Dielytra spectabilis, an old inhabitant of our garden but still admired, the Poet's Narcissus (*N. poeticus recurvus*), the deep blue of *Ceanothus rigidus* and sky-blue of *C. veitchianus*, one of the best, the Banksian Rose, white and yellow; *Berberis dulcis* and *B. Aquifolium*, *Clematis montana*, *Akebia quinata*, white Broom, Aubretias, Arabis and many others, did space permit to note all, add a brightness to the whole, making the month of May as delightful to the student of Nature as anyone in the calendar.—*J. Mayne, Bicton.*

THE ART OF ARRANGING POT PLANTS.

It seems a failing of very many gardeners who are otherwise good men (in the sense as plant cultivators), that they have small wish and less skill to arrange their plants on the stages so as to heighten, by united combination, the beauty of plants which are individually handsome. They hide their lights under a bushel. It would be a sorry case for drapers or dressmakers, grocers or gunsmiths if they had not the critical eye for effective display. So it is with the gardener, indeed, very much so. To the man who really has the artistic eye, the eye which sees with the artist's conception, old sticks of plants can be made to present quite a favourable show. There is needed that quality, a natural quality, which confirms or censures the arrangement of things from different points of view, such as proportion, harmony, contrast, or the mental effect which different forms produce.

Of course we have again the man who is always meddling, and often enough muddling. "Enough is as good as a feast," and too many changes take away the domesticity, the homeliness, and the feelings which mantle round scenes, even if they be only conservatory scenes, which are frequently viewed. Abolish the faddist and the conventionalist. The former must have something different from his neighbours, and so long as it is insulated he is content. The other follows rule of thumb, which interpreted, means that one 5-in. pot must go beside another of the same size irrespective of the contour, &c., of the occupants, or all plants so many feet high, must be in such and such a row.

No. A simple, free, and varied arrangement is the most acceptable to an educated eye. The edge should always be draped and one kind of plant, or at most two kinds only, should be employed. Then considering the stage itself, it must even be the first consideration, what kind of grounding may be used. Derbyshire-spar I would almost at once say. Where expenses are not grudged nothing better can possibly be sought for. Cinders and other stuff may be used, but use anything rather than nothing. Bare wooden stages are an outrage to anyone's good taste. Then in the adjustment of the plants where they are a mixed lot the idea to follow is that which would place tapering plants such as *Sansevieria javanica* so as to appear shooting up from behind such a plant, say, as *Yucca aloefolia*, or *Dracaena gracilis*. An upright broad-leaved plant, such as *Heliconia illustris* contrasts beautifully with some of the Palms or drooping *Dracaenas* and *Crotons*. The plants too will require to be turned round in various ways when placing them to discover which side best "fits" against the neighbour plants. Even the heights will have to be tried before a proper adaptation is made.

With flowering plants it is a great thing to so place them that a good view is got from any side. Anything extra good should have prominence. It will also be found the more effective method of staging, to have batches of a certain plant by itself. It may be *Primulas* or *Calceolarias*, *Asters*, *Salvias*, *Browallias*, or aught else. Of course in smaller houses, and where the stock of plants is varied and not grown in batches, a mixed arrangement must be adopted. The darker colours are most adaptable for the back ground. Shrubby plants such as *Ericas*, *Eriostemons*, *Acacias*, &c.,

must be kept by themselves, for their effect along with succulents is incongruous and distasteful. By here and there raising a good plant somewhat above its fellows (by pots or stands), relief is afforded and flatness expunged. On no pretence suffer your plants to be one dead level; nothing is more wearisome. The united effect ought to be pleasing and each individual section of the composition likewise pleasing.—*Albion.*

PLANTS RECENTLY CERTIFICATED.

AWARDS made by the Royal Horticultural Society at the Drill Hall, on the 8th inst.

Orchid Committee.

ODONTOGLOSSUM CRISPUM AUREUM ROSEFIELD-ENSE.—The flowers of this strikingly distinct variety are round, well imbricated, and of a clear yellow. The sepals and petals are jagged at the edges and somewhat paler in the centre. The lip is darker yellow at the base. There is a large, chocolate blotch on the back of the column and a few slender brown lines on the crest, otherwise we have in this a pure yellow crispum, though there are some who doubt whether the yellow has not been derived from a totally different species. (First-class Certificate.) De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks.

ODONTOGLOSSUM CRISPUM PITTIANUM.—The sepals and petals of this bold and handsome *Odontoglossum* are white with a large, lobed, brownish-purple blotch on the centre of each. The lip is large with a number of brownish-purple blotches and spots all over a white ground. (First-class Certificate.) H. T. Pitt, Esq. (gardener, Mr. Thurgood), Rosslyn, Stamford Hill.

CYPRIPEDIUM PHOEBE.—The parentage of this pretty and dwarf hybrid was *C. laevigatum* × *bellatulum*. The dorsal sepal is ovate, heavily lined along the veins and netted elsewhere with deep brownish-purple on a greenish-yellow ground. The petals are $2\frac{1}{2}$ in. long and similarly lined. The lip is pale yellow tinted with green. (Award of Merit.) W. M. Appleton, Esq. (gardener, Mr. J. Brooks), Tyn-y-Coed.

LAELIA PURPURATA ETHEL GREY.—The flowers of this handsome variety are large and possessed of beautifully contrasting colours. The sepals and petals are white; but the lip has a large, deep crimson-purple lamina, fading to rose at the apex. The tube is white on both surfaces, but finely lined with purple internally. (Award of Merit.) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

LAELIOCATTELEYA HYEANA.—The parents of this bigeneric hybrid were *Laelia purpurata* and *Cattleya lawrenceana* (male). The sepals and petals are of a uniform rosy-purple, recalling the male parent. The lamina of the lip is an intense purple, and the interior of the tube is lined with purple at the very base only, thus showing that the long, slender lines of *L. purpurata* have also been affected by the influence of the male parent. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

MASDEVALLIA O'BRIENIANA.—The flowers of this diminutive species nestle almost at the base of the short leaves; they are yellow and densely spotted with purple. The tails of the sepals are only $\frac{1}{4}$ in. long. (Botanical Certificate.) R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), Cambridge Lodge, Flodden Road, Camberwell.

ODONTOGLOSSUM CRISPUM TESSELLATUM.—The flowers of this handsome *Odontoglossum* are of good form and build. The sepals and petals are beautifully blotched and marbled or tessellated with brownish-purple on a white ground, albeit the outer face is shaded with purple. (Award of Merit.) Messrs. Linden, l'Horticole Coloniale, Brussels.

EPIDENDRUM VESICATUM.—The broad leaves of this curious species are leathery, keeled, and hide much of the stem by clasping it; indeed, the two uppermost enclose and almost conceal the flowers, which are small, pale, greenish-white, and produced in a terminal cluster. (Botanical Certificate.) A. H. Smee, Esq. (gardener, Mr. W. Humphreys), The Grange, Hackbridge.

Floral Committee.

ASPARAGUS SPRENGERI VARIEGATUS.—The small twigs, one-half or the whole of many of the leaves of this variety are of a silvery-white, which gives to

the plant a silvery and remarkably distinct appearance. (First-class Certificate.) Messrs. F. Sander & Co., St. Albans, exhibited a large and spreading plant of it.

TULIPA KOLPAKOWSKIANA.—The flowers of this pretty Asiatic species are of medium size, bright scarlet internally, and shaded with orange-scarlet externally. (Award of Merit.) Miss E. Wilmott, Warley, Brentwood, Essex.

TULIPA BORSZCZOWI.—The three outer segments of this species are bright red with broad golden margins. Internally the whole of the segments are bright golden-yellow. The contrast is very beautiful, indeed. (Award of Merit.) Miss E. Wilmott.

TULIP PINK BEAUTY.—The flowers of this early, bedding variety are of great size, bright rose-red, with a broad white band externally, and a yellow bottom internally, surrounded with white. By a curious coincidence this received XXX at Chiswick recently. (Award of Merit.) Messrs. Hogg & Robertson, 22, Mary Street, Dublin.

TULIP HECTOR.—This also received XXX at the same committee meeting at Chiswick. The flowers are of the first size, and deep orange-scarlet or red, with yellow edges, a broad yellow tip internally, and a yellow base. (Award of Merit.) Messrs. Hogg & Robertson.

CAMELLIA DEVONIA.—The flowers of this *Camellia* are single, white, more or less cupped and filled up in the centre with a large brush of yellow stamens. It is a handsome variety, and being single should prove useful for outdoor cultivation. (Award of Merit.) Messrs. R. Veitch & Son, the Royal Nurseries, Exeter.

RHODODENDRON COOMBE ROYAL.—The large, bell-shaped flowers of this hybrid *Rhododendron* are widely expanded, white, spotted with purple on the upper segment, and tinted with pink externally towards the base. The flowers as well as those of other hybrids and Himalayan species shown had all been grown in the open air in Devon. (Award of Merit.) Messrs. R. Veitch & Son.

RHODODENDRON (AZALEODENDRON) DIRECTEUR RODIGAS.—In this we have a hybrid between a hardy, deciduous *Azalea* and a *Rhododendron* of the ponticum type. The flowers are large, widely expanded, campanulate, rosy-pink and spotted with crimson on the upper segment. Several of these hybrids between an *Azalea* and a *Rhododendron* have now made their appearance in public, but this we consider the best and showiest that has yet appeared. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

GEUM MONTANUM AURANTIACUM.—The ordinary form of this hardy herbaceous or rock plant is of dwarf habit, with pinnate leaves and large yellow flowers. Those of the variety are of a rich, orange-yellow and handsome. (Award of Merit.) Mr. Amos Perry, Hardy Plant Farm, Wlanchmore Hill, London, N.

Fruit and Vegetable Committee.

TURNIP CARTER'S EARLY FORCING.—The usable root of this variety, as grown in a frame, is about 6 in. long, nearly cylindrical, very white and clean looking. It is allied to the Jersey Navew. It was accorded an Award of Merit as a useful early forcing variety. Mr. E. Beckett, gardener to Lord Aldenham, Aldenham House, Elstree, Herts.

CUCUMBER IDEAL.—This new variety was derived by crossing Lockie's Perfection and Victory. The fruit is moderate in length, cylindrical, without a neck or handle, deep green and covered with a glaucous bloom. There are a few small white spines scattered over it. The variety is very fruitful and handsome in appearance. (Award of Merit.) Mr. E. Beckett.

RIBES AUREUM.

We hear, see, and know enough of *Ribes sanguineum*, *R. s. atrorubens*, *R. rubrum sylvestre*, &c., but how seldom is there any special mention made about the yellow flowered *Ribes*. It is, all the same, a very pretty shrub. In habit and in form of the flower it is like the other and better known species. The foliage differs slightly. The leaves are smoother, cuneate and lobed along the apical margins. The colour is of a brighter green. So far as I know, *R. aureum* is quite as hardy as any of the others. It is conspicuous when in full flower. It is a commendable shrub, and one I would feign see in many more gardens.—*L.*

FLOTSAM AND JETSAM.

YOUR leader on the Shamrock reminds me of a funny incident that happened here on St. Patrick's Day. An Irish saloon-keeper, who has a German bartender, was anxiously awaiting an importation of Shamrock from the "ould sod," and, on enquiry, the assistant told him that a package of greens had come by express. "Where are they?" shouted "Jimmy." "Frltz" pointed proudly to the lunch table. "There they were, with mayonnaise dressings as a salad!"

Crape was in order around that day.

In Washington there is a man who claims to have eaten nothing for six years but uncooked vegetables. He, his wife and one-year-old child exist mainly on raw cereals, raw Potatoes, Cabbage, and other vegetables and fruits. They are never ill, and not susceptible to cold, and wear no underwear nor wraps the year round. He avers he can lift 1,450 lbs. It's certainly economical. I always thought our Scottish students, who live mainly on oatmeal, and fire stones at coal teamsters in order to obtain the chunk, of coal used as return missiles, bore the banner, but, as usual, a Yankee is a-head.

Yale University has been lucky enough to obtain a gift of £30,000 (\$150,000) for founding a School of Forestry. The Pine needles of South Oregon are being utilised as medicated upholstery, after first being boiled, and compressed between rollers to extract the juice. It is claimed to be insect proof, and the juice is used medicinally. Truly, this is a utilitarian age. A writer sententiously observes apropos of matrimony that it means both are to raise vegetables, and leave flower culture to the single. Still more utilitarian, isn't it? Eucalyptus blocks for paving are used largely in Australia, and it is proposed to introduce them here.

In Washington Park, Chicago, the gardeners are jubilating because they have two Bananas in full bearing. They seldom ripen in this country, but there they have in the last three years ripened five bunches.

Lincoln Park has a woman landscape gardener, lately appointed, rather an arduous task in such a splendid park. The eyes of the shrieking sisterhood are anxiously on her.—*C Macquarie, Chicago.*

TREES AND SHRUBS IN FLOWER.

THE number of trees and shrubs in flower at present is greater than at any other season of the year. Most of the *Prunus* and *Pyrus* tribe and the host of the Gooseberry and Currant order are at their finest during the present week. The dry season last year seems to have had a great effect upon the floriferousness of most kinds of trees and shrubs in gardens around London. Many trees of a purely ornamental character are completely wreathed with blossom.

PRUNUS MAHELEB PENDULA is one of the most effective to be seen anywhere. It is full of grace, is slender and bears showers of white flowers. The fragrance of some of these Plum and Cherry tree blossoms is not always agreeable, but in this case it is pleasant enough.

PRUNUS AVIUM PENDULA, the Bird Cherry, is truly a "weeping" tree, and when these drooping branches are seen covered with white roseaceous flowers, a highly pleasing sight is before us.

PRUNUS PUDDUM is a graceful, slender growing tree with quantities of moderate sized white flowers.

PRUNUS MOLLIS is bushy in habit, and takes after *Spiraea confusa* in form and appearance of the inflorescence.

PRUNUS PADUS VAR. *LEUCOCARPUS* is distinct in that its small creamy-white flowers are borne in drooping racemes. It is bushy in habit. Though pretty, useful, and effective it is a shrub not very commonly seen.

PRUNUS MAHALEB VAR. *CHRYSOCARPA* is quite different in its habit. It is a handsome and massive tree, and when at its best is wreathed in flowers as though mantled with snow. It attracts the bees from far and near. A few well balanced trees of this variety have a powerful effect in garden scenery.

MAGNOLIA CONSPICUA is the pure white species with fine large white egg-shaped flowers; and *Magnolia c. soulangeana*, which is also egg-shaped with sharply pointed flower lobes, is shaded with purple. Both, of course, expand their flowers when fully matured. *M. c. soulangeana* is a natural cross

between *M. purpurea* and *M. conspicua*, according to Loudon. *M. c. soulangeana* differs from the mother parent, *M. conspicua*, chiefly in the smaller size of its flowers and their colour, which is a tint of purple. Inarching or layering is the usual method of propagation.

AMELANCHIER CANADENSIS.—The June Berry, as this pretty and free flowering white-flowered shrub or tree is called, is one of the most popular in southern gardens. It is quite hardy, and either in or out of flower it is a desirable tree. The foliage in autumn assumes a bright yellow tint which gives it wonderful attractiveness. As with most other plants, shrubs or trees, it should be planted together in clumps or groups, out in the ornamental grounds. Its more extended planting is to be recommended.—*A.*

VISITS TO NURSERIES.

MESSRS. R. B. LAIRD & SONS, LTD.,
MURRAYFIELD, EDINBURGH.

ANYONE possessed of a little spare time, when in Edinburgh, should make a point of running out to Murrayfield, to Messrs. R. B. Laird & Sons' nursery, and to Mr. John Downie's. So near are these nurseries to the city that a 'bus ride quickly takes one there. And there is always something worth the seeing. The following notes were made while on a flying visit to Pinkhill early in April.

PLANTS UNDER GLASS.

The cool houses were stocked with *Acacias*, among them being the beautiful *A. riceana* in some quantity. *A. armata*, *A. Drummondii*, and *A. leprosa* were likewise there in quantity and quality. The latter species is exceedingly fine, having long arching shoots with narrow leaves and flowers which are paler than those of *A. armata*. *Genista alba* is also worthy of some attention, while forced *Wistarias*, which were seen at Pinkhill, excel nearly all others of our spring-forced shrubby plants. It is comparatively easy to get early into flower, and as the flowering racemes are either white or deep lavender, according to variety, it certainly provides a plant unique in these respects. *Pyrus Malus floribunda*, so cheery and so generous in its gift of flowers, added its pink and rosy-blush blooms to lighten up the numerous banks of double white Lilacs (*Mdme. Lemoine*) and the lilac-coloured Lilacs. *Erica Cavendishii*, *E. coccinea major*, *E. erecta*, &c., and hardy flowering *Rhododendrons* in pots, as represented by John Waterer and Purity were quite a feast in themselves. In some of the greenhouses there were collections of Sweet Peas in small pots. Mr. Wm. Craig, the grower, had managed to secure a few Sweet Pea blooms so early as the first week in March—no bad attempt. And he was able to keep up a continued supply from a slightly later date. Bunches of early Sweet Pea blooms are a capital commodity for an energetic florist to possess, and the Pinkhill firm knows it. I have omitted to mention *Acacia linearis*, another charmingly graceful and pleasing subject. *Statice Dicksonii*, with its heather-flushed flowers, forms a good contrasting variety to *S. profusa*.

Phyllocacti, *Epiphyllum russelliana*, and *E. Gaertnerii* were showing well, or in the latter case were in full bloom.

Palms of all the useful sorts, tall, little, and medium-sized, spreading or erect, one and all are extensively grown. Worthy of special comment are some of the finer specimens of *Caryota mitis*. This is a beautiful stove Palm, as indeed are most other members of the genus.

Caladiums baffle words to adequately describe them. The exquisite delicacy of these loveliest of all tender foliage plants, would have been an impressive sight for even the most ordinary-minded in matters relative to aesthetics. The collection is widely representative, including also a goodly number of new varieties.

Dracaenas are a special feature in the Pinkhill glass department. They have gone strongly in for crossing green and white-edged varieties with the crimson and red leaved ones, to obtain tricolor seedlings. The Messrs. Laird also confine their efforts more especially to the narrow-leaved section, and their successes up-to-date are proved by some of the pretty little varieties they have already put into gardeners' hands. Few narrow-leaved *Dracaenas* can equal the crimson-purple variety, Mrs. D. P.

Laird. *Crotons* also command attention. A very full collection is at Pinkhill. Ferns to suit all tastes—*Aspleniums*, *Maidenhairs*, *Nephrolepis*, *Gymnogrammes*, *Davallias*, *Polypodiums*, *Pteris*, and any amount more each with their train of popular varieties were seen, but could not further be noted.

Flowering plants were again evident; this time it was Zonal *Pelargoniums*, of which they have about 150 varieties, including Pearson's newest seedlings.

Young Vine canes in pots for autumn planting were throwing remarkably fine breaks and strong shoots. Every attention is given to them, and they are thoroughly ripened by the autumn sunshine which falls abundantly in the undulating slopes of Pinkhill.

Chrysanthemums and *Carnations* in frames promised well. In the open borders at the time of our visit there was practically nothing to view. But we have been to this nursery in the "bonnie" days of summer, from which we know that in these brown borders rest a heavy wealth of beauty. Conifers of all kinds as well as flowering shrubs, Roses, and fruit trees each occupy acres of ground.

CHISWICK TULIP TRIALS.

IN the following list of Tulips which have now been awarded three marks (xxx) viz., Highly Commended, many well-known and long-proved varieties will be found. This arises from the fact that the present is the first trial of this one-time venerated flower, which the Royal Horticultural Society has undertaken. The trial has been instrumental in rectifying one or two wrongly named stocks, and, so far as it goes, in proving the length of time a variety is in flower, and whether it is early, medium or late. Only three nurserymen bulb-growers appear to have sent trial lots, at least only three nursery firms are represented in the commendations. These are Messrs. Hogg and Robertson, Dublin; Mr. H. J. Jones, Ryecroft, Lewisham, S.E., who, though he only entered the ranks of bulb-growers and merchants last year, has quite a host of Tulips receiving three marks; and the Chelsea firm, Messrs James Veitch and Sons, Ltd.

To have had a thorough useful trial, we should have liked to have heard of others of the big growers having contributed. There was stated to be about two hundred Tulip trials.

OPHIR D'OR.—This is the finest flowering yellow Tulip in the whole collection. It throws up two and three flowers from each bulb. It is also very fragrant. From Messrs. Hogg and Robertson.

MAES is a very large and early crimson variety, substantially built, and with fine form. From Messrs. Hogg and Robertson.

IMPERATOR RUBRORUM.—Compared against William III., *Rex rubrorum*, and *Vurb*, *Imperator rubrorum* was found to be the most perfect variety among them. It is a beautiful double-flowered crimson-scarlet Tulip and ought to be added to all garden collections. It grows eight inches high, is strong, and highly effective in masses. From Messrs. Hogg and Robertson, and Mr. H. J. Jones.

PROSERPINE.—This handsome and now well-known Tulip as one might expect held its own and received the xxx. From Mr. H. J. Jones and Messrs. Hogg and Robertson.

THOMAS MOORE.—Here also we have a popular favourite, an early and distinct terra-cotta coloured Tulip, used very extensively in London and other public parks. This fact bespeaks its bedding qualities. From Messrs. Hogg and Robertson.

DUCHESS DE PARME.—Nothing better than some of these older favourites seems to be competing with them in their special sections. The colour is orange-red with an irregular and deep yellow margin. It also forms one of the most distinct and showy Tulips at present in commerce. From Mr. H. J. Jones, Messrs. Jas. Veitch and Son, Ltd., and Messrs. Hogg and Robertson.

HECTOR.—Here we have a sturdy growing form of the Duc de Malakoff type, but deeper in colour, better substance of petal, and does not reflex. The colour is orange-crimson, the flowers large and good and held about eight inches high. From Messrs. Hogg and Robertson.

EPAMINONDAS.—A beautiful variety, having a tapering deep rosy-crimson flower. From Messrs. Hogg and Robertson.

CERISE GRIS DE LIN.—A distinct yet not par-

ticularly attractive Tulip, of fine cup-shaped form, good size, coloured lake shading to fawn, and bordered with a white edge. From Mr. H. J. Jones, and Messrs. Hogg and Robertson.

GRAND DUC DE Russe.—A very large flowering early Tulip, flower purplish-rose flaked with white. A stout grower and a good variety. From Messrs. Hogg and Robertson.

Joost Van Vondel, White.—This is undoubtedly one of the best whites. It simply is a white form of the much admired Joost Van Vondel. From Messrs. Jas. Veitch and Sons, Mr. Jones, and Messrs. Hogg and Robertson.

Queen of the Netherlands.—Herein we have a distinct Tullp. It is, when mature, a pale soft blush colour, with large well-formed flowers of excellent oval shape. It grows eight inches tall. Award of Merit, Mr. H. J. Jones.

David Ternier.—A white, cup-shaped variety, dwarfier than White Pottebakker but otherwise comparable to it, except perhaps in its time of flowering. In fact so distinct are the flowering periods of White Joost Van Vondel, David Ternier, and Pottebakker, White, that by selecting these three, we can guarantee a succession of white Tulips. The Pottebakker is earliest. From Messrs. Hogg and Robertson.

El Toreador.—A new double Tulip of an orange-scarlet and chestnut colour, and yellow base, a variety sure to become popular. Award of Merit, Mr. H. J. Jones.

Pink Beauty.—This exceedingly fine Tulip received xxx at Chiswick and an Award of Merit at a recent Drill Hall meeting, and is described on page 602.

Cottage Maid, which was sent by Messrs. Jas. Veitch and Sons, Ltd., and Mr. H. J. Jones, received the three marks. It is known in most gardens.

Van der Ner is a prepossessing violet purple Tulip of sturdy habit and medium height. From Mr. H. J. Jones.

La Reine is a good white Tulip; flowers of medium size and beautiful globular form. From Mr. H. J. Jones.

Dussart.—The beauty of this Tulip is principally in its finely tapering form and the depth of its crimson colouring. It should prove a splendid variety for massing in beds. From Mr. H. J. Jones.

Mon Tresor is a bright canary yellow, very closely following upon Ophir d'Or both in form and colour. It is suitable either for pots or beds. From Messrs. Hogg and Robertson.

Admiral Reinier.—Here is a very beautiful, long, tapering Tulip with rosy flowers, abundantly flaked with pure white. It grows nine or ten inches high, and is erect and robust. Messrs. Hogg and Robertson.

Bacchus.—The finely shaped flowers are of a deep red colour, so that the name of the wine god is aptly applied. Mr. H. J. Jones and Messrs. Hogg and Robertson.

Tournesol.—Messrs. Hogg and Robertson sent this fine old variety which has now the three marks.

Vermilion Brilliant.—This vermilion coloured and well-known Tulip, so useful for bedding and for forcing, has also been noticed. Mr. H. J. Jones and Messrs. Hogg and Robertson.

Pottebakker, White.—This sturdy and extremely popular Tulip has been able to uphold its reputation. Mr. Jones and Messrs. Hogg and Robertson.

pistillate organs just as in *Richardia*. The apex of this spadix is crowned by an irregular, leathery, blood-coloured cap which expands wider than the spadix, and protects the essential organs. Within this cap a very high temperature is generated. The flower in question had been registered for its internal temperature, which ran up to 97° Fah., 14° higher than that of the house in which it is growing. The flower naturally created intense interest though few understood anything about it: Some of the species are effectively employed in sub-tropical bedding. They require plenty of pot room, a rich loamy soil, a warm moist atmosphere, though they must be kept dry and warm in winter.

OPHIOGLOSSUMS RESTING.

The question is raised in *The Fern Bulletin* for April, whether the Adder's-tongue Ferns rest. A correspondent to the *Bulletin* records a number of visits made by himself and a friend to a site south of Onida, N.Y., where *O. vulgatum*, the common Adder's-tongue, had been found in great plenty. On going to the same station a year after, the Ferns were by no means so plentiful as they had been. Again a year hence and they were more abundant than at the first visit, but during last year they had again relapsed, and though hundreds had been found before, scarcely a decent specimen could now be got. Whether the season had been too wet or too dry, or whether the plants had suffered from stinging of the young shoots by insects has yet to be ascertained. It would be interesting to know if any similar case has been noticed in Great Britain.

IRIS PUMILA.

HEREIN we have a very dwarf but sweet flowering Iris, suitable for the rockery or other sunny position. The flowers are solitary, the limbs of the flower are bright lavender-blue, the standards quite erect, and the broad falls are coloured beautifully white along the claw and keel. The whole height of this Iris does not exceed 8 in. or 9 in. This species is variously employed for ornamental purposes, that is, for edges to herbaceous beds, but in a good rockery pocket it is seen to the best advantage.

CHEMICAL (POISON) COMPOUNDS FOR INDUSTRIAL PURPOSES.

When the Act of Parliament was framed giving the Pharmaceutical Society the sole control of selling chemical compounds through the agency of qualified chemists, the Act was no doubt a beneficial one in so far as it related to the compounding and dispensing of poisonous substances for medicinal purposes. A new development of the question in the use of poison and poisonous compounds for technical and trade purposes has since sprung up which the framers of the Act could not have foreseen; for instance, nicotine was not at that time generally available for commercial uses. It is to the advantage of the trade and country at large that there should be no monopoly in the sale of insecticides, fungicides, "weed killers," &c. We are pleased to see, therefore, that a society has been formed for the protection of traders in poison and poisonous compounds for technical and general trade purposes. The society has been formed and offices secured chiefly through the instrumentality of Mr. G. H. Richards, 128, Southwark Street, London, S.E., with whose name gardeners and horticulturists generally are not unfamiliar. We hope the society will be an unqualified success. Its aims and objects are fully set forth below:—

No small amount of opposition, it appears, is being elicited by the recent action of the Council of the Pharmaceutical Society of Great Britain in advancing and enforcing, by means of legal proceedings, the claim of the registered chemist and druggist—previously more or less a stranger to this particular branch of commercial enterprise—to the sole right, under the Pharmacy Act, 1868, of retailing chemical compounds (even when in sealed packages) which, although containing a certain scheduled poison or poisons, are totally unconnected with pharmacy, being intended merely for technical, trade or industrial uses—such as, to take a notable example, for agricultural and horticultural purposes.

No objection, it is explained, is offered to the pharmacist obtaining his fair share of patronage in this or in any other branch of industry opened up by the ever-growing over-lapping of trading ener-

gies. It is contended, however, that the monopoly recently set up by the Council of the Pharmaceutical Society was never intended by the framers of the Act of Parliament in question, and that it can only be maintained at considerable public inconvenience, and in direct antagonism to the interest of commerce generally, inasmuch as it would confine to the counters of a few comparative strangers to the business the entire retailing of a large number of ready-prepared every-day chemical requirements hitherto easily and harmlessly procurable from a variety of responsible shopkeepers who, although admittedly not qualified to compound or dispense medicines, are surely quite as competent as any registered chemist and druggist to sell—subject to proper precautions—securely packed retail quantities of chemical compounds intended solely for technical or commercial purposes—even although such compounds may contain a poisonous ingredient or ingredients. To continue to hold otherwise, as was recently remarked by Sir Richard Harington in the much discussed County Court action, *The Council of the Pharmaceutical Society v. White* (see below), would be to invite developments that "might bring the Act into ridicule." The argument, added his honour, that it is unlawful for anyone save a pharmacist to sell (say) a particular Weed Killer which may contain a poison, and which he may have procured at the order of a customer, would apply equally to any retailer not registered as a chemist, selling paint containing arsenic. If pushed to its utmost limit, the principle, according to Sir Richard, would simply mean that a paint containing arsenic can only legally be sold by a properly qualified chemist—and "it is scarcely probable that the Legislature intended such a thing." The same may be said with regard to fly papers, arsenical soap, and a thousand other household articles that are no more dangerous when sold from a general shop than by a pharmacist.

This opinion of Sir Richard Harington seems to have been unambiguously supported by Mr. Graham Murray, Q.C., M.P., as Lord Advocate for Scotland, in January last, in an answer publicly given to Mr. Michael Cuthbertson, of Sunny Bank Nurseries, Rothesay. "Where poisonous substances," observed this gentleman, speaking with the responsibility of office upon his shoulders, "are to be dealt with in the way of being dispensed pharmaceutically, it is quite right that the retailing should be done by properly qualified persons. In my view, however, preparations such as sheep dips, insecticides, weed killers, etc., which contain poisons do not need to be dispensed and are supplied by the manufacturer in the final form in which they are to be applied. I do not, therefore, see that any trade or profession should have a monopoly of selling them, provided proper regulations be made and precautions taken that they will not be supplied or used for any other purpose than those for which they are meant."

The initiative of Mr. Cuthbertson with the Lord Advocate for Scotland has been and is being followed by several well-known manufacturers and traders interested in the question in various other important commercial centres, with a view of interviewing and influencing other members of the Government and of Parliament generally. An organised association also, under the title:

"THE TRADERS IN POISONS AND POISONOUS COMPOUNDS FOR TECHNICAL OR TRADE PURPOSES PROTECTION SOCIETY,"

with offices at 5 and 6, Clement's Inn, Strand, London, W.C., has been formed to take prompt and sustained action in the matter, and to make a strenuous and united effort to obtain legislative assistance to put an end to the monopoly now claimed for pharmacists, and to gain for the original and certainly the most generally recognised vendors of this particular class of specialities—*inter alios* agricultural agents, seedsmen, nurserymen, corn dealers, ironmongers and hardware merchants, oil and colourmen, etc.—permission to resume the sale and retailing of chemical compounds for technical and commercial purposes notwithstanding that such articles may contain poisonous ingredients—providing always that such sale and retailing be subject to proper and well defined restrictions, and be limited to commodities "in original sealed packages as received from the manufacturers or wholesale dealers."

It may prove interesting at this stage to allude

GARDENING MISCELLANY.

AMORPHOPHALLUS CAMPANULATUS.

VISITORS to the Victoria Regia House at Kew, recently, have been confronted by a smell, or rather another word of five letters which expresses something that is less acceptable than a "smell," and the cause of it has been a flower, the flower of the curious and seldom seen *Amorphophallus campanulatus*. The flower appears before the leaf, for the plant is also peculiar in this, that it only bears one leaf—if leaf it should be called. The flower consists of a hide-like spathe, which is campanulate in form, wide open at the mouth, green below and liver-coloured above. In the centre there is a stout axis bearing numerous staminate and

briefly to two of the principal cases which have resulted in the formation of the above Protection Society.

THE PHARMACEUTICAL SOCIETY V. WHITE.

This was an action in the County Court at Worcester, on August 8th, 1899, at the instance of the Council of the Pharmaceutical Society of Great Britain, claiming a £5 penalty from Mr. Joseph Hill White, a well-known nurseryman and seedsman, of Worcester, for having "sold or kept open shop for the retailing, dispensing, or compounding of a poison, viz., arsenic, contained in a chemical compound known as the Climax Weed Killer."

Mr. T. G. Dobbs, of the firm of Messrs. Dobbs and Hill, solicitors, Worcester—and who, it will be observed below, is the secretary to the new Protection Society—appeared for the defendant, and pointed out with no small degree of acumen that the supply of the weed killer in question had not been sold from any stock belonging to or kept for sale by Mr. White upon his premises, that gentleman having merely passed the order on as agent to a company, who gave him a receipt headed, "Bought of the Boundary Chemical Co., Ltd., Luton Street, Liverpool." The defendant therefore, he argued, was not the absolute vendor within the meaning of the words of the Act of Parliament, and had no control over the sale.

This contention was not only emphatically endorsed by Sir Richard Harington, in the significant remarks quoted a few paragraphs above, but the learned Judge's decision was also subsequently unhesitatingly upheld in an appeal heard at some considerable length before Justices Grantham and Channell in the Divisional Court on January 16th of the present year.

THE PHARMACEUTICAL SOCIETY V. WRENCH.

This is another leading case in this connection, and was tried before the Lord Mayor of London, at the Mansion House Police Court, November 30th, 1899. It was therein decided that the nicotine contained in a certain insecticide stocked and sold by the defendant brings such chemical compound within the meaning of the provisions against the retailing of preparations containing poison by other than duly registered pharmacists. The vendors, who are well known and extensive seed merchants, were consequently fined.

In the first of the above quoted cases, it should be understood that the defendant clearly proved that he did not stock or control the sale of the article containing the scheduled poison. He was, as one of the judges remarked, merely "the channel of communication, passing the order on to the company who supplied him." In the second case, however, the defendants who were fined not only took the order but supplied the article from stock upon the premises.

With respect, again, to the unsuccessful appeal against Mr. White, it is somewhat curious to note that counsel for the Pharmaceutical Society—instead of frankly admitting the efforts being made by his clients and by others to obtain more stringent legislation in connection with companies which cannot be registered under the Poisons Act—quoted the decision in *The Pharmaceutical Society v. The London and Provincial Supply Association, Ltd.*, in support of his efforts to fix responsibility upon the defendant. This, it will be remembered, is the celebrated company case that was carried to the House of Lords, and the judgment of the late Lord Selborne therein is well worth reading, inasmuch as that justly esteemed legal authority clearly pointed out that in his opinion "the liberty of the subject ought not to be held to be abridged any further than the wording of the Statute (meaning the Pharmacy Act of 1868), considered with the proper regard to its object, may require." *An reste*, it is boldly contended by the promoters of the new Protection Society that the Pharmacy Act of 1868 was intended merely to prevent unqualified persons selling or keeping open shop for retailing, dispensing or compounding poisons either for the preparation of medicine or for medicinal use, and that it was never for a moment meant to apply to the sale of poisonous compounds for trade or technical purposes. Sir Richard Harington appears to have had this in mind when he gave his emphatic Worcester decision.

The Traders in Poisons or Poisonous Compounds for Technical or Trade Purposes Protection Society, as already mentioned, have taken offices at No. 5 and 6, Clement's Inn, Strand, W.C., and the com-

mittee have appointed Mr. T. G. Dobbs secretary of the society, Mr. G. H. Richards, of 128, Southwark Street, London, S.E., hon. treasurer, and Messrs. Dobbs and Hill, of Worcester, legal advisers.

A strong representative committee has been formed, and the society is now seeking support by way of subscription or donation from all classes of traders, the objects of the association being stated shortly as follows:—

- (1) To promote and protect the interests of traders in poisons and poisonous compounds for technical or trade purposes.
- (2) To take steps as the executive committee may consider desirable for opposing legislation which is calculated to injuriously affect such traders.
- (3) To secure the removal of repressive and vexatious restrictions in regard to the sale of poisons and poisonous compounds for technical and trade purposes by traders other than pharmacists.
- (4) To promote and support by all constitutional means the passage through Parliament of any Bill or Bills comprehending the above objects.
- (5) To advise and assist members of the society in any litigation in which the general interests of the traders in poisons and poisonous compounds for technical or trade purposes are in the opinion of the executive committee injuriously affected.

A petition to Parliament has been drawn up for the signature of seedsmen, nurserymen, gardeners, corn dealers, ironmongers, oil and colourmen, hardwaremen, agricultural agents, farmers, and other classes of tradesmen and users of chemical compounds containing poisons but only intended for technical and industrial purposes, pointing out, *inter alia*,

- (1.) The important losses to trade generally; and
- (2.) The very serious inconvenience to consumers and the public at large,

by the retailing of such articles being taken *in toto* away from the tradesmen who have been accustomed to stock such specialities and given—as a monopoly—to pharmaceutical chemists, the large majority of whom have little acquaintance with, and at best, small accommodation for the storage of goods in these lines—which are frequently of a heavy or bulky nature.

Copies of this petition, we are informed, are being sent out from the offices of the society, to gentlemen in various localities who will interest themselves in the matter; and with the view of making the movement of a popular character, the minimum annual subscription for membership has been fixed at 5s., and donations are invited.

SOCIETIES.

ROYAL BOTANIC.—May 16th.

The above society held its early summer exhibition on Wednesday, May 16th, in their gardens at Regent's Park. The non-competitive groups displayed some remarkably fine stuff, particularly the exhibits set up by Messrs. W. Young & Co., Stevenage, Herts., Messrs. T. Rivers & Son, of Sawbridgeworth, Messrs. Cheal & Sons, Messrs. Carter, and Messrs. Barr, of King Street, Covent Garden.

The competitive classes were poorly entered. The large conservatory was largely utilised for the nurserymen's exhibits as also the long corridor leading from it to the roadway.

MISCELLANEOUS GROUPS.

Messrs. Carter & Co., High Holborn, made a brilliant exhibit of their famous Star Cinerarias, with an undergrowth of the dwarf doubles. We can only repeat what we have many times already said in regard to the Star Cinerarias, they are ideal for greenhouse decoration, and equally so for cutting purposes. Every shade of colour is represented by them.

Messrs. Thos. Rivers & Son, Sawbridgeworth, sent a collection of about a score of bush Nectarines laden with finely formed, good sized and brightly coloured fruits. The Cardinal Nectarine, May Duke, Cherry, and Waterloo Peach, were the principal varieties.

Mr. Alfred Smith, F.R.H.S., Prospect House, Downley, Bucks, arranged a very fine collection of cut Roses. Marechal Niel, Marie Baumann, and Capt. Hayward, were conspicuously fine.

Messrs. Barr & Sons, Covent Garden, London, were strong in cut Tulips, chiefly Darwin's, and besides these a fine central group of Alpines. Nothing finer than Rose Queen, among Rose varieties of the Darwin's, or Von Shering among dark bloods, May Queen among deep pinks, and Lion d'Orange against any other crimson-scarlet, could be named. Mrs. Moon is a particularly bright yellow variety with sharply-pointed petals. Single Paeonies were also shown.

Messrs. Wm. Paul & Son, Waltham Cross, Herts., exhibited a magnificent collection of Roses in pots and many cut and arranged in stands. Climbing Roses, H. P's and Teas, were all included. The new Corallina was evident, and proves a strong grower. Mdme. Montet (pink), Medea (creamy), Victor Verdier (crimson), and Crimson Rambler, of which there were marvellously fine specimens on show. A bordering edge of Ferns greatly aided the effect of the group.

Mr. Arthur Knowles, Horsell Birch Nursery, Woking, Surrey, showed a bright and pretty group of Daphne Cneorum varieties, clustered with their showy pink and red varieties. An improved variety of D. c. major was compared alongside of the common major.

Messrs. John Laing & Sons, Forest Hill, S.E., set up a greatly admired group of stove and greenhouse foliage and flowering plants. Ericas, Clivias, Tillandsias, Anthuriums, Streptocarpuses, Hippeastrums, Azaleas, Lilacs, Begonias, and Paeonies were arranged in harmony with Crotons, Dracaenas, Caladiums, Ferns, Palms, and other things. The group formed one of the chief attractions of the show.

Messrs. A. W. Young & Co., Cactus Growers and Importers, the Nurseries, Stevenage, Herts., set up a collection of newly imported Cacti. The Echinocactus viridescens, with its prickly barbs; the Astrophytum miriostigma, with five locular divisions; the Mamillaria stellata, with pretty red flower buds showing through the downy covering; and various other of the Gasterias, Opuntias, &c., were all objects of marked notice. They had a few Phyllocacti in flower.

Mr. W. B. Hartland, Patrick Street, Cork, sent a beautiful group of bright Tulips, including some new varieties.

Messrs. J. Cheal and Sons, Lowfield Nurseries, Crawley, exhibited a large collection of cut sprays of flowering trees and shrubs. The Pyrus tribe was fully represented; Ribes aureum, Staphylea colchica, Magnolia Lenne, a very large bloomed bright magenta-coloured variety, Akebia quinata with its dark purple flowers, and the Kerrias and Exochorda Albertii together with the sprays of coloured Japanese Maples, formed a very beautiful and worthy group.

COMPETITIVE CLASSES

In the classes for a amateur and professional gardeners, for a collection of Orchids, Mr. Geo. Cragg, Percy Lodge, Winchmore Hill, was first, and Ludwig Mond, Esq. (gardener, Mr. J. D. Clark) The Poplars, Avenue Road, Regent's Park, was second.

For twenty-four cut blooms, stove and greenhouse plants, Mr. Thomas Abbott stood winner with a bright array of very good blooms.

In the nurserymen's classes, for a collection of Hardy Flowers, Messrs. A. W. Young & Co. won easily with a splendid assortment of all the finest flowers of the season, Irises, Trollius, Tulips, Centaureas, etc. Mr. Abbott was first for a collection of Zonal Pelargoniums, Messrs. A. W. Young & Co., second.

Among nurserymen, for twenty-four cut Roses, Mr. B. R. Cant, of Colchester, was first with finely formed and well coloured blooms of Catherine Mermet, Baroness Rothschild, Caroline Testout, Marechal Niel, &c.

Mr. Abbott won for six Gloxinias. Mr. J. D. Clark had the finest six Orchid plants, including a Cymbidium, Miltonia, Dendrobium, and Cattleya, &c.

For six table decorative plants, Mr. Abbott beat Mr. Jas. Aitkins, 34, Avenue Road, Regent's Park. Both lots were smart. Mr. James Grimsithorp, East-cope, Pinner, was second.

Mr. L. H. Calcutt, Fairholt Road, Stoke Newington, secured first in the class for floral decorations, and Mr. James Williams, 4A, Oxford Road, Ealing, second.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. W. Boulton, Stoke Bank, Stoke, near Nantwich, for his article on "Fragrant Indoor Rhododendrons," p. 582.

Some of the competitors acknowledge taking a great interest in the competition on account of the information to be gleaned from the writings of their fellow competitors.

QUESTIONS AND ANSWERS.

Specimen Pot Plants for June and July.—D. W. D.: Roses in pots would answer your purpose very well, and they afford almost endless variety. We should advise you to get a good amount of variety to begin with, so that you may find out which kinds your employer likes best, and which do best at your place and under the treatment you can give them. Those things which give most satisfaction should be increased by cuttings, and grown on into useful stuff, while the less satisfactory ones might be gradually discarded. Amongst Tea Roses you might get Niphetos, Souvenir d'Un Ami, Madame Lambard, The Bride, Catherine Mermet, and Souvenir de S. A. Prince. Maréchal Niel, a Noisette, is the best yellow. Hybrid Teas are very useful, and might include La France, Souvenir du President Carnot, Kaiserin Augusta Victoria, and others of that class. Amongst hybrid perpetuals choose General Jacqueminot, Mrs. John Laing, Charles Lefebvre, A. K. Williams, Ulrich Brunner, Madame Gabriel Luizet, Baroness de Rothschild, Paul Neyron, Merveille de Lyon, &c. Other plants you might procure are Hydrangea hortensis, H. Dr. Hogg, H. paniculata grandiflora, Choisya ternata, Fuchsias of sorts, Chorizema cordata, Clematis Jackmanni, choice hardy Rhododendrons, Erica Cavendishii, Erica ventricosa magnifica, Statice profusa, S. macrophylla, Pimelea Hendersonii, Pink Malmaison Carnation, Carnation Raby Castle, C. Mrs. Leopold de Rothschild, Cytisus racemosus, Coronilla glauca, Heliotrope President Garfield, and others. Those that appear to be coming into bloom too quickly should be stood out of doors in a cool, shady place to retard them. Others may be hastened by keeping them under glass, or in a warm, sunny position.

How to Distinguish the British Elms.—E. C. H. D.: There are many forms of the common English Elm (Ulmus campestris) differing remarkably both in the habit of growth, size and form of the leaves, and in other particulars. Some of them may have much the same habit as the Wych or Mountain Elm, but the form of the fruit or samara seems to be the most constant character. The specimen you sent had oblong-obovate, or narrowly obovate samarae, with the seed distinctly above the middle of the same. It is therefore the English Elm, judged by the fruits, as you concluded, notwithstanding the habit of the tree, which might be accidental. Ulmus montana has a shorter samara in proportion to its width, and orbicular or broadly and roundly oval with the seed in the centre as nearly as possible. The wing of the fruit is the thin portion extending

around the central portion in which the seed is situated. It is this wing which makes the fruit, a samara. The cavity of the ovary is very little larger than the seed, the wing being solid and without any internal cavity. It is merely a lateral extension of the ovary wall, round one edge of the same. U. montana has more acuminate leaves than U. campestris; and the variety U. montana pendula has the largest leaves of any as far as we have seen.

Choisya ternata Too Early.—T. B.: It is all a question of temperature. In the open air about London it comes into bloom naturally in May; but in your cooler and later locality you should manage to retard the flowers for several weeks longer. Pot plants may be kept in a pit or house from which the frost is merely excluded in winter. About the beginning of March they should be shifted into a house pit or frame, well lighted, but having a cool northern aspect, and well ventilated. By this means you could retard growth, and the flowers would be kept practically in a resting condition.

Wallflowers Failing.—J. D. M.: Dig up some of them and examine the roots. If the latter are clubbed it is pretty certain that they have been attacked by the Finger-and-toe disease, which is so destructive to Turnips, Cauliflower, Brussels Sprouts, and the Brassica tribe generally. There is no remedy for the plants already attacked. Probably, they contracted the disease while still in the seed bed where Wallflowers may have been grown too often. Next time select a piece of ground where none of the Cabbage tribe nor other Crucifers have been grown for some years past. Poor soil would no doubt be better than rich soil for the young plants. A good coating of gas-lime should be dug into the soil in autumn, where you intend sowing Wallflowers, Cabbages, &c., in spring.

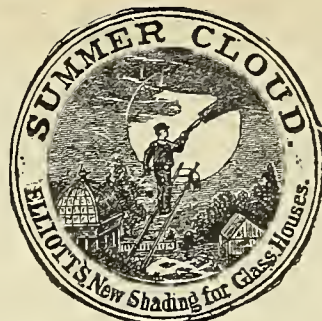
Raspberry Shoots Flagging.—Nemo: By cutting off some of the shoots that appear sickly you will in all probability find them bored in the centre by a grub, which would be the Red-bud Caterpillar of the Raspberry (Lampronia rubiella). The caterpillar is reddish with a black head and is the larva of a moth. All you can do now is to cut off every shoot having the least suspicion of containing a grub and burn them so as to destroy the caterpillar and lessen or prevent attack next year. If the pith is eaten out the shoots cannot recover, so that you need not hesitate to destroy the shoots.

Names of Plants.—W. McIver: 1, Oncidium phymatocylum; 2, Odontoglossum triumphans, a magnificent variety (see separate note).—E. C. H. D.: 1, Syringa vulgaris (common Lilac, not British); 2, Bromus sterilis; 3, Oxalis corniculata rubra, a garden escape; 4, Anthoxanthum odoratum; 5, Carex vulgaris; 6, Ulmus campestris.—A. L.: 1, Scilla amoena; 2, Saxifraga rotundifolia; 3, Orobanchis verna; 4, Saxifraga Sibthorpii; 5, Cardamine pratensis flore pleno.—R. M.: 1, Boronia betrophylla; 2, Polygala dalmaiana; 3, Sibthorpa europaea variegata; 4, Doronicum plantagineum excelsum.—H. J.: 1, Cercis Siliquastrum; 2, Magnolia soulangeana; 3, Berberis Darwinii; 4, Berberis buxifolia.—W. J. W.: 1, Oncidium praetextum; 2, Oncidium sarcodes; 3, O. pulvinatum; 4, Dendrobium crepidatum.—M. J. A.: 1, Pulmonaria angustifolia; 2, Ranunculus Ficaria; 3, Scilla hispanica alba; 4, Aquilegia vulgaris; 5, Phlox divaricata; 6, Fritillaria Meleagris.

Communications Received.—J. Galletly (next week).—Sutton & Sons—J. Laing & Sons.—Barr & Sons.—J. Hill & Son.—T. Jannoch.—Stanley Ashton & Co.—R. Wallace & Co.—H. C. Prinsep.—Thos. Rivers & Son.—Frank Cant & Co.—H. Cannell & Sons.—J. Veitch & Sons.—R. H. S.

TRADE CATALOGUES RECEIVED.

WM. CUTBUSH & SON, Highgate Nurseries, London, N.—Catalogue of Select Hardy Herbaceous, Alpine, and Bulbous Plants, &c.; also List of Bedding Plants; and the Queen of Carnations, Mrs. Thomas W. Lawson.



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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, MAY 26th, 1900.

NEXT WEEK'S ENGAGEMENTS

WEDNESDAY, MAY 30TH.—Somerset County Agricultural Association Show, Bath; and West and Southern Counties Show, at Bath (5 days).

A GLIMPSE OF THE TEMPLE SHOW.—The thirteenth great flower show in the Inner Temple Gardens, and held under the aegis of the Royal Horticultural Society, has again been the most absorbent and important of the spring shows whether held in the Metropolis or elsewhere. In many respects it resembled its predecessors in being held in the same grounds, and patronised by most of the same exhibitors with, of course, some fresh faces and different plants. The weather preceding the show is really a large determining factor in the class of many of the plants intended to be shown. The absence of sunshine for many weeks, in fact months, has made it a very difficult thing for gardeners and nurserymen to get their plants sufficiently forward to be in

time for the show. All the same if some plants are a little backward, particularly stove plants from tropical countries, yet the show was admitted as a fine one. The Temple Show is unique in its way, in that it cannot increase in size unless it were to throw off its outer shell or covering, like a lobster, or in other words to give up its present camping ground and betake itself elsewhere. The five tents and the available space for exhibits in the open include something like 12,000 square feet; but we understand that 30,000 square feet of staging or space for exhibits have been asked for by exhibitors. Surely this is sufficient reason for a horticultural hall to be a primary consideration on the part of the society and its well-wishers.

Orchids were again shown in grand array by Sir Trevor Lawrence, Bart., Sir Frederick Wigan, Bart., Henry Little, Esq., Ludwig Mond, Esq., W. A. Gillett, Esq., E. Ashworth, Esq., Messrs. H. Low & Co., F. Sander & Co., Stanley, Ashton & Co., Charlesworth & Co., and James Cypher, all of whom contributed their share in making this class of plants a great success—a gathering together of the popular flower which would be difficult to excel or even rival. There is an absence of the big specimens of former days, yet all the same the Orchids appeared the more natural for that. The Duke of Northumberland concentrated his energies on this occasion upon a splendid exhibit of Nepenthes. R. I. Measures, Esq., repeated his group of insectivorous plants of last year, but in finer form. Calceolarias were again shown in grand array by Messrs. Sutton & Sons, J. James & Son, J. Carter & Co., E. Webb & Sons, W. H. Allen, and others in smaller numbers. The Water Lilies from Leopold de Rothschild, Esq., Gunnersbury House, were also a notable feature at this early period. Caladiums were not so numerous

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as on former occasions, though some of the groups quite sustained their former reputation. The absence of sunshine has made them dwindle if anything; but we do not consider they have lost anything by that. Messrs. J. Veitch & Sons, Ltd., and Messrs. J. Peed & Son, were most conspicuous in this class of plants. Tuberous Begonias did not take up the space they formerly did at the Temple Show, but were well represented by Messrs. T. S. Ware, Ltd., and by Mr. H. J. Jones. Messrs. J. Laing & Sons had a smaller lot mixed up with their fine group in the big tent.

Cacti would seem to be becoming more popular, judging by the extra number of exhibitors who made their debut in this class of plants. Messrs. J. Veitch & Sons, Ltd., were conspicuous in this section by their extensive and gorgeous array of Phyllocacti. Others showing Cacti generally were Messrs. J. Cheal and Sons, A. W. Young & Co., and Mrs. Bodkin. As usual hardy herbaceous and rock plants in the wider sense, that is, including bulbous subjects, were in great abundance and interested a large section of the British public. Groups or collections were staged by Miss Hopkins, Messrs. Barr & Sons, Messrs. T. S. Ware, Ltd., Amos Perry, R. Wallace, & Co., G. Jackman & Son, Guildford Hardy Plant Co., Maurice Prichard, and others. Azaleas of various classes were also represented by the exhibits of Messrs. R. & G. Cuthbert, F. Sander & Co., C. Turner, W. H. Rogers & Son, John Russell, and others in smaller numbers. Roses have always been a feature of this show and on this occasion their reputation was kept up by Messrs. Frank Cant & Co., Benjamin Cant, R. Smith & Co., C. Turner, W. Rumsey, Aubrey Watts, Paul & Son, and W. Paul & Son. Specialities that might be mentioned were the Nemesias and fibrous rooted Begonias shown by Messrs. Sutton

& Sons; Streptocarpi by Messrs. J. Veitch & Sons, Ltd.; Lily of the Valley by Mr. T. Jannoch; Paeonies, by Messrs. Kelway & Son; Sweet Peas by Mr. R. Sydenham; Cannas by Messrs. H. Cannell & Sons; and Carnations by Messrs. Wm Cutbush & Son. Clematises were again put before the British public by Messrs. Richard Smith & Co., and G. Jackman & Son, making one wonder why such showy and useful, decorative plants are not more generally and extensively cultivated. Hardy trees and shrubs, flowering or otherwise, and including Japanese Maples were shown, chiefly in the open garden by Messrs. Fisher, Son & Sibray, John Russell, W. Fromow & Sons, Thos. Cripps & Son, W. Paul & Son, and Paul and Son. Messrs. J. Hill & Son, and W. & J. Birkenhead were strong in Ferns. Foliage and flowering plants were well shown by Messrs. J. Laing & Sons, H. B. May, Wm. Cutbush & Son, &c.

Fruit was better and more abundantly shown than last year, particularly fruit trees in pots. Amongst those distinguishing themselves in this respect were Leopold de Rothschild, Esq., and Messrs. T. Rivers & Son. Collections of fruit were shown by Messrs. Bunyard & Co., Lord Wantage, K.C.B., Sir Joseph Pease, Bart., M.P., Sir J. Pigott, Bart., and Alexander Henderson, M.P. Vegetables were in many of the above instances shown in company with the fruit. Messrs. J. Carter & Co. also showed vegetables. Altogether the show was a very general one, representative of almost everything that may be had in spring and early summer.

Growth, we are told, is further forward in Edinburgh than it is around London.

Mr. William Coomber, for the last two years and nine months, as head gardener to the Earl of Wilton, at Houghton Hall, King's Lynn, has been appointed in a similar capacity to the same nobleman at Cockley Cley Hall, Swaffham.

Sevenoaks and West Kent Chrysanthemum Society.—In good time, the schedule of prizes, for the exhibition to be held on Wednesday and Thursday, November 7th and 8th, in the Club Room, Sevenoaks, has been issued. The year's report leaves the members in a satisfied way, both in relation to the show itself and the financial standing of the society. The balance has been kept on the right side, and, given a fairly decent year, 1900 we hope will be even a greater success than was the last, good though that was.

Fellows of the Royal Horticultural Society.—The increasing popularity of the Royal Horticultural Society may be gauged by the great increase of Fellows weekly being added to the already lengthy list. Over 300 have been gained since January 1st, 1900, amongst them being Lord Medway, Lady Muncaster, Countess Galloway, Mrs. Creighton, Miss Balfour, Lady Darling, Sir Theodore Fry, Lady Monkswell, Lady Morris, Lady Hay Currie, Hon. Lady Digby, Sir Henry Jackson, Lady Newton, Lady Stanley Clarke, Sir Cuthbert Peel, Bart., and Lady Eva Wyndham Quin.

Fruit Prospects.—We may safely say that the critical time for frosts is now past. The prospects of good crops are very assuring. *The Farmers' Gazette* thinks that Pears promise far beyond an average crop, and Plums look like producing one of the best crops for years. Victoria Plums are very promising, while Pond's Seedling, Kirk's, Coe's Golden Drop, Prince of Wales, and New Orleans have all set well. Jefferson's has caught the frost somewhat severely, and very few have set. Of Gooseberries the Pilot Yellow has almost all been killed; Lion Provider has been rather badly hit; Wellington Glory has a fair crop; Profit, a good one, while Lancashire Lad has an excellent crop. On the whole the Gooseberries have suffered most, though Strawberries have by no means escaped. This crop will miss being a big one, though by no means a failure, for where fairly sheltered there are but few destroyed.

Weather in London.—The lines written descriptive of the weather in our last issue might properly be applied to convey the character of the conditions during the past seven days. One day hot, the next day cold, then rain, and fine again.

Thirsty Kew.—At the present rate of things Kew Gardens are likely to suffer quite as much this year as they did last summer from draught. An experienced gardener suggests using a water-cart on some of the lawns. And why might this not be done?

The Gardeners' Royal Benevolent Institution.—The committee have great gratification in informing you that H.R.H. the Prince of Wales has graciously consented to succeed the late Duke of Westminster, as president of the institution, and that H.R.H. the Princess of Wales and their Royal Highnesses the Duke and Duchess of York have graciously consented to become patrons.

Maxims for Dahlia Growers.—A correspondent to an American contemporary gives the following rules for Dahlia growers:—"Stir the ground thoroughly and deeply with hoe or spade; fertilise (or manure) freely; plant deeply and not too early; set the plants 3 ft. or 4 ft. apart; give freedom to air and light; allow but a single stalk in one place; and keep the plants clean."

Royal Botanic Society.—The following trade awards were made at the show held on Wednesday, May 16th, at the gardens of the Royal Botanic Society, in Regent's Park:—Silver Gilt Medals to Messrs. W. Paul & Sons, Waltham Cross, for Roses; and to Messrs. T. Rivers & Son, Sawbridgeworth, for Fruit Trees. Large Silver Medals to Messrs. Laing & Sons, Forest Hill, for decorative plants; and to Messrs. Carter & Co., Holborn, for Cinerarias. Silver Medal to Messrs. Barr & Sons, Covent Garden, for Tulips, etc. Small Silver Medal to Mr. W. B. Hartland, Cork, for Tulips. Large Bronze Medal to Mr. B. Cant, Colchester, for Roses; to Messrs. Cheal & Sons, for hardy flowering Shrubs; to Mr. A. Smith, High Wycombe, for Roses; to Messrs. A. W. Young & Co. for collection of Cacti; and to Mr. A. Knowles, for Daphnes. Table of Floral Designs: First, L. H. Calcutt; second, Mr. J. Williams. Table Decorations: First, Mrs. L. H. Calcutt; second, Mr. W. H. Moss. Floral Certificates went to Messrs. Laing & Sons, for Streptocarpus "Royal Purple"; and to Mr. Hartland, Cork, for Tulipa fulgens lutea, and T. lutea pallida.

Acton Scientific Society and Field Club.—This new and apparently well-conducted society of seekers after natural knowledge, has already been in the field on several occasions this season. For instance, a field ramble to Twyford Abbey was arranged and effected on April 7th, the conductor being Mr. Alex. Ramsay. On April 21st another ramble took place, the members starting from Hanwell, and following the course of the Brent towards Hortington Hill, under the guidance of Mr. A. Loydell. Again, on May 5th, the outing took the form of a visit to J. Allen Brown's Museum at Ealing, and was much appreciated. On May 19th the excursion was of a duplicate character, the Acton Society travelling to Neasden, and there joining the members of the Lambeth Field Club. Under the conductorship of Edward Step, Esq., F.L.S., the editor of the new edition of Pratt's "Flowering Plants of Great Britain," the party ascended Dollis Hill, and visited the celebrated house and grounds of the Earl of Aberdeen. It was here that the late Mr. Gladstone spent an occasional vacation during the later years of his parliamentary life. The house and grounds are beautifully situated, and the trees are just now rapidly developing their summer sheen. Thence the party wandered through the lanes to the quaint little church of Neasden-cum-Kingsbury, and thence again they took the fields to Hendon. Tea was indulged in at the Upper Welsh Harp, the return route being round by the reservoir and over Dollis Hill to Neasden Station, where the bulk of the party (about twenty) entrained for home. The occasion being a ladies' day, little work beyond an examination of the trees of the district was effected; the party giving themselves up to the contemplation of the beauties of Nature, as a whole, rather than to an enquiry into those microscopical details which go to make up that fascinating effect. The energetic hon. secretary is Mr. J. L. H. Fisk, Gilmerton, Newburgh Road, Acton, W.

BOUVARDIAS.

THESE beautiful plants are easily propagated in spring by cuttings of the young wood, or by layers of the roots inserted in sandy soil, and placed in a warm bottom heat. Old plants placed in a cool house after flowering will readily produce an abundance of strong, healthy cuttings, which if taken off with a sharp knife, and inserted in small 60-sized pots, will soon root. They should be placed in a strong heat, and syringed twice daily to keep them clean, and promote quick growth. As the pots become filled with roots they should be carefully potted off into 60-sized pots, and placed in a warm house, admitting air on warm days, and also a little at night. The points of the shoots should be kept pinched out, which will keep the plants bushy. Pot off again in 5-in. pots, using a rather coarser soil. Good fibrous loam, with a little leaf soil and sand, will suit them very well. Occasional waterings with weak liquid manure or artificial will be of great benefit, and as the growth of the plant increases they will require a stake in the middle of the pot, tying the shoots lightly to it. As the plants come into flower syringing should be discontinued, and plenty of air allowed. The flowers are invaluable for buttonholes, sprays, &c., and where a good display of bloom is required, they will supply it through many months. There are many grand varieties too numerous to mention here.—*R. Thatcher, Lockinge Gardens, Wantage, Berks.*

WATERING.

PROTECTION against improper watering is an all important matter to plants in pots. It takes some time to learn when a plant really needs water, and how much should be given; and nothing short of a thoughtful consideration of all the circumstances of each case, can enable anyone to act correctly. It must be remembered that plants have the power of giving off moisture from their leaves. Plants enclosed in cases may not require watering for weeks, because the atmosphere in which they grow is very damp, and under these circumstances there is little evaporation from their leaves. On the other hand, plants grown in a dry house are in a dry atmosphere, which causes the plants to part with a great deal of moisture from their tissues; and if this loss is not made good, the plant will show it by flagging. The object of watering is to supply a deficiency in the plant, and the quantity of water must be regulated by the losses which the plant has sustained from evaporation. But the quality of the water must not be overlooked, or thought of no consequence. Of surface waters, that which comes from chalk hills is the worst kind, because lime is injurious to many plants. Rainwater is unquestionably by far the best; especially avoid using springwater, and water from a well, both of which are too cold even for plants out of doors. The temperature of the water should not be colder nor hotter than the air in which the plant is growing.—*W. Hogarth, The Gardens, Norton House, Ratho, Midlothian.*

EXHIBITORS AT THE TEMPLE SHOW.

ON two former occasions have groups of the exhibitors at the Temple Show appeared in our pages; and now we place before our readers some more portraits representing a few of the many to be met with on that stirring and important occasion. Some of the portraits represent members of firms previously noticed, but others are entirely fresh faces and firms, though their names are mostly familiar to our readers. Our supplementary sheet will, therefore, serve as an introduction to old friends.

MR. T. A. H. RIVERS, F.R.H.S.—It is only necessary to mention the name of Rivers to recall what has been done amongst fruits, particularly stone fruits, by the firm of Messrs. T. Rivers & Son, Sawbridgeworth. Mr. T. A. H. Rivers is a member of this firm, and the portrait herewith will serve to introduce him to our readers at a distance who may be only familiar with the firm from our reports of the exhibits of fruit and fruit trees from Sawbridgeworth. Many valuable Peaches, Nectarines, Plums, Pears, and other fruits, have been raised and put into commerce by the firm. Visitors and others at the Temple Show and the autumn exhibition of British grown fruit, held by the R.H.S. at the Crystal Palace, are familiar with the splendid exhibits of fruit trees set up by Messrs. T. Rivers.

& Son. Very often their Temple Show exhibit has been unique, and only occasionally rivalled there by an exhibit from a private establishment. Many of the London public have little opportunity except at the above two important shows for seeing Peaches, Nectarines, Plums, Cherries, &c., hanging ripe on the trees which produced them.

Mr. HENRY CANNELL, JUN.—Many will no doubt recognise the features of Mr. Henry Cannell, Jun., the eldest son of the head of the firm of Messrs H. Cannell & Sons, Swanley, Kent. Though most often to be found attending to his duties at Swanley, we have, nevertheless, met Mr. H. Cannell, Junr., in various parts of the country between Kent and Aberdeen. The zonal Pelargoniums are perennially in blossom at Swanley, and the public is both surprised and pleased at the fine masses of bright colours now infused into this common, popular and useful class of greenhouse plants which make their appearance at all the principal and many of the smaller shows held throughout the country. At the Temple Show, however, space is limited, so that Messrs. H. Cannell & Sons on that occasion usually bring in something fresh in the way of tuberous Begonias, Cannas and Gloxinias of which they make up tasteful and bright groups that serve to enliven the various parts and corners of the tents in the Temple Gardens into which they may be placed. The above plants constitute some, but by no means all, of the specialities to which they give marked attention and with considerable success.

Mr. D. T. RUSSELL.—Mr. John Russell carried on a general nursery, florist, bulb, and seed business at the Old Nurseries, Brentwood, Essex. The business is now greatly extended and carried on under the same title by the three sons, of whom Mr. D. T. Russell is one. The portrait which appears on our supplementary sheet will introduce this member of the firm who has charge of the Old Nurseries and Essex Nurseries at Brentwood, Essex. Other branches are the Devonshire Nurseries, Haverstock Hill, London, N.W.; Richmond Nurseries, Richmond, Surrey; American Nurseries, Milford, Surrey; and another branch more recently acquired at Isleworth, Middlesex. Hardy trees and shrubs, including Azaleas, Japanese Maples, Ivies, and Roses are grown in great quantities at the above respective places, and make their appearance in public at exhibitions in various parts of the country as well as at the Temple Show and Drill Hall meetings. Our reports of the latter indicate the great resources of the firm in the above classes of plants. The firm has been very prominently represented at these shows in recent years, but it has been established at Brentwood since 1802, and now exhibits great energy in the increase of hardy ornamental subjects.

Mr. FRANK CANT, F.R.H.S.—There are very few gardeners in the land, who grow Roses, but are familiar with the names of several eminent Rose growers from Colchester, we presume. Mr. Frank Cant is at the head of the firm of Messrs Frank Cant & Co., Braiswick Nursery, Colchester; and we have often been admirers of his first prize or Trophy exhibit at the National Rose Society's Exhibition at the Crystal Palace, and elsewhere. The accompanying portrait will recall well-known features to many Rose growers, and serve as an introduction to others. It may here be pertinent to the subject to remember that the National Rose Society conducted some analyses of soils last year in order to ascertain the cause of the unparalleled success of the Roses grown at Colchester, in order to compare the natural soil with that procured elsewhere. The results seemed to indicate that the great success in Rose cultivation at Colchester was largely due to the skill of the growers themselves. Cut flowers of Roses grown in the open are sent to exhibitions in various parts of the country by Messrs. Frank Cant & Co., but they also show forced Roses and Roses grown in pots very successfully at the Drill Hall Meetings and the Temple Show of the R.H.S.

Mr. ROBERT W. WALLACE, F.R.H.S.—Visitors to the Drill Hall meetings and to the Temple Show for years past could hardly have failed to notice the beautiful and attractive exhibits of Lilies, Calochorti, Irises, and bulbous plants of almost every description, put up by Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester. More recently they have taken to growing and exhibiting Daffodils. Whether

the soil at Colchester is specially favourable to Lilies or not we are certain that Messrs. R. Wallace & Co. are successful cultivators of a great variety of bulbous plants. We remember also that Dr. Wallace, the founder of the firm, wrote the book, "Notes on Lilies and their Culture," which has recently gone into a third edition. The book is replete with information about Lilies. Mr. Robert W. Wallace is comparatively a young man, but is thoroughly at home and in love with bulb culture as the rich and varied exhibits from Kilnfield Gardens, Colchester, amply testify. New and rare plants frequently turn up in the exhibits, and greatly add to the variety and interest of the collection as a whole; so that amateurs and collectors have ample opportunity of enriching their gardens. Mr. R. W. Wallace is frequently present at shows, and the accompanying portrait will serve as an introduction.

Mr. JOHN ALEXANDER LAING, F.R.H.S.—To the firm of Messrs. John Laing & Sons, Forest Hill, London, S.E., there is little necessity for an introduction, as readers over the length and breadth of the land have long been familiar with the name and with their exhibits at flower shows everywhere. A group of Caladiums was exhibited by them at the first Temple Show, and at almost every one since then. The same may be said of tuberous Begonias, which have been a speciality of the house for many years, the development of the race having practically taken definite shape at Forest Hill. Gloxinias and Streptocarpus have also been noticeable exhibits at the Temple Show from this same firm. Mr. John Alexander Laing is the elder of the two sons of the eminent Mr. John Laing, the head of the firm; but as his duties keep him much at home in the seed and bulb shop, visitors to the various exhibitions have less opportunity of meeting him, than they have of seeing his father or brother. The portrait on our supplement will serve as an introduction. He has entire charge of the financial and business departments; and is well known in horticultural circles. Mr. J. A. Laing is also a member of the Local Vestry, Lewisham Board of Works; parochial trustee for Forest Hill; governor of Lewisham Grammar School; a member of various horticultural societies; and a fellow of the Society of Arts.

Mr. GEORGE CUTHBERT, F.R.H.S., is the head of the firm of Messrs. R. and G. Cuthbert, Southgate, London, N., and is a familiar figure at the Drill Hall meetings, Temple Show and other exhibitions about London. He has not been present at the Temple Show on this occasion, unfortunately; for we regret to learn that he has been very ill and confined to bed for the past three weeks. We hope, however, that he will soon be able to resume his former activity. The firm cultivates a considerable variety of plants; but all the members of it are most ardent in their love for Azaleas of all classes, but particularly of *A. mollis* with its many lovely varieties, as well as *A. sinensis*, together with numerous hybrids produced between the two. Many of them have been honoured with Awards of Merit from time to time as the new varieties reached the proper stage for exhibition. There is no question but that the strains above mentioned are amongst the loveliest of hardy flowering shrubs; and the firm has been most energetic in bringing them before the public at various shows and meetings. A son of Mr. George Cuthbert, whom we now have the pleasure of introducing, namely Mr. George H. Cuthbert, is always in attendance with the Azaleas.

Mr. T. JANNOCCH, F.R.H.S.—There is one speciality for which Mr. T. Jannoch, Dersingham, King's Lynn, Norfolk, is noted all over the country, and that is Lily of the Valley. Gardeners are familiar with the fact that Lily of the Valley blooms naturally during May and June, but may be had during winter and spring by forcing. Mr. Jannoch can flower it all the year round, and many have been surprised and delighted to see it in prime condition at various exhibitions, about midsummer and even later. Now, to have it in bloom about that time means that it must be retarded much beyond its usual time of flowering, because the current year's growth must be completed and rested before it can be expected to bloom even by forcing. To retard the old plants means placing the crowns in an ice-house or refrigerator, so as to keep the flowers and leaves quiescent until required to bloom by being put under suitable treatment. Evidently, the Lily of the Valley is the chief favourite with Mr. Jannoch, whose admirable exhibits we have seen at the Crystal

Palace, Regent's Park, and the Temple Show, in season and out of season, yet as fresh as if this sweet scented flower bloomed perennially. We mostly always meet Mr. Jannoch in company with his exhibits, often grown in fanciful arrangements, but always unique of their kind in the show.

Mr. J. E. HILL, F.R.H.S.—Mr. J. Hill was the founder of the business of Messrs. J. Hill & Son, Barrowfield Nursery, Lower Edmonton, but he is nearly eighty years of age, and, of course, no longer able to take an active share of duty in carrying on the work of the firm. His son, Mr. J. E. Hill, has been at the head of affairs in the management of the business almost ever since the firm has devoted its energies to the raising, collecting together, and cultivating choice Ferns, of which we have seen many splendid groups for some years past both at the Drill Hall meetings and the Temple Show, held under the auspices of the R.H.S. Readers at a distance who have only known Messrs. J. Hill & Son by reputation as a result of the splendid groups of choice Ferns they have staged at exhibitions, may now make a closer acquaintance with the younger and managing partner of the firm by a study of his portrait which we now reproduce. The imposing group of choice Ferns again put up by the firm at the Temple Show is a striking indication of the thorough grasp they have of the cultivation of Ferns of all the more useful kinds, but chiefly exotic.

Mr. FRANK W. ASHTON, F.R.H.S.—Mr. Ashton is a member of the firm of Messrs. Stanley, Ashton & Co., Southgate, London, N., Orchid importers and growers. Mr. Ashton's favourite flowers are Orchids, with which he has now been associated for about twenty years to our knowledge. He had charge of the Orchids when at Kew, and has been a cultivator of them ever since in various parts of England. He has been with the Southgate firm for a number of years, and visitors to the Temple Show would hardly ever fail to find him in company with the splendid exhibit of Orchids from Southgate. His knowledge of this popular class of plants is wide and intimate, yet he is ever ready to impart information upon the subject to those who are genuinely interested in Orchids, or who may happen to be cultivators. Although this class of plants has monopolised his attention for so many years, he commenced his career in general all-round gardening.

Mr. GEORGE WYTHES, V.M.H., F.R.H.S.—For many years past a fine exhibit of Orchids has been put up at the Temple Show by Mr. George Wythes, gardener to the Duke of Northumberland, at Syon House. More recently, that is, since the death of the late Duke, Mr. Wythes has also been appointed to the charge of the garden of the same employer at Alnwick Castle, Northumberland, so that his hands are now quite full. The Orchids put up at the Temple Show are generally characterised by the quantity of certain showy and useful subjects, such as might be grown at a private establishment for decorative purposes, rather than where specialists collect rare, unique, or choice varieties and species. All the same these useful subjects are well grown, and admittedly effective when tastefully staged in masses, for few classes of plants are capable of producing more gorgeous effects than when the larger and showier kinds are employed in quantity. A few Palms or similarly elegant plants for greenery, so as to break up but not hide the more solid masses of colour, are finishing touches to such exhibits, which those who are conversant with the floral art know well how to employ. His group of *Nepenthes* on this occasion is grand.

Mr. HENRY JAMES CHAPMAN, F.R.H.S., is gardener to R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell. An extensive and very valuable collection of Orchids is grown here, as every Orchid grower and collector well knows. Though groups from Cambridge Lodge are set up occasionally at the Drill Hall meetings, only new varieties and hybrids, as a rule, are staged at the Temple Show. The exhibit last year was unique in its way in being the only exhibit of insectivorous plants in the show. On this occasion Mr. Measures again shows a collection of this interesting class of subjects. He is an enthusiastic lover of plants of all kinds, though Orchids are the chief favourites. His gardener is equally enthusiastic, and his success as a cultivator, so near to the heart of the smoky metropolis, shows what British gardeners can do when they have got their heart in their work. The portrait in our supplement shows the man. He was judging Orchids at the show.

THE TEMPLE SHOW

May 23rd, 24th, and 25th.

In the early morning of Wednesday the opening day of the thirteenth annual exhibition, held in the Temple Gardens, by kind permission of the Benchers, under the auspices of the Royal Horticultural Society, it rained heavily. There was nevertheless a magnificent show, in many respects superior to its predecessors, especially in the case of Orchids. Later on the day became fine, and a large crowd of people had assembled by the time we left to go to press. Amongst distinguished visitors we noted the Queen of Sweden, under the escort of Sir Trevor Lawrence, Bart. (the president), who pointed out to her the more important plants.

ORCHIDS.

SIR TREVOR LAWRENCE, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, exhibited a magnificent group of Orchids in his usual position in the big tent (No. 5). In the centre behind was a massive piece of *Epidendrum radicans*; and at other points along the back were massive and well flowered pieces of *Coelogyne dayana*, *Oncidium sarcodes*, *Calanthe veratrifolia*, *Masdevallia ignea*, *M. harryana*, *acanthifolia*, *M. h. violacea*, *Cattleya Mendelii*, *C. Skinneri*, *C. Mossiae*, *Oncidium concolor*, and the curious and the pretty orange-apricot *Dendrobium jerdonianum*. Very fine also were the blue *Dendrobe* (*D. Victoriae* *Reginae*); *Miltozia hleuiara nobilior*, for which a Cultural Commendation was awarded; *Cymbidium tigrinum*, *Miltozia Phalaenopsis*, *Epiphronitis Veitchii*, *Oncidium pulchellum*, *Odontoglossum coronarium miniatum*, and many others. Some of his pet subjects were *Dendrobium linguiforme*, *Odontoglossum crinitum sapphirinum*, *Pleurothallis ornata*, *Campanemia uliginosa*, and *Polystachya cerea*. *Cattleya Mossiae goossensiana*, *Laeliocattleya callistoglossa*, and several species of *Anectochilus* under a bell glass were choice and valuable. There were over 100 species and varieties in this magnificent group.

Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, set up a very imposing group of Orchids, the most conspicuous features of which were *Cymbidium lowianum* (in three massive plants), *C. l. concolor*, with great masses of *Cattleya Mossiae*, *C. M. excellens*, *C. Mendelii*, *C. M. Lowiae*, *C. Skinneri*, *C. S. alba*, *C. Mossiae Lady Wigan*, *C. M. Beatrice*, *C. lawranceana hyeana*, and many others. Choice also were *Cypripedium bellatulum*, *C. b. album*, *Dendrobium Parishii*, *Miltozia vexillaria*, and *M. v. Memoria G. D. Owen*. Though not the largest this was the most effective group of Orchids in the show.

W. A. Gillett, Esq. (gardener, Mr. E. Carr), Fair Oak Lodge, Eastleigh, Hants, exhibited a fine group of Orchids having long arching racemes of *Oncidium sarcodes*, *O. ampliatum*, *Cymbidium lowianum*, and *Odontoglossum Edouardi*. *Cattleya Mossiae*, *C. Mendelii*, *C. Skinneri*, *Odontoglossum crispum*, *O. polyxanthum*, *O. luteo-purpureum*, *Miltozia Warscewiczii*, and many others were included in this group.

M. Florent Claes, 55, Rue des Champs, Etterbeek, Brussels, exhibited a group of many varieties of *Odontoglossum crispum*, some of which were handsomely blotched.

M. A. A. Peeters, horticulteur, Brussels, Belgium, staged an interesting group of new and valuable varieties of Orchids, including *Laeliocattleya Ceres* (*C. Mossiae aurea* × *Lc. Phoebe*), *Lc. massangeana*, *Lc. canhamiana superba*, and *Lc. Herode*. Very handsome were *Odontoglossum crispum Stanley*, *O. c. Victoria Regina*, *O. c. Vigeri*, *O. c. Mrs. F. Peeters*, and *O. c. punctatum*, all of which were particularly fine and richly blotched.

E. Ashworth, Esq. (gardener, Mr. H. Holbrook), Harefield Hall, Wilmslow, staged the handsomely blotched *Odontoglossum crispum Ernest Ashworth*, *O. c. Arthur Ashworth*, *O. c. Henry Ashworth*, *O. c. Charles Ashworth*, *Phaius Cooksoniae*, *Cattleya intermedia* var., &c.

G. W. Law-Schofield (gardener, Mr. Shill), New-Hall-Hey, Rawtenstall, exhibited *Cypripedium Mary Beatrice*. Henry Little, Esq. (gardener, Mr. G. Howard), Baronshalt, The Barons, Twickenham, staged *Laelia purpurata littleiana*. *Laeliocattleya G. S. Ball*, a lovely orange hybrid, was staged by Messrs. J. Veitch & Sons, Ltd., Chelsea.

M. Jules Hye-Leysen, Ghent, Belgium, had some

very valuable Orchids in *Cymbidium hyeanum*, *Odontoglossum Rolfae Optimum*, *O. R. adventissimum*, the latter two being hybrids between *O. crispum* × *harryanum*; also *O. Souvenir de Victor Hye Lebrun* (*O. harryanum* × *luteo-purpureum*), *O. Adrianae Mascotte*, and *Laeliocattleya General Baden-Powell*. A form of *O. Rolfae* was also shown by M. C. Vuylsteke, Belgium.

Messrs. Stanley, Ashton & Co., Orchid Importers and Growers, Southgate, N., staged a large and imposing group of Orchids, consisting of masses of *Miltozia vexillaria*, *Laelia purpurata*, *Cattleya Mossiae*, *Sir Thomas Lipton*, *C. M. aurea*, *C. M. Wagener*, subvar. *Hassall's*, *Oncidium sarcodes*, *Odontoglossum crispum*, *O. citrosum*, *O. c. album*, *O. andersonianum*, *Miltozia vexillaria southgatensis* and *Lycaste lawrenceana rubra*. The group was a mass of flowers.

A fruiting plant of *Vanilla* was exhibited by Messrs. F. Sander & Co., St. Albans, as grown at Chateau de Ronsele, Somergem, Belgium. They had an extensive group of Orchids, consisting largely of well flowered plants of *Cattleya Mossiae*, *C. Mendelii*, *C. Schroderae* The Baroness, *Oncidium concolor*, *Odontoglossum crispum* in many handsomely blotched varieties, some of which were under bell glasses, including beautiful varieties of *O. Adrianae*. They also had *Dendrobium Boxallii*, *Miltozia Bleui*, *Masdevallia Veitchii*, *Odontoglossum andersonianum* in variety, *O. excellens*, *O. ruckerianum* The Prince, *Cattleya Mendelii Prince Edward*, *Laelia purpurata russelliana*, &c.

Messrs. Backhouse & Sons of York put up a small group of Orchids, amongst them a fine plant of *Laelia purpurata*. Several good forms of *Cattleya Mendelii*, *C. Schroderae* and *Odontoglossum crispum*, *O. andersonianum* in a ground work of *Aparagus*.

Following was a fine group from Messrs. B. S. Williams & Co., Holloway, in which were fine plants of *Laelia purpurata*, and v. *russelliana*, good form, *Cattleya Mossiae*, *C. Mendelii*, *Cymbidium Lowianum*, *Calanthe veratrifolia*, *Oncidium sarcodes*, *O. concolor Anguloa Clowesii*, *Dendrobium violaceum*. Several good forms of *Odontoglossum crispum*, *O. vexillarium*, *O. luteo-purpureum*, all very effectively arranged in a groundwork of Maidenhair Ferns.

Next came a group from Ludwig Mond, Esq., gardener Mr. Clarke, Avenue Road, Regent's Park, in which *Cymbidium lowianum* and *Cattleyas Mendelii*, *Mossiae* and *Odontoglossum crispum*, *O. vexillarium* along the front, and the whole arranged with ferns and panicle variegatum, made a nice group.

Then came a fine bank of *Miltozia vexillarium* in all shades from nearly pure white to deep rose, from "L'Horticole Coloniale," Brussels. The variety *M. v. Memoria Lindeni*, a dark form, was very fine, and from the same firm a magnificent group of *Odontoglossum crispum*, and varieties in which were some fine spotted forms, *O. c. var. exornatum*, *O. c. v. Domina*, *O. c. radiosum*, *O. c. eminens*, *O. c. figaro* were some of the finer. Among the others *O. andersonianum* in several good forms. Several good forms of *Odontoglossum Adrianae*, and grand form of *O. crispum* with broad massive flowers, along with *O. Wilckeanum* in good varieties, and *O. luteo-purpureum*, made a very fine display.

Opposite in the centre of the tent was a mixed group in which Orchids were the leading flowering plants that came from Messrs. Fisher, Son & Sibray, Royal Nurseries, Handsworth, Sheffield. The *Cattleyas* and *Laelias* were very effectively arranged through the foliage plants, which gave the true impression that much more could be done with foliage plants in the arrangement of Orchids for effect. Here were some fine coloured *Crotons*, and some good *Pitcher Plants* and *Sarracinas* made up an interesting group.

In No. 5 tent on the west side of centre stage, Messrs. H. Low & Co., Bush Hill Park, Enfield, staged a most meritorious lot, amongst them *Cattleya intermedia alba*, *C. Mendelii "Mafeking"*, a variety with large bright coloured lips, *Odontoglossum Ruckeriana splendens*, *O. c. Britannia*, a heavy blotched form, which, when the plant gets stronger, should take a place amongst the finest; *C. intermedia "Stoke Hill"* variety, a good form almost pure white; *C. Mossiae arnoldiana*, *Cymbidium Jansonii* (nat. hyb.); *Odontoglossum excellens*; *O. c. zanthotes Low's* variety, a white form with yellow spots on the lip. Some fine forms of *Cattleya Mossiae* for which the firm is well known, rich form of *Cattleya Mendelii*; *Cattleya Skinnerii*, fine masses of *Dendrobium Bensoniae*, good plants and

forms of *Cypripedium Lawrenceanum*; *C. grande*; *C. villosum* × *bellatulum*; *Odontoglossum andersonianum*; *Odontoglossum crispum*, good forms of *Laelia purpurata*; *Cypripedium lawrenceanum hyeanum*; *C. Aylingii Low's* variety. Several *Oncidium's*, *Odontoglossum Pescatorei* finely spotted, and many others made one of the finest exhibits this firm has put at this show.

Mr. Cypher, Orchid grower, Cheltenham, has a bright and effective bank, a group of *Cattleya citrina*, good plants, well flowered, of *Dendrobium nobile* and n. *majus*, good forms of *Laelia purpurata*, *Cypripedium niveus* in good condition, *Dendrobium transparens*, *Oncidium sarcodes*, *Miltozia vexillarium* in variety, *Cypripedium callo-rot-schildianum*, *Epiphronitis Veitchii* in good form, *Cattleya Aclandii*, *Odontoglossum Loochristyense*, *Cypher's* var., was very fine, *Dendrobium nobile virginalis*, a pure white form, *Dendrobium nobile Cooksonii*, *Dendrobium atro-violaceum*, *Oncidium Kramerii*, and numerous others well arranged in an undulating bank, with Maidenhair Ferns, a very fine group.

Messrs. Charlesworth & Co., Orchid growers, Heaton, Bradford, excelled themselves in their exhibit. Always staging strongly, they have never had a finer exhibit than what they put up to-day. *Cymbidium lowianum* and *Oncidium concolor* made a fine background, *Dendrobium Phalaenopsis*, and *Laelia purpurata* make a fine display. *C. Skinnerii* var. *alba*, *Cypripedium bellatulum album*, *Cattleya Mossiae reineckean superba*, *C. Mendelii excellens*, a variety with very dark lip. *Laelia purpurata* var. *novelty*, a light form in the way of *Russelliana*, *Cypripedium Mary Beatrice* and *Cypripedium bellatulum album*, a fine lot of *Cattleya Mossiae*, *Odontoglossum crispum* in variety, and other *Odontoglossums* too numerous to enumerate. *Lycaste Batae* (*L. Skinneri* × *Measuresiana*, Award of Merit). *Cattleya Schroderae Heatonense*, a variety with eight-coloured lip with pink margin, *C. Schroderae*, *C. S. alba*, *Masdevallia harryana Veitchii*, *Phajus crawthana*, *Cypripedium Rothschildianum*, all well arranged, make a very fine exhibit.

Next comes a small group of *Cattleya Mossiae* from the Marquis de Wavrin, Chateau de Rousele, Belgium, which comprise some fine forms. *C. M. var. rouseleana* received an Award of Merit, and some forms in the way of *C. M. reineckean* are very pretty.

CALADIUMS.

CALADIUMS do not bulk quite so largely as they did last year, but they are still a striking feature of the Temple Show. The long, cold and sunless winter and spring has no doubt been a serious factor in the cultivation of this class of fine foliage plants as well as flowering subjects. Fire heat can be applied it is true to make up for the deficiency of sun heat, but it is no substitute for direct sunlight which is an indispensable factor in the cultivation of all classes of plants from sunny climes. All the same some good quality stuff was shown, and created a considerable amount of interest.

Messrs. J. Veitch & Sons, Ltd., Chelsea, as usual had a magnificent group of Caladiums in the big tent. The plants were dwarfer on the whole than last year, but by no means lacking in either quality or colour, while some of the varieties were never shown better. They had a number of massive specimens, including *Louis Van Houtte* with huge leaves of a bronzy red; *Excellent*, with red centre and blotched white on a green ground, the best of its type; *Triomphe de Comte*, red with narrow, green, marbled border; *Mrs. Harry Veitch*, carmine-red, splashed with bronzy-olive, this being the true character of the variety; *Gaspard Crayer*, dark crimson with broad green margin; and *Mdme. John Box*, with pale pink subtranslucent centre and green border. The huge soft pink leaves of *Rose Laing*, with the principal veins green, were never shown in greater perfection. *Candidum* needs no description, but is not yet surpassed in its line. The soft red leaves of *Marquis of Camden* with deep crimson veins were magnificent, the lamina of one leaf measuring 25 in. by 18 in. Four of the above were of medium size, and the same may be said of *Sir Julian Goldschmid*, bronzy-red, marbled olive-green, white and red;



MR. D. T. RUSSELL.



MR. R. W. WALLACE, F.R.H.S.



MR. T. A. H. RIVERS, F.R.H.S.



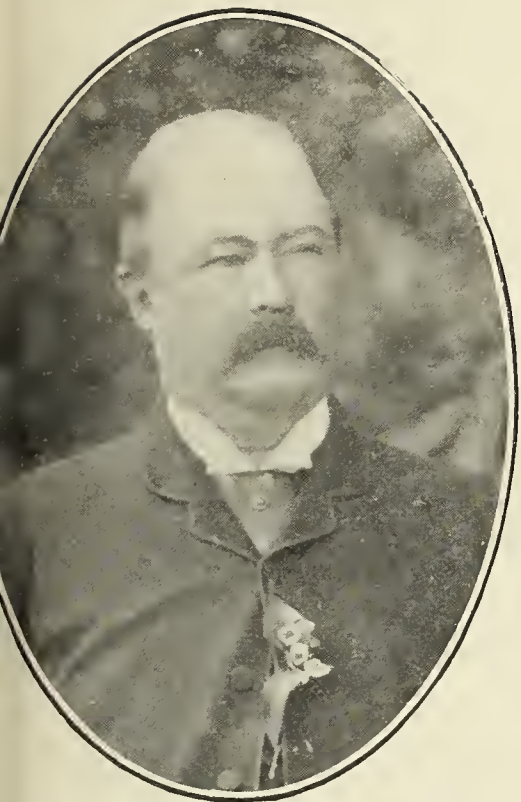
MR. JOHN ALEXANDER LAING, F.R.H.S.



MR. FRANK CANT, F.R.H.S.



MR. HENRY CANNELL, JUN.



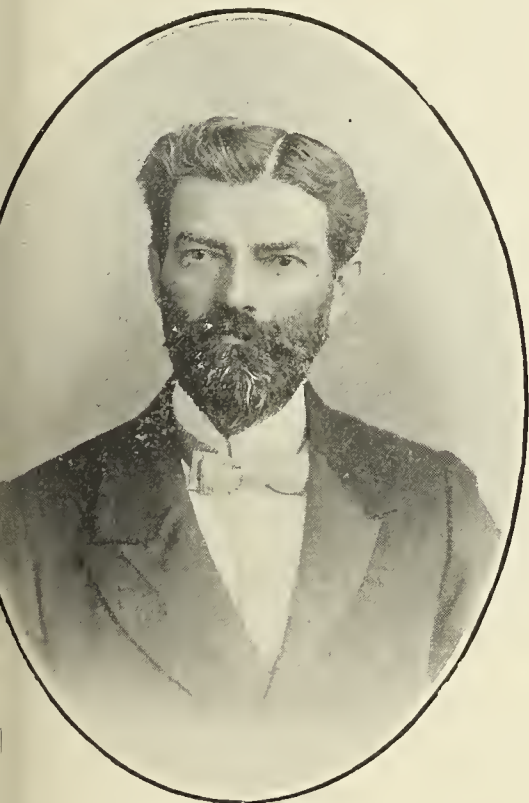
MR. GEORGE CUTHBERT, F.R.H.S.



MR. J. E. HILL, F.R.H.S.



MR. GEO. WYTHES, V.M.H., F.R.H.S.



MR. T. JANNOCH, F.R.H.S.



MR. FRANK W. ASHTON, F.R.H.S.



MR. HENRY JAMES CHAPMAN, F.R.H.S.

Baron A. de Rothschild, bronzy-red, blotched pink; Noakesi, red centre, dark crimson veins, with netted border; The Mikado, metallic red centre, with olive-green border; Comte de Germiny, salmon-red, blotched white; and Duchesse de Mortemart, translucent white, and later on marbled with pale and dark green. Very handsome also were Oriflamme, crimson-red with a green margin; Mdme. Schmltdt, with rose-red centre and green margin, spotted with pink and red; Lymmington, creamy-white centre and green border interspersed with white; Pantia Ralli, bronzy and mottled crimson and white; Reine de Danemark, translucent pink with the principal veins crimson; and Henry Irving, translucent blush-white centre, and green margin. Along the front of this magnificent group a host of dwarf and many extremely beautiful varieties were arranged. Their beauty tempted us to note them, though the descriptions must

be congratulated upon making such an imposing display, and the grower, Mr. Tivey, may well be proud of his handiwork. The group was the best in the show.

MESSRS. J PEED & SON, Roupell Park Nursery, West Norwood, S.E., were also among those who entered a group of massive specimen Caladiums. This is one of the firm's specialities, and a capital job they make of them. Some of the plants were between 3 ft. and 5 ft. through, having beautiful leaves brilliantly coloured, and without a blemish. They were arranged slopingly from the back towards the path and well below the eye, covering 300 sq. ft. It is only possible to name some of the varieties and for full descriptions the firm's catalogue must be consulted. Very fine was that pretty variety Rose Laing, nearly all white, with crimson bordered veins; Rio de Janeiro, pink with green margin; Thomas Peed, dwarf and pink; J. Peed, very dark red with fine green margin; Triomphe

GLOXINIAS AND STREPTOCARPI.

MESSRS. J. VEITCH & SONS, LTD., made a fine display with Streptocarpi at the first Temple Show, and have done so ever since, with one exception, if we remember rightly. Their group of 350 pots of this class of plants was more interesting than ever. The first exhibit consisted of Veitch's hybrids, and on this occasion they were finer than ever, sturdy, dwarf, floriferous, and large-flowered. Being unnamed we can merely mention colours such as rose, white with three violet bands in the throat, magenta with violet bands, violet with black bands; blush-pink, mauve, carmine-rose, rosy-pink, white with large red blotch, royal purple, and pure white, the latter having five to seven lobes, and being of large size. Very interesting was the new hybrid strain between Streptocarpus polyanthus and some of Veitch's hybrids. The flowers of the newer seedling varieties are now greatly improved in size, and quite handsome, with stiff and robust foliage.



NEMESIA STRUMOSA SUTTONI NANA COMPACTA. (See p. 620.)

necessarily be dwarf. Lady Moseley was translucent rose, with marbled green border; Comtesse de Brosse, salmon-red, spotted white; Roncador, a charming translucent rose, with dark green nerves, the centre of which were nearly black; Duchess of Fife, delicate, translucent white and pink veins; Golden Queen, rich golden-green; Her Majesty, golden-green, suffused white; Lady Dorrington, beautiful salmon-rose; Edith Luther, rose with bronzy-green margin; Lady Stafford Northcote, self bronzy-red; Princess Beatrice, rosy-red with golden-green border and rare; Princess of Teck, a charming golden-green with red centre; Nain Rouge, dwarf dark red; Bicolor Sericeum, carmine-red with green border; Isis, with white, pink and green ground, and crimson veins; Princess Olga, bronzy-red, spotted with pink; and La Lorraine, crimson-rose. Mrs. James H. Veitch was a new variety of first-class value for exhibition purposes. The leaves were of a shining, metallic-red, with dark crimson ribs, and slightly suffused green round the border. The firm is to

de L'Exposition, with crimson centre, red ribs and green border; W. E. Gladstone, fine rich crimson; Mrs. John Peed, dwarf in habit, carmine red in colour; and Assunguy, a beautiful transparent leaved variety, suffused with rose-pink and having black-green veins. Other names include Mrs. H. Veitch, Duchesse de Mortemart, Fastuosum, Gaspar Crayer, A. Mayne, H. Dickson, Lady Moseley, Her Majesty and Marquis of Camden.

Messrs. John Laing & Sons, Forest Hill, London, S.E., also exhibited Caladiums; but they were utilised for giving massiveness and bright colour to their large group of flowering and foliage plants in the big tent. Distinct and pretty were such as Rose Laing, with large translucent, pink leaves; L'Autome, creamy yellow and marked with translucent blotches; George Berger, soft rosy-red, with green edges; Leopold Robert, lined with crimson-red veins and margined with green; Baron A. de Rothschild, with pink blotches on a rich bronzy-red ground; and the beautiful old Canddum, still indispensable for exhibition work.

S. achimeniflorus giganteus has soft mauve flowers, with a yellow throat. The flower stems are very numerous on a plant, and likewise the flowers on the individual scapes. *S. a. albus* is of dwarfer habit, but has equally large flowers as those of the variety above mentioned, and they are of a pure white with the exception of a pale lemon blotch in the throat. A third variety of this new type is also very handsome and pleasing, the flowers being of a pale lavender, and fading to nearly white in the centre, in the early stages at least, with a lemon throat. This is *S. a. pallidus*, which makes with the two others a charming trio. Both of the above types were shown in quantity, and we are pleased to note that this class of plants is not only being kept well to the front, but that new types are being raised by the hybridising of distinct species, and the forms then enlarged and improved.

Mr. J. G. Upton, Irlam, near Manchester, was exceedingly strong in Gloxinias. The plants in this group were very large and fine, some of them nearly a couple of feet through in 8-in. pots, and covered

with large blooms. The plants were not quite so deeply coloured as might be desired, but in all other ways they were unique. A number of new varieties of promise were put up for certificate. Ferns and *Caladium argyrites* formed a pretty edge-fringe.

Messrs. John Peed & Son set up a magnificent table of *Gloxinias*, covering 100 square ft. The plants had any amount of unopened flowers, yet they shone forth brightly with their clusters of blooms which the meagre sunshine had induced to expand. The leafage of the plants was exceedingly strong, glowing, and beautifully marked. The flowers themselves were perfect. Countess of Warwick, pink, with a white throat and speckled rim was very fine, and so was C. Young, a bright crimson-scarlet with fimbriated rim; Queen of my Heart, a prettily speckled lavender and white variety; *Petunia*, lavender-blue; Princess of Wales, a deep violet marked flower, having a white ground colour; Duchess of York, beautifully dotted; and Mrs. J. Peed, a lovely pink variety with white throat and edges. This was a much admired group.

BEGONIAS.

MR. H. J. JONES, Ryecroft Nursery, Lewisham, S.E., came forward with a table of beautiful single and double flowered tuberous *Begonias*. The lack of sunshine and the late season has so retarded the Ryecroft *Begonias* (in a district where the air is impure and murky) that most of the finest plants have not yet advanced sufficiently to allow of making a selection. And yet the quality and arrangement of the present group is exceedingly fine—a most beautiful display. To mention one or two of the more conspicuously effective varieties, a first note is certainly deserved to that wonderful bloomer, H. J. Jones. This is the type we want, large, bold, full, yet free and flowing in contour. It is a brilliant orange-scarlet flower, with a liberal suffusion of vermilion flushing it. But so prominent is this variety that visitors marked it out at once. Snowdrift is now well known as one of the finest single whites. Mrs. Walter Finch is one of the first water crimson varieties, while the double Purity is certainly whiter than snow. Harrison Dick is a sturdy new variety, having large, well-borne flowers of a soft rosy-blush colour; Scarlet Perfection, rich scarlet; Clio, a pleasant creamy-yellow; Sensation, that famous single variety with the creamy centre and pink edges; Queen of Roses, a rosy coloured single; Walter Smith, a splendid orange-scarlet; Pearl, a deep single pink; Mrs. W. J. Webb, a new variety of a striking rosy-scarlet shade, are a selection of the more noteworthy varieties included in Mr. Jones' much admired exhibit. Nothing need be said about the tastiness of the group—"H. J. J." always proves himself a master of aesthetics.

Messrs. Sutton & Sons' (Reading) fibrous-rooted *Begonias*, bedded out on the lawn, made an exceedingly pretty show, and illustrated what an effective display can be made with this strain. The colours included the most delicate tints, and ranged from the purest white (Sutton's Miniature White) to the deepest red (Sutton's Crimson Gem). The plants were raised from seed sown in January, and they are undoubtedly an "amateur's" plant, produced easily and freely from seed. After flowering in the beds all the summer, the plants may be lifted and placed in the greenhouse, where they will remain in bloom during the winter.

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, came forward again with tuberous *Begonias*, singles and doubles. Everyone had but one sentiment in regard to these—they were *grand*. Golden Empress is a splendid double yellow, Miss Emily Childs is a large white flushed with pink, Mr. James Porthury is a clear rosy-carmine, Lord Roberts (Award of Merit) white pink base and deep crimson-red edge, a magnificent variety; Mr. W. G. Valentine, a superb new variety, also receiving an Award of Merit, and of a bright, smooth scarlet-crimson hue. The single varieties were all of first-rate merit, large, well formed and of good colour. The arrangement of this massive group was all that one could wish for.

Messrs. Cannell & Sons, Swanley, were also exhibitors of tuberous *Begonias*, but not in any great quantity. The table contained some very special varieties, however, and these were large, well formed and good.

CALCEOLARIAS.

MESSRS. SUTTON'S herbaceous *Calceolarias* formed a splendid bank of bloom at the north end of the Orchid tables, in the big tent. The plants were exceptionally dwarf, flowered profusely, and the healthy foliage completely hid the pots. The corollas or pockets were very large, and comprised the loveliest tints and shades imaginable; in fact, the colours are unlimited, and included spotted forms, veined, striped, light grounds, as well as selfs ranging from the palest cream to the deepest crimson. The varieties shown are Messrs. Sutton's well-known Perfection strain, Sutton's Spotted Mammoth, and the bright yellow Cloth of Gold. The group was much bolder than last year, being arranged in a great bank sloping from the end of the Orchid stages to the grass of the garden lawn, so that they were directly under the eye of the visitors who were charmed with this most imposing display.

Messrs. E. Webb & Sons, Stourbridge, set up a long table of greenhouse *Calceolarias*. The plants were models of culture. Every shade of colour seemed to be included in this excellent group, and the large heads of "bag-shaped" flowers, some of very large size and perfect freshness of form, were the admiration of a very large section of visitors. Strength with grace were the meritorious characters which one might attribute to Messrs. Webb's *Calceolarias*.

Messrs. H. Cannell & Sons, Swanley, Kent, had a table of *Calceolarias*, whose striking merits were their graceful carriage, fine large size and brilliant colouring. With the Ferns and the capital arrangement of the plants this group was one of the finest of all the *Calceolaria* exhibits.

Messrs. J. James & Son, Farnham Royal, Slough, made a very worthy exhibit of greenhouse *Calceolarias*. The plants were very large and fine, some of them being half a yard through, hushy and well flowered. The strain is a good one. The Palms and Maidenhair Ferns, which were interspersed, greatly aided the general effect.

CARNATIONS, &c.

As usual, Messrs. Wm. Cuthush & Son, Highgate Nurseries, London, N., set up a wonderfully fine group of Carnations, in their usual corner in the big tent, including good new *Malmalsons* and border varieties. Among the newer *Malmalsons* special notice was elicited by Baldwin, which is a splendid dark pink, with very large petals and exceptionally well-built flowers; Horace Hutchison, a glowing scarlet, and one which has previously been specially noticed, though it is quite new; Lord Welby, a rich dark crimson variety, and one which received an Award of Merit in 1898; Robert Burns, a bright salmon coloured variety, and various others. The border Carnations, worthy of notice, include Henry James, a magnificent deep reddish-rose, perfect in shape and of good constitution; Minerva, a white form of extra good substance; Sundridge, a very fine crimson; Germania, the best known yellow variety; and Mr. Herbert J. Cuthush, which is a lovely Carnation, of a glowing scarlet colour and very fine form. Additional glow of colour and form were given by a very choice selection of *Calla elliotiana*, with its deep golden spathes and maculated leaves. The Messrs. Cuthush have all along exhibited this beautiful plant in perfect form, so that to those who have already seen their groups of it no recommendations are required. The pot specimens of Crimson Rambler Roses only went a little further to prove that nothing is lovelier as a pot plant for the greenhouse in the early part of the year. Choice *Ericas* and *Paeonies* were included, together with Ferns, Palms, Bamboos, and other "relieving" plants in a group which may be summed up as "delicious."

From L. de Rothschild, Esq. (gardener, Mr. Jno. Jernlings), Ascott, Leighton-Buzzard, came an admirable collection of Tree and *Malmalson* Carnations, of which King Arthur and Sergeant George were very conspicuous.

CACTI.

THE extensive group of *Phyllocacti* put up by Messrs. J. Velth & Sons, Ltd., Chelsea, was as unique and as interesting, but even more comprehensive than ever. The plants staged numbered over 500, and as to varieties, the choice old ones were to the fore, while new ones were added. The size of the flowers made them gorgeous, but the chaste, subtly blended and delicate colours are so soft and attractive that they never offend the eye.

Some of the choicest included *Admiration*, rose, shaded salmon; *Ena*, orange-scarlet, tinted apricot; *Epirus*, soft pink; *Isabel Watson*, coral-red outside, with a violet-carmine margin; *Syrens*, soft salmon pink; *Favourite*, bright rose; *La Belle*, an extra fine white; *Cooperi*, creamy white; *Agatha*, rose, shaded with salmon-pink; and *Hecla*, light scarlet-crimson. Though one of the oldest J. T. Peacock, improved, would still be hard to beat, the flowers being of a brilliant deep rose with violet edges. *Niohe* is a deep scarlet with purple centre; *Ovis* is of a light, vivid rose-pink. The light red hue, and the pale purple edges of *Romeo*, make it a variety of considerable merit; *Eurasian* is one of the darkest, being dark scarlet, with a broad magenta margin. *Jessica* on the other hand is soft pink. The smallest flowered form was that named *Phyllocactus alatus*, the rosy-pink flowers of which are freely produced all along the stems, as well as on the top. It bears the same relation to its large-flowered allies as *Nymphaea pygmaea* does to the large Water Lilies. The new varieties included *Eurytus*, *Cythera*, *Adela*, *Ida*, *Tyro* and *Nemesis*. Mr. John Heal is as successful with this class of plants as with *Rhododendrons*, *Winter Begonias* and *Amaryllis*.

Messrs. A. W. Young & Co., The Nurseries, Stevenage, Herts, came out in the newer role as exhibitors of Cactaceous plants. Hardy plants were set up along the back, and Cacti in pots filled the stages. The following are some of the more outstanding:—*Echinocactus viridescens*, *E. rectispinus*, *E. polycephala*, *E. Wisliseni*, and the pretty *Mammillaria stellata*, *M. Pfeifferi*, &c. An edging of finely grown *Isolepis gracilis* greatly aided the group.

Messrs. H. Cannell & Sons, Swanley, Kent, cannot be surpassed when cactaceous plants are the subjects of rivalry. Their present Temple Show collection is perfectly charming. The Golden Cactus was seen to perfection; and so with *Agave Victoriae*, *Reginae*, *Opuntia tunicata*, *O. ursurus*, *Cereus erucus*, *C. Brummanii*, *Mammillaria pusilla*, *Echinocactus viridescens*, and many other striking and really beautiful Cacti were included in this wonderful collection.

INSECTIVOROUS PLANTS.

R. I. MEASURES, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camherwell, S.E., showed a collection of *Sarracenias*, in many named hybrids and species, as:—*S. tolliana*, *S. crispa*, *S. melanoroda*, *S. Atkinsonii*, *S. Drummondii*, *S. swaniana*, &c. Under glasses there were *Dionaea muscipula* (Venus Fly Trap), with its curious folding spinous edged leaves; *Drosera binata*, *Cephalotus follicularis*, the pretty new Holland Pitcher Plant, and many others.

The Duke of Northumberland (gardener, Mr. Geo. Wythes, V.M.H.), Syon House, Brentford, showed a collection of *Nepenthes*, and when we say that these are special pets with Mr. Wythes, and that he puts his skill to bear on their culture, it will be understood that no finer specimen could be seen anywhere. They were laden with pitchers, and were large and massive plants.

CANNAS.

MESSRS. H. CANNELL & SONS, Swanley, were in their usual position with *Cannas*, for which they justly hold the fame of being the greatest specialisers. Late and early, the Messrs. Cannell are able to show magnificent *Cannas*, and this exhibit now is up to the highest standard of quality. *Mdme. Crozy*, *Duchess of York*, *Franz Bucher*, *Pres. McKinley*, *Florence Vaughan*, *Paul Meylan*, and other varieties are wonderfully brilliant and effective.

FOLIAGE AND FLOWERING GROUPS.

MR. H. B. MAY, of Dyson's Lane Nurseries, Upper Edmonton, seemed to excel even the splendid groups it is his wont to arrange. Not only is the arrangement a sample of perfect good taste and skill, but the quality of the stuff composing it could not be eclipsed. The group was gracefully tiered, specimen *Cocos plumosa* and other Palms forming an elevated centre, while in minor groups and prominences we noted *Crotons* and *Dracaenas*, in the best named sorts, *Asparagus Sprengeri* compacta, a new variety raised by Mr. May, and which received a First-class Certificate, recently; also *Statice profusa*, *Clematis* Wm. Marshall, C. Nellie Moser, hushes of *Crimson Rambler Rose*, a yard in diameter, *Eulalia japonica variegata*, beautifully coloured Japanese Maples, and

tall pillar-like specimen *Vitis heterophylla variegata*. It made a splendid group of stove and greenhouse foliage and flowering plants.

Messrs. John Laing & Sons, Forest Hill, S.E., set up a large and effective group of foliage and flowering plants in the big tent. It occupied an area of 200 square feet and was backed up with suitable Palms in the light and graceful way customary with these exhibitors. Caladiums furnished massive and brightly coloured foliage which contrasted well with the other material employed. As some of the varieties here employed have already been described under the heading of "Caladiums" we need not again revert to naming the sorts employed. Well grown and brightly coloured Crotons also had an appreciative effect in brightening the group. Some of the finest of the Crotons were Hawkeri, having a variegation resembling a magnified *Cariacature Plant*; Golden Ring, curled, golden yellow, and green at the base; *Aneitumensis*, brightly netted with gold; *Mortei*, with large leaves veined red; Meteor, yellow, with a broad green border; Aigburth Gem, red and green on older, and yellow and green on the younger leaves; Disraeli, yellow, with green base; Reedii, with broad leaves of a lively carmine, and bronzy green between the veins; *Variegatum superbum*, with broad, yellow and green veins, and others. The above foliage plants were brightened with Gloxinias, *Streptocarpus*, tuberous Begonias and other flowering subjects. The firm might well have set up a separate group of Begonias, which were young, dwarf and fresh, and having still a long flowering season before them. Both single and double varieties were employed, mixed up with the foliage plants to produce lively bits of colour. Many of the double varieties carry their flowers erect on stiff short stalks. There were fine forms in blush, orange-scarlet, orange-salmon, scarlet, orange and apricot shades of colour. The singles were equally well diversified in colour.

Messrs. Fisher, Son & Sibray, Handsworth, Sheffield, set up a handsome group of plants consisting of well grown *Aralia Schifferi*, *Croton evansianus*, *C. Lady Zetland*, *Aralia regina*, *C. Sunbeam*, *Dracaenas*, numerous *Cattleyas*, *Nepenthes*, *Abutilons*, Bamboos and Acers. It was a lovely group of splendid plants very well arranged.

Sir Charles Pigott, Bart. (gardener, Mr. J. Fleming), Wexham Park, Slough, arranged a magnificent group of foliage and flowering plants, which included beautiful narrow-leaved Crotons, *Cocos plumosa*, *Dracaena sanderiana*, *Polypodium Phymatodes*, Palms and Bamboos among larger foliage plants; and Carnations, *Statice profusa*, *Ericas*, *Dendrobiums*, Lilliums, &c., among flowering subjects, formed material which was put up in Mr. Fleming's best form.

Mr. Wm. Icton, Granard Gardens, Putney, set up a table of plants, including Cordylines, Bamboos, and Palms along the back; *Negundo variegatum*, White Lilliums, *Astilbes*, about the middle; and then *Erica Cavendishii*, *Eurya latifolia*, Begonias, *Eulalias*, Caladiums, and Maidenhair Ferns as edging. The arrangement was perfect.

Messrs. Robt. Green, Ltd., 28, Crawford Street, W., exhibited a lovely extended bank of Crotons and stove foliage plants. Such varieties as *Venus*, *Saturn*, *Minerva*, and others with name from Greek mythology were conspicuously seen. The idea of the group seemed to be to include all that was most brilliant, graceful, and pretty among Crotons and such-like useful table plants.

SUNDRY GREENHOUSE PLANTS.

MESSRS. J. CARTER & CO., High Holborn, London, occupied the whole of the central stage of No. 1 tent, or in other words a run of 60 ft. of tabling by 6 ft. in width, making an aggregate of 360 square feet. This huge group was made up of a great variety of greenhouse plants, chiefly on subjects suitable for the decoration of cool conservatories. The general design of it was that of a national trophy, the central piece being a large crown, the framework being covered with Lily of the Valley, the crowns of which were placed in position and then grown on to the flowering stage in the usual way. That formed the white of the national colours. Blue was furnished by the blue Cornflower, and zonal Pelargoniums supplied the red. Another portion of the design was made up of the starry strain of *Cinerarias*, known as *C. stellata*. Double *Cinerarias* of the cruenta type being much dwarfer were arranged as a sort

of groundwork beneath the tall and graceful ones. There were many colours amongst these strains, such as blue, violet, rose purple, mauve, lilac, rose, white and bicolor varieties. Very gay was the large-flowered type of *Calceolarias*, which ranged from creamy, yellow and orange to the richest and darkest crimson, the spotting, mottling and marbling of the gigantic pouches being in many cases very handsome and attractive. These plants were in 24, size pots. A new strain has been added in a strain well described as *Nana compacta*, the plants being dwarf and compact with trusses of flowers of miniature size compared with their giant relatives of the improved garden strain. If we had not known the latter, the flowers of the dwarf strain would have been considered large. The range of colours is equally great in both cases. There were dwarf and well flowered plants of the double strain of Carter's Emperor *Petunias*, having white and purple flowers, and some of other colours. They also had some Gloxinias, Japanese Ferns were very conspicuous in the shape of *Davallias* fastened on to rafts, Chinese junks, boats, baskets, dovescotes and various other devices. Forced Peas growing in pots as well as baskets of gathered pods, Melons, and Cucumbers also formed part of this large and complicated exhibit.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, besides the select foliage and flowering group under canvas, also set up an open-air display. This was a capital inauguration. Nothing finer than the baskets of zonal Pelargoniums in flower, or the bright-leaved tricolors, which were relieved by masses of fragrant *Mignonette* in 5-in. pots, sturdy and floriferous, could be imagined. The Imperial Blue *Lobelia*, as a carpeting and edge, together with the taller Acers and other things, lightened up and gave balance to the whole arrangement.

Messrs. F. Sander & Co., St. Albans, set up a collection of Indian Azaleas, which formed one of the most brilliant groups in the show. They represented umbrella-headed specimens crowded with flowers. The varieties as follows were of exceptional merit:—*Mdme. Joost Vervaene*, scarlet-crimson; *Pearl de Gendbrugge*, pure white; *Dr. Moore*, rosy-red, *Schnee*, a creamy-white; *Unica*, a deep pink variety; and *Mdme. Marie Plancho*, pure white.

Mr. E. S. Towell, Windmill Road, Hampton Hill, exhibited his Cactus-flowered, crimson-scarlet zonal Pelargonium named Fire Dragon. It is a capital greenhouse plant, and ought to be secured by every lover of plants or flowers. The plants as shown are an improvement upon those exhibited last year.

Messrs. Gt. Van Waveren and Kruijff, Bulb Growers, Sassenheim, Haarlem, Holland, were again to the fore with varieties of *Astilbes*. Very little difference could be seen between the varieties, but as specimen plants they were extra fine.

Mr. Paul Erselius, Church Lane Nurseries, Romford, set up a magnificent batch of his double white *Petunia* "Charlotte." It is the best double white *Petunia* in cultivation.

From the Countess de Grey (gardener, Mr. J. Smith), Coombe Court, Kingston-on-Thames, came a magnificent group of *Lilium Harrisii*.

Mr. W. J. Godfrey, Exmouth, Devon, showed his splendid new fancy Pelargonium, "Emmanuel Lias."

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, had a representative collection of specimen trained Clematis, of the Jackmanii and lanuginosa types.

Messrs. R. Smith & Co., St. John's Nurseries, Worcester, set up a group of Crimson Rambler Rose trained balloon fashion, and a fine assortment of specimen Clematis of the Jackmanii type, such varieties as *Lucie Lemoine*, Countess of Lovelace, Lord Nevill, Princess of Wales, Excelsior and La France. These were grown in such style as made the task of excelling them seem impossible.

ROSES.

MESSRS. WM. PAUL & SON, The Old Nurseries, Cheshunt, were again strong in pot Roses. Tall plants of Crimson Rambler, *Souvenir de President Carnot*, *Mdme. de Watville*, *Psyche*, and *Souvenir de S. A. Prince*, formed a background, together with Palms. Then variedly in front were large specimen H.P.'s, H.T.'s, Teas, and others in the following varieties, splendidly flowered, such as *Bacchus*, *Rev. Alan Cheales*, *Beaute Inconstante*, and Paul's Early Blush were all seen in magnificent form.

Mr. Benjamin R. Cant, Rose Grower, Colchester,

exhibited pot and cut Roses. Of these Caroline Testout, the pretty pink H.T., and H.P.'s, *Merville de Lyon*, *Margaret Dickson*, Mrs. John Laing, *Prince Arthur*, and *Suzanne Marie Rodocanachi* were especially strong and fine.

The Anglo-Continental Guano Works (C. Aubrey Watts) showed an assortment of pot Roses, Palms, Asparagus, &c., a miscellaneous group of well-furnished and creditable plants. The Anglo-Continental Guano is liberally used by all the leading cultivators, and its quality and worth is becoming daily more appreciated.

Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, arranged a very large selection of Roses, pot specimens, and cut blooms. The collection included Mrs. John Laing, Tom Wood, Anna Olivier, *Ephrosiene*, *Etienne Levett*, Duke of Fife, *Niphetos*, *Gustave Piganeau*, *Lawrence Allen*, *Thalia*, and many others. The cut blooms of *Marechal Niel* were extraordinarily fine.

Mr. W. Rumsey, Waltham Cross, London, N., grouped a very fine collection of pot Roses, which included *Peach Blossom*, *Magna Charta*, Mrs. J. Laing, *Edward Morran*, *Crimson Rambler*, and various others. The cut Roses included *Alfred Colomb*, *The Queen*, *Souvenir d'un Ami*, *Catherine Mermet*, and others.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, made a magnificent display of pot and cut Roses. There were numerous standards and climbing Roses and a large assortment of bush plants. Of the climbing Roses *Claire Jacquier*, a beautiful creamy Polyantha Rose, *Crimson Rambler*; and of Teas and H.P.'s, *Medea*, *Ulrich Brunner*, *Mdme. V. Verdier*, *Mdme. Caesar Brunnler*, were of the very first quality. The cut blooms represented *Merville de Lyon*, *Ulrich Brunner*, *Anna Olivier*, *White Lady*, *Senateur Vaisse*, and others.

Mr. Charles Turner, The Royal Nurseries, Slough, set up a most extensive and magnificent group of pot Roses, *Malmaison* Carnations, and fancy Pelargoniums. Of the specimen pot Roses, nothing finer could be desired or was shown. Mrs. J. Laing, *Celine Forestier*, *Juno*, *Spenser*, *Souvenir d'un Ami*, and the massive *Crimson Ramblers*, were models which secured universal notice. He also showed large trained specimen Indian Azaleas.

HARDY HERBACEOUS PLANTS.

MESSRS. BARR & SONS, King Street, Covent Garden, had a rich and most extensive display of Tulips belonging to all sections now in flower, and also herbaceous and rock plants generally, which they brought up from their nurseries at Long Ditton, Surrey. One hardly knows where to begin or to leave off in describing such an array of flowers, seeing that the cream of various sections of Tulips require to be studied to know or fully appreciate them for their various uses in garden decoration and on the exhibition table. The Darwin Tulips were a host in themselves, being a new strain of *Tulipa gesneriana*, of vigorous constitution and rich in a great variety of self-colours. There were *The Sultan* (known as the black Tulip), *Violet Queen*, *White Queen*, *May Queen* (rosy-pink), *Bronze King*, *Dorothy* (soft lavender-pink), *Calypso* (glowing scarlet), *Scarlet Beauty*, *Queen of Roses*, *Purple King*, *Orange Beauty*, and many more, the names of which are in many cases indicative of their colour. *May Queen* was a large and lovely rose-pink form; *Early Dawn*, rosy pink, with wavy foliage; and *Loveliness*, a splendid bedder, with rose flowers and silvery edges. *Prince de Schomberg* was a large and handsome violet-purple Tulip. The Cottage Tulips were even more numerous, and might be described as late-flowering garden Tulips of great decorative value. Very handsome striped varieties were *Bueno Aventura* (striped with scarlet and yellow), and *La Panachee*, variegated with red on a white ground. For late flowering in beds few surpass *Tulipa spathulata*, *T. retroflexa*, *T. macroseila*, *T. fulgens*, *T. billettiana*, *T. maculata*, *Picotee*, *Annie*, *Faerie Queen*, Mrs. Moon, and others too numerous to mention. *T. viridiflora* is always necessary to complete a collection, while *T. v. praecox* is larger and earlier. Many of them have been picked up in old-fashioned though by no means neglected gardens, where they minister to the delight of their owners in many a rural and sequestered cottage garden. The English Florist's Tulips were replete with variety, lovely in their varied traits of refinement and dear to the Florist proper. No race of Tulips is more refined than those which the English amateur Florist delights to honour. The blazars, roses, and

bybloemens are each again divided and classified according as they are self-coloured breeders, flamed or feathered. Each of these divisions again are classified and described according to their respective colours. Amongst the bizarres none were more handsome than Dr. Hardy, Sir Joseph Paxton, Colbert, Samuel Barlow, and Lord Stanley. Then amongst the rose section were Aglaia, Mabel, Anastasia, Kate Connor, Lady Constance Grosvenor, Annie Macgrigor, and others. The bybloemens consist of various arrangements of purple or lilac on a white ground. Adonis, Miss Foster, Mrs. Jackson, Music and Talisman were amongst the cream. Hardy herbaceous plants proper, as generally understood, included Fritillaria Elwesi, Mertensia virginica, Adonis pyrenaica, Shortia uniflora, Anemone palmata, Lithospermum purpureo-caeruleum, single Paeonies in variety, Arabis albida flore pleno, &c., the last named and the Shortia being amongst the novelties put up.

Messrs. Kelway & Sons, Langport Nurseries, Somerset, grouped a magnificent collection of hardy tree Paeonies, some in pots, others cut and arranged in vases. The massive and graceful Lord Roberts, of a pale blush colour; Lady Sarah Wilson, large and deep pink; Lord Methuen, deep purple; Mr. Eyre Walker, single magenta; Lady White, pure white and large; Duke of York, a semi-double rosy-orange-red, are only a little selection of the many splendid varieties set up.

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, staged a brilliant assortment of hardy herbaceous and alpine plants. The beautiful and capricious Iris susiana was seen to perfection on this stand, and Primula Sieboldii, Aquilegia caerulea hybrida, Heuchera sanguinea, Geum coccineum fl. pl., Pentstemon Sivulari, Aster alpinus superbus, Trollius europaeus, Centaurea montana alba, Phloxes, Lychnises, Saxifragas and a host of other gems were all included here. Tulps were also shown.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, exhibited a collection of hardy plants, bulbous and otherwise, including Lilliums, Irises, Orchids and Cypripediums, &c., which if not so glaring and excessively brilliant as some of the neighbouring groups, was yet exceedingly sweet and interesting. The golden Lillium thunbergianum, Orange Queen, Iris Korolkowi, I. K. violacea, I. lupina, I. vaga, I. Leichtlini, and a various assortment of Calochortus, Lillium rubellum, Tritonias, &c., &c. It was a very valuable collection and one which attracted numerous lovers of this class of plants.

Messrs. J. Cheal & Sons, Lowfield Nursery, Crawley, Sussex, exhibited hardy alpine and herbaceous plants. The alpine were arranged on an "impromptu" rockery with abutting pockets, mounds, recesses, &c. Such pretty subjects as Daphne Cneorum, Gentiana verna, Saxifraga Tagetis, Phlox setacea, Dodocatheum jefferyanum, Phlox lilacina, Trollius europeus, &c. They also set up a named collection of choice Violas and flowering sprays of hardy trees and shrubs.

Mr. T. Anstiss, High Street, Brill, showed a splendid lot of the double yellow sweet scented Tulip Mrs. Anstiss, a magnificent variety.

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, staged a beautiful collection of hardy flowering plants in baskets and boxes. The whole group was well finished off and carefully put together. It

included that sweet Aquilegia glandulosa, Geum coccineum plenum, Delphinium nudiflorum, Primula sikimensis, Dodocatheum splendens, Saxifraga longifolium, Orchis foliosa, pink Paeonies, Cytisus incarnatus purpureus, and such other choice things.

Mr. Arthur Knowles, Woking, Surrey, showed a basket of Daphne Cneorum major and an improved form of it. The new major is clearly larger and better in all respects, being deeper coloured and more perfectly formed.

Messrs. Dobbie & Co., Rothesay, N.B., have achieved the first triumph among Sweet Peas in this the Sweet Pea bicentenary year. They arranged a gloriously pretty table of Sweet Peas, cut with foliage, stem, flower, and tendrils. Could anything be more graceful or lovely? Here was Boreatton, Emily Henderson, Navy Blue, Her Majesty, Lady Nina Balfour, New Countess, Fashion, Prince of Wales, Stanley, and many leading varieties, strong and perfect.

Messrs. Sutton & Sons' present exhibit of this popular South African flower (Nemesia) was particularly attractive on account of the original type being brought into close comparison with the new "hybrids." These "hybrids" are distinctly novel and pretty. The colours range from pure white to crimson, and when seen in a mass a most delicate dreamy effect is produced. The original type, Nemesia strumosa Suttoni, introduced into England by Messrs. Sutton & Sons, Reading, in 1888, is shown in four perfectly distinct colours, pale yellow, rose-pink, rich orange, and crimson—all coming true from seed. The plants of this large flowered type were arranged round the edges of the staging, some being grown in pots and others in boxes. The whole of the central staging was occupied with the new form known as Nemesia Strumosa Suttoni nana compacta, of which we give an illustration on p. 617. They ranged from pure white to cream, lilac-rose, blue, and orange. Many of them were distinct bicolors. The plants were most profusely flowered, but partly dashed about by the heavy rain when being taken into No. 3 tent on the opening morning of the show. The plants were taller than they otherwise would have been if grown under natural conditions in the open air, where they flower most profusely as bedding plants. By sowing under glass and also in the open air a succession can be kept up in the open as well as for conservatory purposes.

(Continued on p. 621)

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**Hardy Azaleas and American Plants
A LEADING FEATURE.**

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The fact that we have twice been able to get plants home under the almost impossible conditions now prevailing in Colombia, fills us with satisfaction, and we need hardly say we guarantee every plant true Pacho, which is more than saying "Pacho type."

Notwithstanding we are the only importers this season, buyers will find our prices as strictly reasonable as heretofore, and we invite inspection with confidence.

STANLEY, ASHTON & CO., SOUTHGATE, LONDON, N.

Mr. W. Poupart, Marsh Farm, Twickenham, showed a Lily of the Valley variety "Victoria," a very large and strong flowered type.

Mr. T. Jannoch, Dersingham, near Sandringham, set up a lovely group of selected Lily of the Valley in conical tiers and in spreading masses, together with large spikes of Lilacs in vases. Of the Lilacs the semi-double Mdme. Abel Chateney, Mdme. Lemoine, Pyramidalls (Illac), and the single Charles X., with interspersions of Asparagus Sprengerii, formed a much admired selection.

Mr. H. J. Jones, Ryecroft, Lewisham, S.E., arranged an exceedingly choice table of cut blooms of hardy spring flowering plants. Tulips, Narcissus, Xiphion Irises, Astilbes, and White Liliums, were the chief subjects employed. The table had abundance of gay colouring, and, with Palms and pretty edging plants, formed one of the smartest groups in No. 3 tent.

Leopold de Rothschild, Esq. (gardener, Mr. James Hudson), Gunnersbury House, Acton, showed a novel collection of hardy Nymphaeas in frames. The plants were in large tubs arranged in two rows along the length of the large span-roofed frame, having a neat packing of moss between each tub. N. tuberosa, N. candida, N. marliacea chromatella, N. m. carnea, N. odorata sulphurea grandiflora, N. seignouretii, and the beautiful blue one, N. stellata, which, however, is not so hardy.

Messrs. Hogg and Robertson sent a select representation of their beautiful Irish grown Tulips, which seem to us to beat any which come from the Continent or elsewhere. Their size, form, and colour leave nothing to be desired. There was Mrs. Knightley, yellow Prof. M. Foster, Nigrette, Henner, Standon Bells, Striped Beauty, Sunset, Picotee, Yellow Queen, Zomerschoon, flava, Mrs. Moon, elegans maxima lutea, persica, &c., all of which charmed hosts of the visitors.

Messrs. Richard Smith & Co., Worcester, exhibited a select table of hardy herbaceous cut flowers, including Iris montana rosea, I. Fieberi purpurea, Trollius, Irls germanica australis, I. redoutiana, Paeonies, and quite a host of other good things.

Mr. Wm. Sydenham, Tamworth, set up a much admired bank of named Violas.

HARDY TREES AND SHRUBS.

Out in the open ground Messrs. Wm. Cutbush & Son, Highgate, London, N., had a remarkably complete and novel group or collection of clipped Yew, and Box trees. It shows how fully subordinate some forms of shrub growth are to the mind and bent of man. Here were gracefully winding spirals, cork-screws, tables with cups, glasses, decanters, chairs, obelisks, pillars and the conventional peacocks and such like commoner forms. These designs are executed with the accuracy of a sculptured treasure, the table with wine glasses, which was cut in Box, being perfectly marvellous both in conception and workmanship.

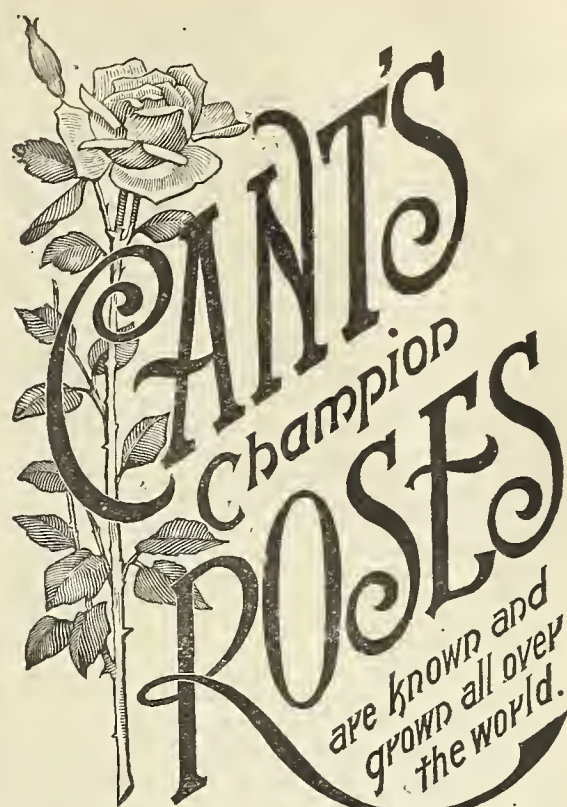
Messrs. R. and G. Cuthbert, Southgate Nurseries, Middlesex, set up a very brilliant group of splendidly flowered Ghent and Mollis Azaleas. The depth of colour in most of the varieties was also a point of special notice. Large specimen plants with finely balanced palms stood well up in the centre rows, and from it outward on all sides other bushy plants were arranged. Some of the chief varieties were: President Cleveland, Glorious Yellow, Comte de Quincy, Elizabeth Daviesi, Anthony Koster, Mrs. A. Endtz, a deep orange-yellow variety lately given an Award of Merit. Many fine seedlings were also shown.

Mr. John Russell, Richmond Nursery, Richmond, exhibited Ghent, mollis and sinensis Azaleas, in pots and tubs, massively flowered specimens arranged with infinite good taste. The varieties were not named, but if a selection of the various kinds as shown was secured, nearly every colour imaginable would be guaranteed.

Messrs. R. Smith & Co., St. John's Nurseries, Worcester, had a very select group of hardy Coniferous plants. The firm goes in very largely for Cupressus macrocarpa lutea, a hardy and very ornamental subject, also Cedrus atlantica glauca, Juniperus chinensis aurea, Abies, Retinosporas, Acers, Bamboos, &c. A very fine group indeed.

Messrs. Fisher, Son & Sibray, Handsworth, Sheffield, arranged a very extensive and highly effective assortment of Maples, Oaks, Abies, Elders, Euonymus, Ivies, Bamboos, &c., but of these and some of the finer things in this collection more shall be said in a further report.

(Continued on p. 622).



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WINTER & SPRING-FLOWERING PLANTS.

	Each—s. d.
AUCUBAS, set with berries	3 6
Set with berries, on stems... ..	5 0
AZALEAS, of sorts, set with flower buds,	
per doz., 24s to 30s	
BOUVARDIAS, of sorts, including all the best, 1s 6d to	2 6
CAMELLIAS, very best kinds, well set with bud 2s 6d	
to	5 0
CARNATIONS (Tree), in variety, very fine ... 2s to	3 6
CYCLAMEN, choice selection	2 0
Extra fine plants	3 6
CYTISUS in 4 1/2-in. pots fine	1s 6d to 2 0
ERICA hyemalis in 5 1/2-in. pots, well set with bloom...	2 6
extra fine plants	3 6
Caffra, good plants, well set	2 0
Cavendishii, fine yellow	2s 6d to 3 6
gracilis, in 5 1/2-in. pots, set with bloom	2 0
extra fine plants	3 6
melanthera, well set	2s 6d to 3 6
persoluta alba, late flowering	2 6
ventricosa, of sorts	2s 6d to 3 6
Wilmoreana, late flowering	2 6
EPACRIS, in choicest variety, fine plants	2s to 2 6
EPIPHYLLUMS, good sorts... ..	2 6
SOLANUMS, well set with berries... ..	1s 6d to 2 6
Very fine plants	3 6
VALLOTA purpurea, fine flowering bulbs	1 6

PLANTS & ROOTS FOR FORCING.

ACER negundo variegata	1s 6d to 2 6
ANDROMEDA floribunda	1s 6d to 2 6
AZALEA Altaclarensis, magnificent yellow, very showy, and remains a long time in bloom; one of the finest hardy Azaleas for forcing ... 2s 6d to	3 6
Hardy Ghent, well set with buds	2 0
double varieties, fine for cutting... ..	2 6
mollis, well set with buds, fine for forcing and very showy	1s 6d, 2s 6d & 3 6
" specimen plants for exhibition, with from 75 to 150 buds	15s to 21 0
" on stems, with fine heads	5s, 7s 6d, to 10 6
For Conservatory and Greenhouse decoration nothing can exceed the beauty of this Azalea, when grown on stems from 3 to 5 feet high, with handsome crowns covered with buds.	
AZALEA Hybrid, in variety	per doz., 24s to 30s
These are seedlings obtained by crossing Azalea mollis with the Ghent varieties. For cut flowers they are a great acquisition.	

PLANTS AND ROOTS FOR FORCING—Continued.

	Each—s. d.
AZALEA Indica, of sorts, fine plants set with buds,	
per doz., 18s, 30s, & 42s	
MOLLIS FLORE PLENO.—This new kind of Azalea has gained the admiration of all those who have had the opportunity of seeing it, and is unquestionably a grand acquisition to the lists of plants for forcing. It is of vigorous growth, sets its buds easily, and a most abundant bloomer, producing flowers in splendid trusses; and is admirably adapted not only for Greenhouse ornamentation, but is most useful for making up of bouquets, &c. The following is a list of the varieties:—	
Ariadne, double white, the petals blotched with golden yellow	3s 6d to 5 0
Aida, very double, flowers pale rose	3s 6d to 5 0
Apples, scarlet, shaded with rose, a most beautiful variety	3s 6d to 5 0
Il Tasso, red, the flowers being beautifully imbricated	3s 6d to 5 0
Freya, of stout habit, flowers mauve, white and double, the petals tipped with lilac, very fine ... 3s 6d to	5 0
Hora, beautiful trusses of yellow flowers, tinted with rose, the petals flaked with carmine-red ... 3s 6d to	5 0
Velasquez, compact truss of creamy white flowers, bordered with rose	3s 6d to 5 0
Mecene, flowers white, with lilac border	3s 6d to 5 0
Norma, flowers flesh-coloured, shaded with clear rose, very pretty	3s 6d to 5 0
Phoebe, colour nankeen, perfect shape and nicely imbricated... ..	3s 6d to 5 0
Virgile, flowers pale yellow, with slight nankeen streaks in the middle; a fine variety	3s 6d to 5 0
Phidias, fine imbricated truss, the upper petals rosy-white, with a yellow shade... ..	3s 6d to 5 0
DEUTZIA gracilis, not in pots	0 6
extra strong, in pots	1s 6d to 2 6
crenata plena, in pots for forcing	1 6
DIELYTRA spectabilis, good roots	per doz. 5s
GENISTA Præcox	per doz., 18s to 24s
GLADIOLI Colvillei alba, beautiful white	per doz. 1s 3d, per 100 7s 6d
HELLEBORUS niger	1 6
major	2 6
HYACINTHS, ROMAN	per 100, 17s
HYACINTHUS candicans, fine for forcing, ...	per doz., 2s 6d, per 100, 16s
HYDRANGEA paniculata grandiflora in pots, ...	1s 6d to 2 6

PLANTS AND ROOTS FOR FORCING—Continued.

	Each—s. d.
KALMIA latifolia, well set, imported, 1s 6d, 2s 6d, to	3 6
LAURUSTINUS, well set	1s 6d to 2 6
Standards on 18-in. stems, fine	3s 6d & 5 0
LILUM auratum, good bulbs	9d, 1s, 1s 6d to 2 6
Extra fine	3s 6d to 5 0
lancifolium album, rubrum, and roseum	
9d to	1 0
longiflorum	0 6
candidum	3d to 0 6
Harrissi	per doz. 10s 1 0
LILY OF VALLEY, fine strong clumps, imported,	
per doz., 12s	
Single Crowns, German	per 100, 6s., per 1,000, 55s
LILAC Charles X., well set with flower buds, imported from Paris, fine for forcing	2s 6d to 3 6
Persian	2s 6d to 3 6
Virginalis white... ..	3 6
ORANGES, Otaheite, with fruit	3 6
PRUNUS sinensis alba fl. pl. fine for forcing, very showy	1 6
rosea fl. pl. fine for forcing, very showy	1 6
Pissardii	2s 6d to 3 6
ROSES, Teas, best sorts and good plants 1s 6d, 2s 6d, & H.P., in pots, best sorts, fine plants	1s 6d to 2 6
RHODODENDRONS, all the most suitable varieties for early forcing, and grown specially for flowering in pots, well set with buds, very fine... ..	2s 6d to 3 6
Extra fine	5 0
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Mrs. Hardy and Snowflake	5 0
These are undoubtedly two of the best and most useful yet introduced, and cannot be too highly recommended for forcing and decorative purposes, producing immense trusses of flowers of pure white: they are most profuse bloomers, and in every way a fine acquisition. They are quite hardy.	
STAPHYLEA colchica, in pots for forcing, fine white 1s 6d to	2 6
SPIRAEA japonica, strong imported clumps, per doz., 5s, 12s	
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TUBEROSES, Double American, ...	doz. 3s; 100, 17s 6d
Excelsior Pearl	doz. 3s; 100, 17s 6d
VIBURNUM Opulus, (Guelder Rose), fine plants set with flowers, fine for forcing	1s 6d to 2 6
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Messrs. J. Cheal & Sons, Crawley, Sussex, set up an extensive group of Azaleas, Cytisuses, Lilacs, Rhododendrons, Spiraeas and Maples, Cupressus, Eulalias, &c.

FERNS.

FROM Messrs. J. Hill & Son, Barrowfield Nurseries, Lower Edmonton, came a magnificent (and that word is scarcely expressive enough) group of choice exotic Ferns. This firm has lately confined its energies entirely to Fern specialisation, with the happiest progress so far. We cannot do more at the present than merely give the names of some of the specimens staged. Neither the quality of the Ferns, nor their arrangement could be bettered, and that is saying something. The list is as follows: Angiopteris evecta, Platycerium alcicorne, P. Hillii (a beautiful piece); P. Willinckii, Davallia griffithiana, D. bullata dissecta, D. fijiensis major, D. tenuifolia stricta, D. fijiensis elegans, D. ciliata, D. aculeata, a thorny climbing species; D. parvula, the smallest species there is; D. platyphyllum, D. repens, and the very rare D. Novae-Zelandiae. Then among Adiantums there were A. Capillus-Veneris imbricatum, A. ciliatum, a long-tailed species; A. Legrandi, very handsome; and A. Hendersonii, which is so beautiful and rare that it is valued at 40 gs. It takes after the A. formosum type. The Nephrolepis were well represented, the plants being mostly large specimens. N. Bausei is exceedingly graceful, and the pretty little N. pectinata for cork-bark pockets around pillars and the like cannot be beaten. Acrostichum crinitum, Cheilanthes radiata, a newly imported and very rare species; Blechnum Hillii, also new and set up for certificate; Lomaria L'Hernierii, very finely coloured; and Polypodium vaccinifolium, which displays itself in a novel and striking fashion, being grown in a cork-bark receptacle to allow the long, downy grey shoots to hang pendent. Among other Polypodiums there was P. longissimum, P. nigrescens, P. Phymatodes, P. Schneiderii, P. piloselloides, and P. appendiculatum. Onychium were also present, O. ornatum being very fine. Lygodium scandens, the true species, Brainea insignis, Bird's Nest Fern, Leucostegia (Davallia) immersa, Pellaea calomelanos, P. mucronata, Nothochlaena affinis, and N. sinuata, Drymoglossum carnosum, Asplenium marginatum, Lastraea patens, Pteris scaberula, Mortia, and Deparia Moorei, were all included in this choice and very valuable Fern collection.

Messrs. W. & J. Birkenhead, Sale, near Manchester, were forward with their usual fine assortment of stove Ferns, hardy Ferns and Ferns suitable as pot plants for the cool greenhouse. The freshness and luxuriance of the growth were point of especial notice. Exceedingly fine was Athyrium f.-f. Blakae, A.f.-f. plumosum dissectum, Polystichum divisilobum superbum, a new variety which obtained a F.C.C. last year. Then the Scolopendrium crispum Robinsoni S. cristulatisimum, and the numerous Maiden-hairs, notably Adiantum farleyense, and quite a number of Gold and Silver Ferns, Filmy Ferns in enclosed case, Pteris, Polypodiums, &c., formed an excellent group.

FRUIT.

THE collection of fruit staged by Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., of Gunnersbury House, Acton, made a grand display. There were some three dozen pots consisting of Peaches, Nectarines, Grapes, Plums, and Cherries, in addition to some ten boxes of fruit. His Royal Sovereign Strawberries were exceptionally good and well coloured. Bigarreau de Schreken, Governor Wood, and Empress Eugene Cherry were also fine.

Messrs. T. Rivers & Son, Sawbridgeworth, had a grand lot of their new Cardinal Nectarine, some twenty pots being exhibited, all of which were well laden with fruit of first-class quality. The same exhibitor also showed in another tent several baskets of this fine early Nectarine.

There was a grand collection of Apples from Messrs. G. Bunyard & Co., of Maidstone, consisting of some 100 dishes, all of which were in a good state of preservation. Lane's Prince Albert, Annie Elizabeth, Newton Wonder, Wellington, Claygate Pearmain, Northern Spy Gooseberry, Pippin Hormead's Pearmain, Baxter's Pearmain, Blenheim Orange, and many more.

VEGETABLES.

MESSRS. SUTTON's trophy, consisting of their Early Giant and Bountiful Peas, was exceptionally interesting on account of the revolution which the firm has effected in the culture of this important vegetable. These early varieties are ready for use before the small round-seeded sorts, and have the further advantage of possessing the fine marrowfat flavour of Marnecrop Peas.

READ THIS.

The prize last week was awarded to Mr. W. Hogarth, The Garden, Norton House, Ratho, Midlothian, for his article on "Cicerarias," p. 598.

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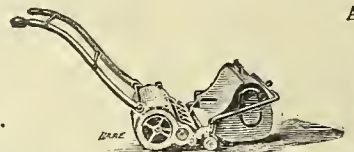
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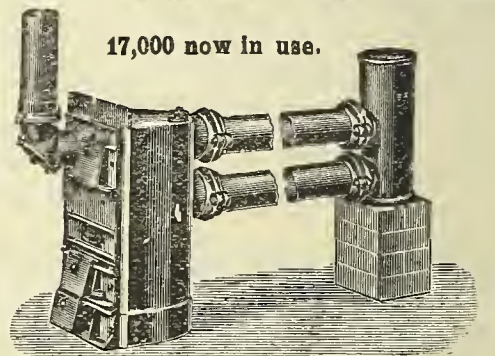
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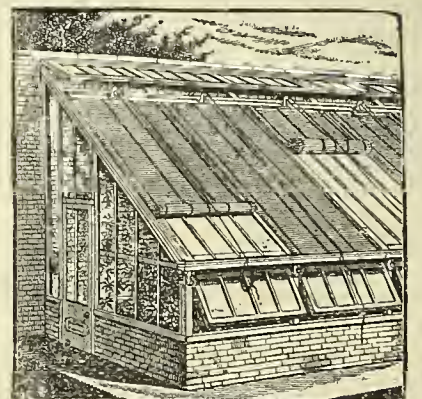
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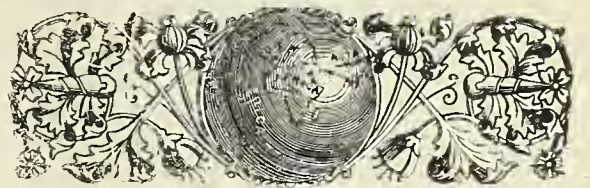
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 2nd, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 5th.—Royal Horticultural Society: Meeting in Drill Hall, James Street, Westminster, S.W.

THE UNFOLDING OF LEAF AND BLOSSOM.—

For several days recently the withering east winds made gardeners and cultivators of every persuasion uneasy about their fruit trees in the open; while plants under glass were not immune to the baneful effects of the wind from that quarter. All that has passed and it would seem that no very serious damage has been done. The fruit trees in the open, naturally, constitute the principal source of uneasiness; while the fate of the merely ornamental subjects is little more than a sentiment with gardeners. First came the Peaches and Apricots, to be followed by Plums, Pears and Cherries. The blossom in all these cases was profuse; and though, for some reason or other, the blossoming of former years was not always succeeded by equally satisfactory results, the present crop of blossom bids fair to equal the fullest anticipations.

Plums and even the wild Sloe were unusually laden with blossom, and at the time we were asked by a correspondent to explain the cause for such a lavish profusion of flowers. The question is more easily asked than explained; but doubtless the causes that conduce to such a result are not one but a combination of many. The abundance of sunshine and warmth of last year ensured the proper maturation of wood, and the development of blossom at the expense of vegetative growth. Had those flowers dropped without leaving a goodly percentage of embryo fruits behind them, one would naturally seek for a cause. The phenomenon is usually explained by the improper maturation of the wood, by too heavy a crop the previous year, or to the blighting influence of late spring frosts. Any or all of these causes may have had to

do with the absence of a crop; and if any of those evils could be remedied, gardeners would no doubt be eager to put the remedy into execution.

Overcropping can certainly be prevented, and that remedy would be universally adopted provided it gave the desired results. If a fruit tree can produce a heavy crop one year the question arises, why it should not do so every year. If the tax upon its resources is too great then surely something could and should be done to supply the needful in as far as an adequate amount of food is concerned. We have seen Peaches under glass fruit heavily for several years in succession; and given a sufficiently high temperature to ripen the wood the previous autumn, with a sufficiency of plant food, trees in the open ought to bear well annually, provided the blossom in spring is not destroyed by frost. If trees can only bear heavily at intervals of some years, the fact would suggest that they can and do store the materials with which to develop and mature a crop of fruit. Another fact which suggests the lack of food as the explanation of a failure to bring a crop to maturity, is that trees often cast or drop a large number of fruits that have set. This is due to a lack of moisture in many, but scarcely, we think in all, cases.

A close examination of many trees tends to show that they produce a much greater quantity of blossom than is necessary to give a sufficient crop for them to bring to maturity. The extra blossoms may be intended to ensure plenty of pollen for the proper fertilisation of the remainder. Many of the blossoms may be functionally only males, and the pistil so far imperfect as to be incapable of fertilisation. The Strawberry in America is a good instance of this. It has also been proved there that the pollen of many Pear trees is incapable of fertilising the flowers on the same tree. The flowers, in such a case, would be functionally unisexual. When we turn to *Pyrus Maulei*, we find that a large proportion of the flowers are purely male, the pistil being in a very rudimentary condition, and incapable of fertilisation. A large number of the flowers of Apples and Pears may be in the same condition, though the fact is less obvious than in the case of Maule's Quince just mentioned. Experiments might be made in this country to prove or disprove these facts. It could be done with much greater certainty under glass than out in the open.

The above remarks deal with the question from a utilitarian standpoint; but the sentimental aspect of the subject, or what appears to be merely sentimental, is worth consideration. A wealth of foliage and blossom in the springtime appeals to a large section of the community, and leads them into the open air and amongst the trees and bushes to examine more closely those subjects which attract them from a distance. This form of health-giving recreation is certainly a great deal beyond mere sentiment; and to those of delicate constitution, the possession of such trees and shrubs, or the means for enjoying them, is, indirectly, more priceless than rubies. To most people, whatever their age or constitution, the inducements to spend a considerable portion of their time in the open air are worthy of the fullest consideration; and if trees and shrubs can do this, their possession is certainly much more than a mere sentiment. Peaches and Almonds were among the earlier attractions, to be followed by the snowy clouds of white blossom on the Pears and Cherries, including the double varieties grown purely for ornamental purposes. The rosy, pink and red blossom of the Apples, Crabs and other species of that ilk soon put the memory of the white-flowered trees in the shade. Now we have *Cytisus*,

Genistas, *Laburnums*, *Wistarias*, *Clematis montana*, and the white, rose and red Hawthorns, the latter a host in themselves, giving colour to the landscape everywhere. The Horse Chestnuts are magnificent, both the white and the red ones, the former preponderating greatly in numbers. The Lilacs range from the purest white to the darkest violet-purple, and appeal to the masses everywhere. White Beam trees, the Mountain Ash, *Spiraeas* and *Barberries* in great variety, add their quota to the general display that declares May and June to be the gayest months of the year as far as trees are concerned. Though less strikingly conspicuous, the young expanding foliage of the various trees is scarcely less ornamental in giving colour to the landscape. The soft green of the Beech contrasts handsomely with the amber and bronze of the unfolding leaves of the Black Poplars, Oaks and some varieties of the common Sycamore, for some produce bronzy and others yellow leaves when they first expand. Landscape gardeners would do well to study the effects of foliage in the landscape at the present time.

Flower Sales.—It may come as a surprise and wonder to many to learn that from £5,000 to £6,000 worth of cut flowers are sold daily in London. £30,000 worth is the average weekly sale.

Mr. James Shennan, for the last five and a half years foreman in the gardens, Houston House, Renfrewshire, N.B., has been appointed head gardener to W. C. Cooper, Esq., Whittlebury Hall, Buckinghamshire.

Beckenham Horticultural Society.—Sent out in a charmingly pretty cover is the schedule of the classes and prizes to be competed for at the Beckenham Show, to be held on Wednesday, July 25th, in Croydon Road Recreation Grounds, Beckenham. Attention is directed to the "Rules for Exhibitors" and the regulations. The sections of the prize schedule embrace fruits, flowers, vegetables, and decorations, and good money prizes are offered. The Hon. Sec. is Mr. G. R. Stilwell, Stanmore House, Southend Road, Beckenham.

Mr. Robertson Munro, after being head gardener to Col. Stephen Alley, Langside House, Renfrewshire, for the past eight years, has been appointed in a similar capacity to T. McLaurin, Esq., Milliken Park, Renfrew, N.B. He was at one time very prominent amongst Scottish gardeners, having been one of the originators of the Scottish Horticultural Association, also one of its councillors and president, after which he was secretary to the Association for many years, including the year of the great Chrysanthemum Centenary show. Mr. Munro is also an associate of the Botanical Society of Edinburgh, an honour conferred principally owing to the numerous experiments performed for the late Charles Darwin (see "Animals and Plants under Domestication.") He has, therefore, been very active during his past career, both in the cause of scientific and practical horticulture, and we hope that he still has many years of a busy, happy and useful life before him.

A natural check to Carnation Rust.—Only those who have the Carnation Rust in their plants know how assiduously it must be fought against to prevent its spreading, and how persistently it breaks out if strict vigilance is for a time neglected. A writer in *Gardening* (American) shows that the rust, a prey itself, has enemies which are parasitic upon it. During a visit to a Carnation nursery in March, on some plants of the variety Daybreak were observed rust which was not of normal appearance. A careful examination showed the unusual appearance to be due to the presence of a second fungus, *Darluca filum* (Biv.) Cast. The two fungi are closely interwoven within the tissues of the Carnation, the rust drawing its nourishment from the plant, the *Darluca* taking its sustenance from the rust. Thus the effect of the *Darluca* is to weaken the rust and destroy its power for producing spores. The same fungus attacks rust of several other plants, especially that of Asparagus. The writer above noted, suggests that *Darluca* spores may be sprayed over rusted plants.

Un Paradox Parfait.—"Oh! father, look at the pink Bluebells."—G.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, June 5th, in the Drill Hall, James St., Westminster, 1—5 p.m. A lecture on "Some of the Plants exhibited" will be given by the Rev. Prof. G. Henslow, M.A., at 3 o'clock.

The R. H. S. Temple Show.—Upon reaching Messrs. Sutton & Sons' stand H. R. H. the Prince of Wales showed great interest in the Early Giant and Bountiful Peas staged by the Reading firm, and His Royal Highness graciously intimated to Mr. Sutton his willingness to accept some for his own table. It will be remembered that on a previous occasion the Peas exhibited by Messrs. Sutton & Sons were by command of The Queen sent to Windsor Castle for Her Majesty's inspection, and served at the Royal Table, and also, that two years ago baskets were forwarded from the Temple Show by the command of the Prince of Wales for use at the Derby dinner given by His Royal Highness.

Portrait of Linnaeus.—It should be good news to all plant lovers and botanists to know that a full length portrait of the "Father of Modern Botany" has been presented to the Academy of Natural Sciences of Philadelphia, through the generosity of a Mr. Charles Smith, of that city. It was well known that an original portrait of Linnaeus was somewhere in existence, but no one knew exactly where, so, according to *Meehan's Monthly*, Mr. Smith made an active search for it, with the result that a picture was found in the possession of Baron Verschoer, of Holland, and in his country home at Verschoer, near Haarlem, twenty-three miles from La Hague. By the courteous consent of the Baron an eminent artist was engaged to take a copy of it, and it is this copy which is among the most valued of the treasures of the famous Philadelphia Academy.

Kew Guild Dinner.—Acting upon a proposition made at the annual general meeting of the Guild, the Kew Gardens authorities, with Mr. Charles H. Curtis as secretary, agreed to have a Kew Guild Dinner in London on the eve of the great Temple flower show, and this event they carried through as an unqualified success. At the dinner, which was held at the Holborn Restaurant, on the 22nd ult., over 100 of the past and present Kewites sat down, under the presidency of the Director of Kew Gardens, Sir W. T. Thiselton-Dyer. Old friends now situated in Germany, France, Belgium, Scotland, Ireland, and all parts of England, once more met personalities for some time parted, and in social concourse with merry song and music sweet they passed a happy evening. The programme was (pianist excepted) sustained throughout by the Kewites, which means all who have worked at Kew. From Sir William downwards, everyone was highly gratified.

The Turnip Fly.—Though the information will be of greater service to the agriculturist, yet there are many of our readers not agriculturists who may find the following lines from the *North British Agriculturist* of service to them. They contain statements of the system followed by Mr. Fisher Hobbs, and described by him before the Council of the Royal Society:—"One bushel of white gas-lime fresh from the gas-house, 1 bushel of fresh lime from the kiln, 6 lb. sulphur, and 10 lb. of soot, well mixed together, and got to as fine a powder as possible. The above is sufficient for two acres when drilled at 27 in. It should be applied very early in the morning, when the dew is on the leaf, a broadcast machine being the most expeditious mode of distributing it, or it may be sprinkled with the hand carefully over the rows. If the fly continues troublesome, the process should be repeated. By this means 200 acres of Turnips, Swedes, and Rape have been grown on my farm annually without a rod of ground losing plants. Numerous other plans have been tried, and amongst them I recommend the following in ordinary cases:—Fourteen lbs. of sulphur, 1 bushel of fresh lime, and 2 bushels of road scrapings per acre, mixed together a few days before it is used, and applied at night either by means of a small drill or strewed along the rows by hand. I have known sulphur, mixed with water, applied in a liquid state by means of water-carts during the night, and the horse-hoe immediately following the water-cart. This has succeeded admirably."

Dried Bananas.—A correspondent of *The Vegetarian Messenger* speaks of the fitness of dried Bananas for stewing. These evaporated fruits are put up in pound boxes, 9d. a box, containing twenty to thirty Bananas. "Placed in an earthenware dish with a little water, and covered with another and steamed in the oven they are delicious."

Weather in London.—Some days of the past week have been bright and sunny; others have been showery, with generally an east or a north wind blowing. Barring these cold winds the weather is just what horticulturists desire—with perhaps some extra rain. As we go to press the wind is about due north, and cold, with the sky overcast.

High-priced Orchids.—We were informed that £200 had been refused for an *Odontoglossum* at the Temple Show. A flower of the green veined variety of *Cypripedium callosum* was on view at the show, and the owner would have parted with the plant, which he declared was a remarkably healthy one, with two flower scapes and eighteen leaves, for £400, and believed he would get it. That price would mean £100 for 4½ leaves.

New Railway.—We are in receipt of a programme detailing the opening of the "Sheffield District Railway." His Grace the Duke of Portland, K.G., performed the opening ceremonies on Monday, May 21st, 1900. The benefits of the new line are that much greater facilities are now at command for speedily obtaining access to Sheffield for the Lancashire, Derbyshire, Great Eastern, and Great Northern Railways. It is a bridging and connecting link, as it were.

Monstera deliciosa.—The fruits of this West Indian and Tropical American Aroid, which were shown as an item in Lord Wantage's collection of fruit at the Temple Show, caused very great interest and wonder. Many people do not like them, but others again devour them readily. They are luscious and have been described by someone as having at once the flavour of a Pine Apple, a Melon and a Banana. Plants can be grown in odd corners against the wall of a lean-to stove, corridor or such place, and when old they fruit very freely.

Distinguished Visitors at the Temple Show.—About mid-day on the opening day of the show, the Queen of Sweden and Norway was taken through the show under the escort of the president, Sir Trevor Lawrence, Bart. On the second day the Prince of Wales in company with Captain Holford, made the round of the exhibits, similarly escorted. The Duchess of York patronised the society on the third day. As far as we remember the society has never previously been patronised by so many royal personages at one show. The King of Sweden and Norway is at present in London, but did not, we believe, visit the show.

American Grape Vines in Europe.—That American Grapes have long been successfully employed in France, Germany, and other European countries because of their resistive power to phylloxera, is fully known and appreciated. Yet we read that the Government of Alsace Lorraine has declined to grant the petition of the Vine growers of the Reichland who wished to renew their plantations with Vines from America. Very pronounced opinions were lately expressed by officials of the Lorraine Government to the effect "that American Vines brought into the country are worse blights than phylloxera."

Concerning Nomenclature.—The editor of *The Fern Bulletin* puts forth an encouraging line or two to those who cannot understand the changing of names of plants long known to them, and who seldom adopt them. "Admitting that the scientist is right in his disposition of the subject, is it still pertinent for us to enquire whether these changes are a benefit to our study? The attempt to keep pace with modern methods of nomenclature tends to produce students of names rather than students of plants. The beginner, confronted with two or three different names for the same plant in as many different volumes, is likely to form an erroneous opinion of such study, and perhaps be deterred from entering on it at all. . . . Why should we hither about synonymy? If the names by which we became acquainted with them are employed, all will understand to what plants they refer, even though we do not use the latest terminology."

The Queen arrived at Balmoral on Wednesday, May 23rd, and thus celebrated her 81st birthday in the Scottish Highlands.

"The Penny."—In the June number of the *English Illustrated Magazine*, Mr. Wilfred Mark Webb, F.L.S., has an interesting and very complete article on "The Penny and its Story." The story is illustrated with thirty figures.

"For the War Fund."—On the first evening of the Temple Show, Mr. Richardson, representative of Mr. H. G. Smyth, The Royal Horticultural Sundriesman, made an impromptu speech and appeal to his acquaintances and visitors at the Temple Show. The result of this appeal (at first done in humour) brought forth £2 5s., which was handed over to, and duly acknowledged by, the *Daily Telegraph* for its War Fund.

Shirley Poppies.—Writing in *The Garden* of May 26th, Rev. W. Wilks, introducer of the famous Shirley Poppies, says:—"Let it be noticed that true Shirley Poppies (1) are single, (2) have always a white base, with (3) yellow or white stamens, anthers, or pollen, (4) never have the smallest particle of black about them." All the variously coloured Shirley Poppies are the direct descendants of one single capsule of seed raised in the garden of Shirley Vicarage so lately as August, 1880.

"Are these hardy?"—Those who have any knowledge of the Drill Hall Shows will be very familiar with that oft repeated question, "Are these hardy?" in reference to herbaceous, alpine, or tree and shrub groups. The answer is generally soft, suave, and simple as, "Oh, yes, madam, quite hardy, bear any degree of frost." But one poor attendant who had a group of cut Lilac sprays, on being loudly asked the above question by a trio of "impressive" ladies, answered with a steady surprised-like stare, "Certainly, mademoiselles, all Lilacs are hardy." And they passed on.

Rationals for Kentish Women Fruit-Pickers.—Mrs. Heron Maxwell wants the women fruit-pickers of Kent to don (er) "rationals." The inconvenience and discomfort of an ordinary skirt, which, when stooping about, soon gets bedraggled, has been too much for Mrs. Heron-Maxwell (who has been doing work lately which necessitates stooping), and she is now bent upon designing a costume at once becoming and suitable for such work. The costume is proposed to be of brown holland, and made not after the voluminous bloomer description, but of closer fitting rationals, with a well-shaped tunic falling over them.

Beckenham Horticultural Society.—The winter session was brought to a close on Friday, May 25th, by Mr. A. D. Hall (principal of the South Eastern Agricultural College, Wye), who gave a most instructive and entertaining lecture on "The English Tulip, its History, Cultivation, &c."—The particular characteristics of the various varieties were explained, and illustrated by the Bizarres, Bybloemens, Roses, and Breeders, that had secured for Mr. Hall, 3 firsts, 1 third, and 2 premier bloom prizes at the National Tulip Society's Show, held in connection with the R.H.S. Show in The Temple Gardens. Introduced at the close of the 16th century—the flowers were very much like those of the present day,—and the parent species was unknown. They were taken up by the Dutch who made little improvement. From 1830 to 1850 Tulips were the English flower of that day, two bulbs with offsets (the entire stock) being sold for £174. Their exorbitant price eventually checked their culture, and until the last few years they have almost gone out of cultivation. The English Tulip is just the flower for anyone who really loves a flower. Any good soil will grow them. They are free from insect pests, and quite at home in suburbs of large towns. Seed sown takes 6 years to bloom, producing selfs or Breeders. At any time these Breeders may change to perfect or 'rectified' flowers. Once 'rectified' they never change but produce offsets like the 'rectified' parents. This inconstancy of the Breeders, and constancy of the 'rectified' flowers gives the English Tulip a charm all its own and quite accounts for the enthusiasm of such growers as Mr. Hall. Details of culture were given, and questions answered. A vote of thanks to Mr. Hall and Messrs. Barr and Sons, who sent a collection of Darwin Tulips—concluded one of the most interesting meetings of the session.—M. W.

GARDENING MISCELLANY.

CARNATIONS.

OF American introductions of last season, G. H. Crane stands out most prominently. It is a good scarlet. Jubilee, an older variety, is the best the Americans have for the winter months. Maceo is a new, rich, dark maroon. Gomey is a lighter companion, spoken of as likely to "hit the popular fancy." It is free, has long stem, and is otherwise good. Governor Griggs is a capital pink one, while Glacier is a new white. Leslie Paul is spoken of as an ideal flower of great brilliance. The growing, raising, exhibiting and commercial aspects of the Carnation in America furnish a powerful theme of debate, and employs many minds and hands in America.

ZENOBIA SPECIOSA.

To see this plant in the perfection of loveliness such as were the specimens which Mr. John Downie, of Edinburgh, exhibited at the recent spring show held there, is to be captivated by its charms. Its drooping clusters of flowers might be likened to half a dozen different imaginative embodiments—to artificially compounded head-like clusters of some fruit, to frozen, hoary, water drops, arranged by Nature on a plant and in symmetrical array, or to bunches of some fairies' earrings. All this only goes to point out that *Zenobia speciosa* when well flowered is a magnificently beautiful bloomer. Grown in pots it furnishes something fresh and interesting, differing in character from so many of our spring forced flowering shrubs.

CORTUSA PUBENS.

ALTOGETHER this is one of the sweetest of the early alpine. It is in flower now. The leaves spring in a cluster from the root stock, and they are pretty, even if there was not the additional merit of sweet magenta flowers. The form of the small dark green leaves is nearly orbicular, but they are slightly lobed and toothed. The slender flower stalks rise erect and clear above the foliage, terminating in sparse umbels of drooping, bright magenta, five-lobed flowers. I have not seen it out of doors, but in an alpine house it is exceedingly pretty.—J.

PRIMULA OBCONICA ROSEA.

THIS variety among the improved forms of this popular plant is one of the best. Much as this plant is improved, I think it would have made more rapid progress but for its unfortunate tendency to play tricks with some who handle it. It seems rather capricious in that it deals out its favours in an invidious manner. Some it leaves religiously alone, it may be for a life time or only for a few short years, when it manifests its stinging propensities in no uncertain manner. I am constantly meeting with those who, after handling it indiscriminately for years, are by the force of circumstances compelled to leave it alone or wear gloves when handling it. The variety of opinions expressed respecting what part of the plant produces the poison is rather amusing, some declaring that the pollen alone is poisonous, others that the calyx is the depository of the poison. If either of these theories were correct, how comes it that some at least get seriously inconvenienced through handling it at other times? My main purpose in making these remarks is to call the attention of those who grow it in quantity to the possibility of selecting a strain, the flower stalks of which will be hairless, and thus greatly reducing the danger attending the use of these beautiful flowers, which are far away more useful and beautiful for home decoration than *Primula sinensis*, which it may possibly in a few years quite eclipse. *P. sinensis*, as respects quantity of flower, yields a poor return as compared with the improved strains of this, which varies from pure white to deep rose, and some have well fimbriated flowers, and a much greater substance of flower stem is now making its appearance. Should anyone succeed in raising a strain with non-stinging flower stems, there lies a pathway of great possibilities before this flower of sometimes evil omen. From present observation I feel sure of the possibility of this being accomplished.—W. B. G.

YOUNG MEN AS OUTSIDE GARDENERS.

THAT was a well-timed and pointed note at p. 582, under heading "Inside *versus* Outside Gardeners." Undoubtedly, the statement is correct. It would be a good thing if more correspondents would sound out the warning note to young men, and especially those who are advanced in life and have gone through the fire. Let us tell the coming generation the true path that has lead us through our journey successfully; and I believe there are enough good men to follow who will give heed to us, providing it is given in a true and kind spirit.

I have gone far enough along life's journey as a gardener to be convinced that the best gardeners are the good all-round men; and these are the men most in request. It is said the most valuable horse on a farm is the odd one, as he cannot be put out of his place; and this applies to a gardener. I am convinced there are more bad open air gardeners than indoor ones.

I tell my young men never to worry themselves about knowing the names of the newest Coleus and thlogs of this class, but to make themselves conversant with all the best trees and shrubs and their needs, and where to place them to give effect; also to obtain a sound knowledge of the best fruits in the open air. Study how to grow the finest kinds of vegetables, and to ascertain how to keep up the best supply of vegetables through the year. Add to this a store of knowledge on hardy border plants and bulbs. Such information is always wanted, as most people have an open air garden. I train my youths in kitchen and fruit gardeniog first, and inside afterwards. I contend this makes the most useful men. I could say more had I time or space.—*J. C., F., Chard.*

ASPARAGUS CULTURE.

ASPARAGUS is one of our most esteemed vegetables, and as a seashore plant deep cultivation is necessary. The beds should be 3 ft. wide, with 2 ft. alleys between. Throw the soil out to the depth of 4 ft. (if its quality will allow of it), and then fill in with good loam and rotten manure, raising the beds 18 in. above the surface. Plant three years old roots in lines 1½ ft. apart, and from these usable gatherings can be had the following year. The French method of blanching is not to be commended. When at Sandringham, in making the new gardens, I planned to have a number of these long beds made, and filled as described above. Where seaweed is obtainable, a small quantity may be used with the dung.—*William Carmichael, 14, Pitt Street, Edinburgh.*

THE HERBACEOUS BORDERS.

THE herbaceous borders will now have become very interesting to the observer, and constant attention will be necessary to keep them free from weeds, frequent stirrings with the hoe being very beneficial to the plants.

Such things as Delphiniums, Aconitums, Paeonies, Pyrethrums, Phloxes, &c., will require neatly staking and tying to prevent them being broken down by wind or rain. The stakes should be of moderate thickness hammered into the ground firmly, and the plants tied with thin tar string, care being taken not to bunch them in tightly or their natural habit will be marred. Strong growing subjects such as Centaureas, which spread very quickly and overgrow the smaller and more rare plants, should be carefully taken out where not wanted. In dry weather thorough soakings of water must be frequently given. Hollyhocks and the like will derive much benefit from half rotten cow manure placed round them. As the plants continue to grow fresh ties should be put, not allowing anything to break down for the want of a few minutes spent in tying, which is often the case, thus preventing a very untidy appearance, besides spoiling the beauty of the plant. As the Crown Imperials (*Fritillaria imperialis*), and other early flowering things, die off they should be cut down, the rubbish being removed to the refuse heap for burning, and the borders should continue to yield an invaluable amount of cut flower well into the autumn.—*A. Thatcher, Aldenham, Elstree.*

The shy Sweet Peas thrust forth their heads
And looked around for rain;
But, finding they had struck a frost,
They hustled back again.

—*Chicago Journal.*

GREVILLEA ROBUSTA.

PLANTS of this are useful for decorating the greenhouse or conservatory, and make graceful table plants in small pots with their Fern-like foliage. A succession of young plants should be raised yearly, for they soon grow tall. There are two ways, by seed or cuttings; seed is sometimes unsatisfactory, only one or two germinating out of a packet. Cuttings seem to root freely, but this is very little known or practised. I have enquired several times, but none had seen them rooted or knew if they would do so. To satisfy myself I put in six cuttings in the beginning of April, five rooted in about a month. The cuttings were about 2 in. in length, last year's growth, taken from plants that were stopped when small, cut to a joint, dibbled in cocoanut fibre, placed in a propagating case with a steady bottom heat, and kept close, and shaded from the sun. They were potted up as soon as rooted into small pots, and are now growing freely. Cuttings can easily be obtained from old plants that have grown too tall or rough by cutting them down to within 1 ft. of the pot. Keep them on the dry side till started into growth. When the young shoots are about 2 in. in length take them off with a heel; these should root quicker than the hard wood.—*E. Ireland, Bilton, Devon.*

STEEPING PEAS BEFORE SOWING.

FROM practical experience, whether for early or late work, I have proved that Peas when steeped in water for twelve hours before sowing will absorb a large quantity of water. A quart of round Peas will absorb one quart of soft water, and will fill a two-quart measure. Now, my contention is that Peas when sown in their dry state must absorb the same quantity of water from the soil before starting into growth. I have proved that the Peas are through the soil some days before the Peas that are sown dry, and grow stronger. On February 22nd, I sowed thirteen rows of early Peas on a south border. The Peas were covered half an inch when sown. These are now showing flower; whereas, one row that was sown in their dry state will not be in flower for some time. They are all one class of Pea, and sown together. On March 24th, I sowed two long rows of Prizetaker, two of Hundredfold, and two of Bountiful. These were sown in trenches. Now I see a marked difference in one row that was sown in the dry state, not only in the time of coming through the soil but in their growth. I feel sure every Pea that was steeped has grown, and looks strong and vigorous. Three long rows of Marrow Peas sown on May 11th are now well through the soil. Care should be taken to soak the Peas in shallow pans, so that they do not press against each other. When troubled with blights run three lengths of black cotton along the Peas, 2 in. from the ground.—*J. Wallace, King's Lynn.*

WAYSIDE GARDENS.

ONE often sees the fronts of cottages by the wayside and houses of more pretentious appearance, too, in a sadly neglected condition. They either get no attention whatever in the way of floral adornment, or, having some semblance to cultivation, are abandoned to the ruthless ravages of hens. A notable exception to this state of matters attracted notice last week at an entrance to an East Lothian farm house, which might well be imitated in other quarters. A curving border was occupied by Bluebells (*Scilla nutans*), white Tulips, and Poet's Narcissus, in patches of varying breadths, quite charming in their irregularity. Recollections of hedgerows and woodlands suggested Woodruff as an additional attraction, and coloured Tulips, too, but as it stood, this arrangement, though very simple, was very beautiful, all the more interesting, perhaps, on account of the late season. May blossom is conspicuous by its absence, even the historic old Thorn tree, near which Col. Gardiner fell on the neighbouring battlefield of Prestonpans, a tree noted for its precocity, shows not a hoary streak, and forest trees are barely in full foliage yet. The deviser of lovely spots by the wayside such as this not only gratifies his own tastes, but gladdens the heart of the passer by, thus promoting in some measure the welfare of his fellow beings, and deserves to claim kinship at least with the man who makes two blades of grass grow where only one grew before.—*J. McAvra, Kingsburgh, Prestonkirk, May 28th, 1900.*

CALCEOLARIAS.

THESE gorgeous flowers are much admired by most people. They are not always so well grown as they might be, so a few hints from a very successful grower may help others to like success. Sow the seed thinly on a very fine surface; a mere sprinkling of sand is enough, the seeds being so minute. Sow about July 18th. Stand the pans in a cold frame facing north and do not water overhead, but when water is required dip the pans to the rim in water for a few minutes. As soon as large enough to handle prick into small pots, using plenty of fine leaf-mould in the soil. When they require a shift a 3-in. pot is best, using a rather richer soil. When these pots are filled with roots shift into 5-in. pots, using similar soil. This shift should carry them through the winter. Early in March place in the flowering pots (about 8 in.). In fact, lovely plants can be grown in 7-in. pots. The compost for this final potting should be good fibrous loam two parts, leaf soil one part, and coarse sand to keep the soil porous. Some finely ground bones and a good sprinkling of Thomson's Manure, complete, suits these plants admirably. The chief enemy is greenfly. A nice damp house or pit suits them best. They will not stand a dry heat. As soon as the roots fill the pots, feed with liquid manure.—*C. Blair, Binny, Uphall.*

WOODSIDE, PAISLEY, N.B.

THIS, the residence of Archibald Coates, Esq., is situated even in closer proximity to the town of Paisley than Ferguslie House, which was briefly described in THE GARDENING WORLD two weeks ago. The Coates have always been about Paisley, perhaps at a time when the town was a distance from their estates, and their inherent love and the old associations binds them to the old homes now. I did not enquire the acreage of either of the places, and it would be useless to make a guess at this period of time. The houses of the demesnes are in both cases comfortable and secure in their encircling stretch of garden land and pleasure grounds, and occupy commanding positions on high ground, which allows of far-reaching views. The southern horizon from Woodside is bounded by the Gleniffer Hills, while on the other sides the undulating land forms part of the Vale of Clyde. The region is well-known from quite a number of events or causes, but these may not be broached upon at this time.

Nearly every Scottish gardener has heard of, or has seen the wonderful indoor rockery at Woodside. Mr. F. Hogg, gardener to Mr. Coates, is proud of it, and right well manages it. Briefly described, it is a large stone-built house with a great glass roof. Seen from the exterior this building is an exceedingly ornamental erection, and no one would guess that its bowels were of artificial rock, and that it had bridges, falling waters, fountains, winding paths, and still pools all within its interior. Yet this is just what there is. All manner of suitable Ferns, and foliage plants grown from the shelving surfaces of the rock, from basement upwards, the brink of what would appear from the top as precipices. Paths neatly and smoothly laid and consisting of quartz and coloured stones, wind sinuously up and down and round about, displaying each of the many features in the house. Begonias with large-sized, hairy, and brightly-coloured leaves, and others with smooth, and small resplendent foliage, and Palms, Bamboos, Aspidistras, Fatsias, Nephrolepis, and Saxifraga sarmentosa, spring up promiscuously from many pockets. The rockery and its features are built of red sandstone which was brought from the Island of Arran, forty or fifty miles away. It is twenty years old, and still remains in fresh condition.

Close by, and connected with this rockery by a show conservatory where greenhouse flowering plants in their season are always to be seen, there is a plant stove well furnished with a fine collection of well grown plants, *Cycas revoluta*, *Dasylium Hookeri*, *Dracaenas*, *Crotons*, *Xanthosoma Lindenii*, *Kentias*, and *Phoenix* in the popular varieties, *Lygodium Scandens*, *Asparagus Sprengeri*, *Stephanotis floribunda*, *Platonia argyrea*, *F. gigantea*, *Eucharis grandiflora*, and *Pancratiums*. The *Eucharis* are fine large specimens, and throw up a great quantity of blooms which are very welcome for many of the decorative needs of the Woodside Mansion. In one of these stoves (for there are a few) are to be seen some splendid pieces of Anthur-

inn crystallinum. *Cocos plumosa* is also represented by beautiful specimens.

Cucumbers in a separate house were on the point of yielding a crop in early April. Beneath them a miscellaneous collection of *Pteris* and Maidenhair Ferns are grown. Some finely balanced samples of the Holly Fern (*Cyrtomium falcatum*) were also noticed. In the same house were plants of *Passiflora edulis*, which had come from Ceylon. These in their due season may be expected to fruit.

The Vinery with Black Hamburgs promised exceedingly well. The Peach house was devoted to two varieties, Royal George, and Stirling Castle, both being very reliable croppers. On the back wall of the Peach house there are plants of the famous American Blackberry, Wilson, Junr. Plums are also successfully grown and cropped.

Orchids are rather extensively cultivated, filling as they do a large span-roofed house with two compartments.

Dendrobiums were in full flower at the time of my visit. Such fine varieties as *D. jamesianum*, *D. nobile*, *D. brymerianum*, *D. atrovioleaceum*, *D. Pierardii*, *D. fimbriatum oculatum*, and others. *Ada aurantiaca* was well grown and freely flowered. *Phalopus normaniensis aureus*, cross between *P. Walliichli* and *P. tuberosus*, both of which latter were also in bloom.

Cypripedium grande, *C. chamberlainianum*, *C. Sedeni*, and *C. villosum* were all bearing a quantity of blooms, and looked in the pink of good health. Cattleyas do not last quite so long in flower as Mr. Hogg would like. They seem to be affected more than any of the other Orchids by the state of the atmosphere, and soon go off. *Coelogynes* are well grown, and, as might be expected, in a place where white blooms, especially in early spring, are welcomed, they are grown in quantity. *Pleiones* are creditably displayed. *Odontoglossum Hallii*, *O. cirrhosum*, *O. concolor*, *O. altissimum*, &c., were all in flower during the first week in April, so that the house was certainly rich and gay. It is rather a pity that the presence of gasworks militates against the highest success with the Cattleyas and other fine genera. Among the Dendrobiums I should have mentioned *D. crassinode*, *D. chrysotoxum*, and *D. crepidatum*.

Heaths are so well liked as to have a special house devoted to them. They are grown in the good old fashioned way. No care is begrudged for their perfect development as specimens. *Boronias* and *Ericas* almost exclusively fill the house. *Azalea balsamiflora* was seen in pretty batches. This is a capital species for spring forcing.

Roses are specially well treated, and occupy a good sized house all by themselves. They are mostly in pots. Indian *Azaleas* were seen as massive and well flowered specimens.

Very few flowering plants were to be seen out of doors. Some alterations and repairs were being planned in the flower garden. The house is surrounded by broad terraces, at the foot of which, on the southern side, the formal flower garden is laid out. It is of moderate extent, but will be very effective when at its best in summer. To the west side of the house, and surrounding the indoor rockery building, mentioned at the beginning of this article, there is a well arranged and finely planned hardy rock garden. Trees and shrubs are extensively planted both for shelter and as subjects for furnishing, and the collection of alpine plants is varied. The grounds everywhere are pleasing. On the estate there are some beautiful workmen's homes, and their surroundings are bright and clean. Mr. Hogg has been many years at Woodside, and it is our wish to hear of his continuance there for many a day to come.—J. H.

The Orchid Growers' Calendar.

PROPAGATION OF ODONTOGLOSSUMS.—This is a subject that has been engaging our attention for some time, being convinced that to increase the stock of fine things Nature must be assisted in some way. We have proved that under cultivation the old pseudo-bulbs after the plants have become established are of no use, in fact, they are only a drag on the plants. But how can we best make use of these old pseudo-bulbs? That's the rub. How long will they retain the vitality necessary to make a new growth? It seems a great pity to allow them to remain on the

plants, and see them ultimately decay, if we can by some simple method make them push new growths.

The thing that suggests itself to us, and one we have tried with partial success, is to take them off after about the third season, when there will be enough English plant to take care of itself. Keep these old hulbs cool and dry for a time, then put them into strong heat. This sudden introduction to conditions natural to them in their native habitats, if there is an eye left, will have the desired effect. After once started they may be returned to the cool house, and grown on with the general stock. There is another way of propagation which we effect, and that is taking off the new growth when it has attained a length of about 6 in., and when roots are pushing freely from the base. If these are potted up into small pots and suspended near the glass and treated similar to seedlings they will in about two years make good plants. We like to suspend them as they are not so liable to damp off as when placed on the stage. The old plants will break again from the opposite side of the pseudo-bulb from which this new growth has been taken.

Of course this cutting up system can only be practised with any or much hope of success where plants do well, but when such is the case we think it is our duty to increase the stock of really fine varieties, for it is nice to be able to exchange a plant or to have something to fall back upon in case of accident, which will happen no matter how careful you are.

WORK IN THE HOUSES.—Keep the syringe going freely amongst the pots to induce the plants to make the progress necessary during the short season which they have to make up their growths. With cool stuff we syringe right and left overhead. This is just what they enjoy at this time of the year.—S. C.

Kitchen Garden Calendar.

ASPARAGUS.—So far the weather has been too cold for this to grow very rapidly, but to induce the plants to push up growths more robustly give a dressing of sulphate of potash at the rate of about two pounds to the square rod. Should the weather keep dry this ought to be washed in with a gentle watering, but do not drench the ground as the soil is already too cold to allow of rapid growth. Guano is a capital manure as is also kainit, and common salt. Beds that were planted last month should receive a gentle watering where the soil is dry, but no more ought to be given than will promote a healthy growth, as this has a tendency to lower the temperature of the soil and therefore check growth unless the weather be hot.

PEAS.—If a sowing is made now of such sterling varieties as Autocrat, Late Queen, Michaelmas, Ne plus Ultra, Veitch's Main Crop, Invincible, and the like, unless the season be very unfavourable, these will give a supply during the latter part of August and early in September. On light dry soils, and in districts where the rainfall is slight it is well to specially prepare the ground before sowing. It is useless to take out a trench as some recommend, unless this is made at least two spits wide, as the roots are too much confined to permit of them rambling in search of food. If taken out 18 in. wide and about the same in depth, and a foot of well decayed manure be put into the bottom this will hold sufficient moisture to keep the plants growing. After covering with soil make the same firm before sowing the seed, then give a liberal watering. Peas that are in bloom should have a liberal mulching; this will save the use of the water pot later on. It is a great mistake to have midseason and late varieties too thick in the rows, as this prevents the plants from growing sturdy, and so renders them more liable to the attack of Aphis, which in some places is very troublesome in hot dry weather. Stake the plants before they get too tall or they will fall over, when the lower foliage will turn yellow. To produce extra fine pods for exhibition pinch out the points of the plants when sufficient flowers are set.

WINTER CROPS.—We have now arrived at the all important season when these should be planted, therefore the first favourable opportunity should be taken to get the plants into their permanent quarters. Brussels Sprouts should be the first to command attention as these always take a considerable time to develop, and unless planted early they do not grow stout enough to produce a full crop.

Borecole and early Broccoli should also be got out, while Savoys and later Broccolis should follow before the plants get too far advanced. In most gardens there is always a difficulty in finding room for these things so early in the season, and many make a practice of putting them between the Potatoes, but unless the latter are planted a considerable distance apart, and only dwarf kinds are grown, there is not much gained by so doing. Better put the plants double the thickness in the rows at the time of planting out, then remove every other and transplant as soon as the early Potatoes or Peas are lifted.

TURNIPS have made but slow progress this season, the weather being so cold, the harsh winds cutting them up terribly. To secure a supply of tender crisp roots sow on rich well prepared ground, and give a liberal supply of water whenever the soil appears dry. It is not advisable to sow many at a time as the roots soon become tough and stringy, Snowball, Early Stone, and some of the strap-leaved varieties are best for these early sowings. Broad Beans: For a late supply sow the Longpod varieties as these do not suffer so much from the attack of Aphis as the Windsors, Carter's Masterpiece, Green Giant, and those of that class being preferable.

RUNNER BEANS may now be sown with safety any where in the southern portion of the kingdom without fear of being caught by the frost. Plants already above ground should be protected at night in low-lying situations, as such are more subject to late frosts than higher ground; it was about this time last year that so much damage was done to the early vegetable and fruit crops. Pay particular attention to the watering of small seeds, for unless the soil is kept constantly moist they will not germinate freely. Salads will now be in great demand. Lettuce should be tied up to promote blanching, and small seed be sown to keep up a regular supply.—F. W. J.

Gleanings from the World of Science.

THE subjects mentioned hereunder were brought up to the Scientific Committee meeting of the Royal Horticultural Society on the 8th inst.

Peach trees diseased.—The following report was received from Dr. W. G. Smith upon the specimens received on March 26th. He also observes that he is continuing the cultures of the fungi, as at present he is uncertain between "Fruit rot" (*Monilia fructigena*) and a form of *Cladosporium*. "The cause of discolouration of the bark of twigs is evidently a fungus which can be found in these parts. The absence of good examples of reproductive organs renders identification uncertain. In the twigs the fungus has passed the winter, and made its way into the leaf buds and flowers, causing the damage there. With a fungus such as this the course of treatment is summer spraying. Peach foliage is delicate and the spraying solution must be dilute; for example, Bordeaux mixture made with not more than 2 lbs. copper sulphate and 2 lbs. quicklime in each fifty gallons of water. The foliage should be thoroughly wetted with a fine spray, preferably that given with a sprayer like those supplied by Strawson and other firms. In winter pruning should be carried out, so as to remove all discoloured twigs. This treatment will probably require to be carried out for several seasons. The fungus might be identified if specimens of foliage were sent during the summer."

Vine leaves, diseased.—With reference to those sent to a previous meeting, Dr. Masters observed that no mites could be detected by Mr. Michael, who carefully examined them; but that his opinion was confirmed that the diseased condition was most probably due to a young condition of *Gloeosporium*.

Larix occidentalis.—Dr. Masters showed young cones of this species from Oregon, characterised by having green bracts, the European Larch having them of a red colour. It is described as the finest timber tree of N.W. America. It was discovered by Douglas, who mistook it for the European species.

Commercial Fertilisers.—In *Gardening* (American) we are told that there were 2,268 brands of commercial fertilisers registered under the law of New York in 1899. In Britain we could total up a few hundreds!

HINTS FOR AMATEURS.

Alpine and Rockery Plants.—*Pulmonaria arvensis* with its tasselled head of dark blue and purple flowers makes a capital show in the rougher parts of the rockery at the present time. It does not seem to be in the least fastidious, and blossoms grandly all in its own happy solitude. But we can hardly say solitude, for near by it, and all around, there are other plants equally gay and sparkling. There is the little *Arenaria balearica* which creeps over every patch of surface and makes dry grey stones glisten with thousands of snow white "stars," shining from a green and even setting. This little spreading plant only requires to get a start made and if left alone it soon will carpet all the barer spots.

Epimedium muschianum.—This is certainly a pretty species of *Epimedium*. It has the usual form of leaf borne by these plants, that is, a drooping hastate leaf, often coloured with soft pink, or other hue. The flowers in this case are white and pendent, making the plant worthy of the compliment;—"It is a sweet little thing."

Phlox subulata, and the others which are now glowing in their rich warm colours, could hardly be spared from our English flower gardens or rockeries. Like so many others of our small growing spring plants, the proper way to arrange them effectively is to grow them in sheets. Where the ground slopes abruptly, there they may be planted. If a plant is placed here and there in a pocket where the roots shall be sure of nourishment, the stems (which become half shrubby) spread out and downward, and from all along the length of them, the pink flowers burst out each year. *P. amoena*, *P. divaricata*, *P. setacea* and *P. lilacina* are some of the gayer species now with us.

Saxifraga aizoon notata.—This incrusting *Saxifraga* sends up tall and pretty stalks bearing closely set flowers. The blossoms are pure white, and to see a nice plant high on a rockery, is a lovely sight indeed. It ought to have a well drained soil.

Daphne Cneorum.—All who do not possess this charming dwarf alpine, should obtain at least one specimen to add to the rockery during the autumn of this year. It grows in rather close tufts and when it obtains suitable quarters, the dwarf stems shower forth clusters of rosy-pink flowers at this time of year. There are some newer forms of existing varieties, with deeper coloured flowers, but whether these are real gains remains to be proven. It likes a peaty soil, which must be both deep and moist.

Aubrietia deltoidea variety *William Ingram*.—I do not know whether this is a pet whose introduction was due to the late Mr. Ingram, of Belvoir Castle, or not. I should think he had something to do with it. But no matter who first gave us it, we have secured a very handsome variety. The plant seems altogether of stronger growth than the parent type (although this is as hardy as a Scotch Fir); and one thing is indisputable, the flowers are larger and semi-double, but they are much paler in colour, a point which we cannot say is in its favour. It begins to flower at a slightly later period than *A. deltoidea*.

Gentiana verna, I believe, was noticed by me in a previous ramble. It likes a sunny spot, in a porous, yet fertile soil.

Symphytum caucasicum.—For the rougher parts of the garden, we have in the above an extremely suitable plant. It bears quantities of rosy and blue flowers which resemble the *Pulmonarias*, belonging of course, to the same natural order. It grows over a foot in height and can succeed where many another plant would not.

Geranium rivulare is a pretty plant with fringed palmate leaves and terminal clusters of pure white flowers. The plant grows about 1½ ft. high, and is bushy and floriferous.

Geum chiloense.—Here we strike a new colour, or not new, but rarer shade, and certainly not often seen in the garden at this time. It is a strong growing plant with dark green, lobed leaves, and very brilliant brick-red-orange flowers. The flowers are inserted on erect stalks, the usual shape of the flowers being well known.

Lathyrus luteus var. *aureus*.—This is not a common rockery plant, though it is eminently

suitable for a position in this sphere of the garden. The flowers are conspicuous enough. They are like what a yellow-flowered Vetch would be, but the habit is not that of a climbing plant. The stems are moderately stout, they grow closely, and bear a thick herbage of pinnate leaves, which are of a considerable size. A roomy pocket or other position has to be accorded to so strong and robust a plant.

Trillium grandiflorum.—This grand Liliaceous plant is not really suitable for rockeries. It is more a plant for the shady parts of a water scene, a lake, or stream, as instances. It bears (and I suppose enjoys!) such names as American Wood Lily, Indian Shamrock, Three-leaved Nightshade, and Wake-Robin. There are spots in the rock garden, however, in which fine clumps can be flowered. These occur in the hollows between two abutting prominences or mounds, parts which should be intentionally planned for the sake of such plants as do like moist and somewhat shady places.

Chaerophyllum roseum.—This little umbelliferous plant is a cheery gem, with spreading heads of a rosy colour. The leaves are very much dissected, and the general habit of the plant is slender and graceful. An open sunny spot should be chosen for it.

Cardamine digitata is a hardy and sweetly pretty little subject from the Arctic regions. Placed around the base of an old tree stump, it grows profusely and flowers brilliantly. The entire plant is not more than a few inches high or broad, bearing oval green leaves and axillary clusters of pretty fringed pink blossoms.

Houstonia caerulea var. *alba*.—A small white flower—a starry flower, with a clear yellow centre, and how charming a plant it is! It grows in close tufts, the small white flowers springing from leaves which are scarcely large enough to see. It requires careful handling, and though it is so sweet, it may not succeed equally well with everybody.

Iris cristata is dwarf, has bright blue flowers, and enjoys a free, gritty soil. *I. lacustris* is dwarfer and smaller still, and its blue flowers are not quite so effective as those of *I. cristata*. *I. pumila* is much larger in all respects, than either of these. It is now just going out of flower in the dry rockery. Its variegated variety may be once more brought to mind. Few plants are so lovely, and scarcely any, excel the *I. p. variegata* as a pretty hardy foliage plant.

Alyssum saxatile citrinum.—Just a word in favour of this citron-coloured *Alyssum*, whose graces are so much admired at this time. It seems to be even more "pliable" or adaptable for covering expanses of the ground than the variety *A. s. compacta*. Its habit and general aspect are finer than that of the one just mentioned. A rich, light soil, and a sunny exposure, especially where it can grow pendent, should be chosen for it.

Present Work.—Bedding-out is now in full swing. Where bulbs have occupied the beds, these may now be lifted to be heeled into long lines in warm borders so that they may fully mature and ripen off. The beds may then be manured if need be, and deeply dug over. All plants for hedding out should receive full air during the day and only a slight reduction of ventilation should be given on chilly nights. The success of the plants when put out, greatly depends on the degree of hardiness they have previously attained to.

There is little to do in the greenhouse. Carnations are in bloom, and so with *Cinerarias*, *Calceolarias*, *Fuchsias*, and *Campanulas*. Two very pretty little members of the latter genus, and which are now flowering in pans at the edge of the stage, are *Campanula garganica* and its variety *hirsuta*. *C. g. hirsuta* is the better of the two. The flowers are star shaped, light blue in colour, and are sent up in great profusion all over the surfaces of the stems. The leaves are pretty, being somewhat kidney-shaped and nicely toothed around the edges. The sweet little Cape Aster or Blue Marguerite, *Agatheae celestis* still flowers, or at least, the new hatches still continue the show. I delight in the scented *Pelargoniums*, especially when they are profusely flowered. The flowers are quaint and pretty. In the kitchen garden, hoeing thinning, planting out, staking and making succession sowings of Peas, Beans, and small salads should be attended to.

The fruit-houses, with such as Vines just at the thinning stage, require critical watching. Do not let them suffer for want of thinning; nothing is worse. Keep the border, paths and stages of the house well

damped down. Remember, however, that the foliage should be quite dry at least once a day. Do not be afraid to ventilate on warm days. The temperature for peachery or vinery in full growth, should be 55° night, up to 65° day; for Figs, a little higher. —Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Tomato leaves curled.—*Beginner*: A temperature of 60° at night is about 10° too high, and 70° during the day will certainly harm the young leaves, especially if water at any time should be lacking. Let the night temperature fall to 50° or thereabouts, with 1 in. of ventilation whenever the weather is mild outside. As the summer advances, more may be given at night. Then begin to increase the ventilation as the temperature rises during the day time, and let 60° be the maximum day temperature, unless, of course, it is higher than this in the open air.

Azaleas pot-bound.—*E. R. S.*: Now that the plants are passing out of flower and as you say, are strongly pot-bound, the present would be an advisable time for repotting. Most likely you will require to break the pots they are now growing in. A very small shift only should be given. The compost may consist of two parts peat, two of good loam, one of sharp coarse sand, and some charcoal. Crock well, and ram the soil firmly.

Cannas.—*W. T.*: It is safer in your Carlisle district, or indeed in any latitude north from Lincoln or Chester, to defer the planting of Cannas in open air beds, till about the 10th of June. Southward, gardeners are now planting them out. Deeply prepared beds and well enriched soil are necessary.

"Kill-'m Right."—*A. B.*, *Newcastle-on-Tyne*: The Kill-'m-Right insecticide mentioned by our correspondent *Beacon* in his "Hints" on page 600, is a powder sold in tins, by The Stott Co., Deansgate, Manchester. It used to be largely advertised and used liberally in gardens in the north, to our own knowledge. You might write to the firm for a sample; or possibly your local sundriesman could procure the stuff for you.

Leaves Crimped.—*W. T.*:—The Beech trees, some Maples, and tender leaved fruit trees have suffered from the keen cutting winds which have been blowing lately in the London district. Possibly your trees have been likewise affected. The warm weather which lasted only a day or two, brought growth rapidly onward, and when the change came one could almost see the leaves cringing and curling up their edges. Northern gardeners have been better favoured this year than southern ones.

Plants for Edge of Stream.—*M. Laird*: *Solomon's Seal* has a splendid effect by the edge of water; *Spiraea palmata* a goodly sized plant; *S. venusta* is also worthy, so is *S. japonica* in places which are sheltered; and *S. Ulmaria* fol. var., may likewise be selected from the *Spiraea* family. Bamboos are never better placed than when near water scenes. *B. palmata* is a large and also very hardy variety. Bulrushes should be liberally planted, and *Saxifragas* of sorts, Primroses, notably *P. sikkimensis*, *Arabis*, Woodruff, and Forget-me-Nots. *Rodgersia podophylla* takes us among the taller plants, as *Gunnera scabra*, *G. maculata*. *Ranunculuses* and *Calthas*, together with *Eulalia zebrina* give additional forms and colours. Such dwarf and bushy shrubs as *Veronicas*, *Choisya ternata*, Japanese Maples, *Staphyleas*, *Olearia Haastii* and *O. Gunnli*, *Weigelas*, *Corylus Avellana*, *Berberis japonica*, and *Viburnums* are others.

Blue Agapanthus.—*Willie*: Place the plant in a sunny corner and attend to it with water. The Blue African Lily does exceedingly well out of doors during summer.

Garden Prunings and Cleanings.—*Wm. Stuart*: Wheel away the weeds, and never allow either them or diseased crops to decompose if the material is at all towards for use as a dressing. Prunings and lawn

mowings are quite different. Burn the prunings and so obtain valuable woodashes. The grass soon decays and when turning it over, add a sprinkling of lime. Carbonate of potash will be formed if woodashes are also mixed in. By and bye, nitrate of potash will form and this is one of the very finest fertilisers there is.

Destroying Earwigs.—*Oxford*: Trapping seems to us the only reliable way of destroying earwigs. Pieces of Cabbage blade laid about, or folded pieces of brown paper, give them a haven in which to hide—but on this case, a death-trap. Small inverted flower pots filled with moss and placed on the top of Bamboo or other kind of stakes, affords them a shelter in which they congregate and can be caught. Knock them into a bucket of scalding hot water.

Use for Lawn Mowings.—*T. Pringle*: What you wish to do is done in many, many places. The grass does not injure the roots through heating, but it preserves and gives moisture to them. Still, only a moderate amount should be given to each tree or plant, as they continue to grow until late in the season, and cannot ripen their wood properly before sharp frosts appear.

Pansies Going Off.—*J. G.*: Sometimes in dry soils it is necessary to water Pansies or Violas after planting them. This should be done in the evening. You watered yours when the sun was bright and powerful, the result being that some of the plants are what specialists call "stewed."

WEBB'S SUPERB CALCEOLARIAS.

CALCEOLARIAS, but more particularly the greenhouse strain of large flowering forms, have been brought to a great state of perfection within the last few years. This must have been accomplished by painstaking care in the crossing and selection of varieties for perpetuation, and by improved and improving methods of cultivation. Last year and this, Messrs. Ed. Webb & Sons, Wordley, Stourbridge, have shown us what they can do in the way of Calceolaria culture at the Temple Show, on the Victoria Embankment. The strain was originally saved from a remarkably fine prize collection of plants; and the process of selection has been continued with scrupulous care ever since. It is difficult to compare the flowers with those of any other plant, so greatly have these Calceolarias been increased in size by selection and cultivation. Some have compared them to the large and flattened or cockscomb type of Strawberry, as they hang in a semi-horizontal position on the plants like Strawberries neatly packed in boxes. Every shade of colour seemed to be represented by Messrs. Webb's large group at the Temple Show; and amongst the spotted, netted, and marbled varieties, scarcely two seemed to be coloured in the same way. The self colours were equally pleasing. The plants were neat and bushy models of cultivation, and as dwarf as we could wish or desire them to be. If this feature were carried much further the plants would become too dumpy and compact for the size of the blossoms, so that they would lose much of their decorative value for greenhouse or conservatory decoration. We hope that gardeners everywhere will now strive to emulate such excellent examples of cultivation put before them at the Temple Show. The accompanying illustration, for which we are indebted to Messrs Webb, shows a sample of their splendid exhibit of Calceolarias in the Inner Temple Gardens.

In Praise of the Apple.—The old Scandinavians believed that the Gods subsisted wholly upon Apples, and that it was through the peculiar properties communicated by this queen of fruits that they acquired the wisdom imparted to men. The acids of Apples are exceedingly useful through their stimulating influence upon the kidneys, whereby poisons are removed from the body, and the blood and tissues purified. The acids of Apples are all highly useful as a means of disinfecting the stomach, since the ordinary germs that grow in the stomach, producing biliousness, headache, and other troubles, will not grow in fruit juice or fruit pulp.—*Editorial in Good Health.*

DOVER HOUSE.

(Concluded from p. 596.)

WHEN one comes to examine the outdoor gardens at Dover House, Roehampton, it soon becomes evident that gardening is carried on under considerable difficulties. Ignoring the proximity to London, there is the question of soil, which on this elevated plateau of Surrey consists of old valley gravel, dry, poor, hungry and unfossiliferous. A large number of trees, shrubs, flowers and vegetables, like something more substantial than this. Hence it follows that the ground has to be specially prepared for a great number of things; and this is what the gardener, Mr. J. F. McLeod, has been doing for many years past, gradually ameliorating the soil and making satisfactory crops possible. His employer, J. P. Morgan, Esq., and his family are fond of flowers and spare no expense in getting material with which to improve the garden.

A Tea Rose garden was made during the past winter by taking out the soil to a considerable depth and replacing it with two feet of fresh soil. The ground was then laid out in beds, each of which was planted with one variety of Tea Rose, edged with Violas to match. The beds are numerous and so arranged as to form one design. The Roses having been planted in good time, have made a good start as if well established. Arches of wire netting have

Laurel Cherries has also been grubbed up, and the soil trenched to a depth of 3 ft., and ameliorated by the incorporation of a great quantity of more binding material, including some hundreds of loads of soil from the foundations of the new church at Roehampton. The ground was then laid down in grass and a large number of new beds made for choice flowering and foliage trees and shrubs. The beds have been considerably raised above the surrounding level, but the grass edgings have been made to slope up rather rapidly to the soil, so that by such means the moisture artificially applied, or furnished by rain is conserved.

A bed of Azalea Anthony Koster, heavily laden with flower buds, will be a gorgeous sight presently. Beds of Irises are now gay, as are beds of Lilacs, Laburnums, dwarf and standard specimens of Cytisus scoparius andreanus, standard Lilacs with an undergrowth of Paeonies and Cupressus, Paeonies and Sweet Williams, and Rhododendrons, which will be gay presently. Crimson Rambler Roses on wire trellises will be a fine feature in their season. The site of another old mass of shrubbery is now occupied with double flowering Cherries, Genista praecox, Berberis japonica, Lilacs, and many other showy subjects, beneath which are clumps of Doronicums and other effective hardy herbaceous subjects. Olearia Haastii, or New Zealand Daisy Bush, is the



WEBB'S CALCEOLARIAS AT THE TEMPLE SHOW.

been furnished with Crimson Rambler and other climbing Roses as well as Clematis and other plants. Close by this garden a long border has been thoroughly prepared for Carnations, Gladioli, Pentstemons, and other useful subjects. An iron fence behind is furnished with Roses, Honeysuckles and other climbers. Other borders have been sown with long hedges of Sweet Peas.

A part of the pleasure grounds has been transformed into a garden for dwarf and standard, hybrid perpetual Roses, the latter being thinly planted amongst the former. The expenses attached to this improvement were very great. The natural soil, consisting largely of gravel, was taken out to a depth of 3 ft. Six inches of clay was placed in the bottom, then the remaining 2½ ft. filled up with Banstead loam at a cost of 21s. a load. Some good Roses should presently be obtainable from this. On the occasion of our visit a high brick wall was rendered gay by large plants of Choisya ternata and Magnolia conspicua soulangeana, flowering profusely. A large plant of Vihurnum plicatum was laden with buds fast approaching the blossoming stage.

In several parts of the pleasure grounds old choke-muddle shrubberies have been grubbed up and their places taken by something else. A fine bed of Rhododendrons in prepared soil has taken the place of a worn out bank of shrubbery. An old bank of

furnishing of another bed. Guelder Roses, Staphylea colchica, and many other subjects of a kindred nature make another massive bed, furnishing a succession of flowers. Yellow and red deciduous Azaleas also succeed admirably in a bed prepared for them. Tall standard foliage and flowering shrubs of various kinds make up another large bed. The whole of the pleasure grounds have practically been renovated within the past few years, so that Mr. McLeod has been exercising unwearied diligence.

The flower garden proper was, at the time under notice, occupied with the spring bedding; and a varied array of early Tulips had just passed their best. The old fashioned but ever popular Wallflower was nevertheless flowering profusely.

There is also a fine collection of herbaceous plants in a border, specially devoted to them, independently of beds, scattered clumps and masses amongst or in front of shrubbery, and on rockeries. This particular border has recently been re-planted, each clump consisting of three plants inserted triangular fashion, and furnished with neat metal labels having the names upon them in raised letters. A long succession of bloom, extending, in fact, all over the possible growing season, is kept up. On the opposite side of the path the border is laid out in beds and planted with Parrot Tulips, Poppy

Anemones, &c. It is yet too early to say much about the kitchen garden, as the crops are mostly in embryo. A fine brake of Ellam's Early Cabbages was noteworthy, however, as they were the largest and most vigorous lot we have seen this year.

Half standard and bush Pears had passed the critical stage and set a splendid crop of fruits then about the size of Peas. Apples, except the earliest varieties, were in full blossom. Peaches had set well in the open. Last year's layers of Strawberries were coming into blossom. Raspberries promised well. Seldom have we seen such fine canes in the south of England, for they were 5 ft. to 6 ft. high and proportionately strong.

In the kitchen garden, Onions had come up well, but the sparrows had taken to pulling them up, a piece of mischief for which we have never previously given this feathered rascal the credit. Carrots had formed a fine briard on a piece of ground that has been cropped annually with them for the past eight years, and with great success. It was in the first instance specially prepared, and annually trenched since then. Parsley does best when sown in boxes under glass and transplanted to the open. The Mushroom house is well furnished with all appliances and means to boot. On the other side of High Street, Roehampton, is a separate enclosure, and here were Peas in blossom and approaching that stage, also promising and advancing crops of Onions, Parsnips, Potatos, Turnips, Cauliflower, &c.

Mr. McLeod is also bailiff on the estate, having all the men under his charge, and the care of some twenty-five head of beautiful Guernsey cows, and five horses. He is, therefore, fully occupied with his multifarious duties.

APPLES.

I NOTE my good friend Mr. Temple is making reference to my remarks on Apples. Well, I may say, as I read his well timed note on these, there occurred to me the saying I heard recently, that when men of advanced life, who have had a life's experience, and were close observers, had something to say, it was worth listening to, as there was something in it. This, I venture to say, many will endorse after reading Mr. T.'s note at page 581.

My experience is not in any way too juvenile. I feel this only too true occasionally, and this when I want to pen a few lines for THE GARDENING WORLD of an evening, after the day's toil.

I am straying from the subject, and must answer Mr. T.'s question *re* Sandringham Apple. Although I have here about sixty kinds I have not Sandringham (I would prefer half that number had I my time to go over again). I have seen much of Sandringham in friends' gardens and in establishments for the trade, and consider it a fine looking kind, but have not had evidence enough to induce me to plant it as a late keeper. Recently I wrote in praise of Seaton House, and this I must pass over.

The two best Apples I grow for cooking, all points considered, are Alfriston and Wellington. The latter is now (May 14th) in good condition, and fruit from Orchard trees as firm as you could wish. On the 10th of this month (May) I had some cooked in a basin as a boiled pudding, and as it came on to the table, I saw it was still good. I remarked, as I partook of it, to those at the table, "there were few things that could surpass this, even at this late date, as a pudding." Sturmer's Pippin and Claygate Pearmain are my two best dessert kinds for late use. The former is still in a fresh, sound, and firm condition, and I send it to table daily. These are from orchard trees. I grow many kinds both as hush and standard orchard kinds, and cannot see any difference in their keeping. I get the largest fruit from bush trees; but the highest colour from standards.

Mr. T. has knocked the nail on the head in reference to gathering these too early. Apples are not tender, and the hard, heavy, late keeping kinds do not suffer from early frost. It is astonishing how long they will hang on the trees and not suffer. I have tried many experiments, but cannot deal with these here.

Some may say, oh, see how many kinds the trade show even up to this time. This is a practice that I consider *misleading*, as many of them are useless from a flavour point of view. What is the use of keeping an Apple till it is simply a bag of dry meal. Let us see things in their true colour. An Apple that has

not a good, firm flesh and good flavour is worthless, wherever or whoever shows it.

Margil I once saw grown grand on a wooden fence in Buckinghamshire. In our garden, which is low situated, it suffers from frost; but Mr. T.'s remarks are instructive. I quite endorse the remarks that we have too many bad keeping kinds, and there are too many grown in most private gardens. *Mère de Ménage* was fine with me last year; but it went to the pigs.—*J. C., F., Chard.*

PLANTS RECENTLY CERTIFICATED.

THE undermentioned subjects were exhibited at the Temple Show, on the 23rd, 24th, and 25th ult., receiving awards from the Royal Horticultural Society on the opening day.

ODONTOGLOSSUM ADRIANAE ERNEST ASHWORTH.—The broad and well imbricated segments of this variety form a beautifully circular flower, the segments being short and elliptic. The sepals are heavily blotched with brown; while the blotches on the petals are more confined to the middle. The lip has a large blotch in front of the crest. The ground colour of the whole flower is creamy white, and the blotches are much larger than usual for *O. Adrianae*. (First-class Certificate.) E. Ashworth, Esq. (gardener, Mr. G. Holbrook), Harefield Hall, Wilmslow, Cheshire.

ODONTOGLOSSUM ADRIANAE ARTHUR ASHWORTH.—The blotches of this variety are rather smaller and more orbicular. The blotch on the lip is decidedly smaller, and the ground colour of the flower is clear yellow. (First-class Certificate.) E. Ashworth, Esq.

ODONTOGLOSSUM ROLFEAE OPTIMUM.—The origin of this supposed natural hybrid was *O. harryanum* × *Pescatorei*. The sepals of this handsome variety are characterised by a large purple blotch or an aggregated cluster of them in the centre, surrounded by an oval ring of smaller ones. The petals have a somewhat similar arrangement of colours, but the blotches are much smaller and more numerous in the central area. The apex of the petals and sepals is suffused with a pale, dull purple. The lip is beautifully spotted with violet-purple on and around the crest. (First-class Certificate.) M. Vuylsteke Loochristy, Belgium.

ODONTOGLOSSUM CRISPUM ARDENTISSIMUM.—The general aspect of this variety is that of the *O. Rolfeae* optimum, but the colours are paler and the ground colour of a purer white. The tips of the sepals and petals retain their shading, but paler. The lip is more expanded, and the spots on the basal half more ample. (Award of Merit.) M. Vuylsteke.

ODONTOGLOSSUM SOUVENIR DE VICTOR HYE LE BRUN.—The parentage of this magnificent, supposed natural hybrid was *O. harryanum* × *luteo-purpureum*. The sepals are spatulate-oblong and almost covered with a rich chocolate, and tipped yellow. The petals are lanceolate, deep chocolate variously barred with yellow, and tipped yellow. The lip is oblong, of large size, suddenly acuminate, and less deeply concave than amongst the allied hybrids of *O. harryanum* × *Pescatorei*, rich crimson in the lower half, traversed all round by a wavy white line, and creamy-white in the upper half. (First-class Certificate.) M. Jules Hye-Leysen, Ghent, Belgium.

LAELIOCATTLEYA G. S. BALL.—The parentage of this strikingly handsome, new, bigeneric hybrid was *Cattleya Schroderae* (female) × *L. cinnabarina* (male). The sepals are linear-lanceolate, and the petals lanceolate-elliptic, being much broader. The whole flower is of a rich orange, the wavy lamina of the lip alone being tinted with red over the orange. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

LAELIA PURPURATA LITTLEIANA.—The sepals and petals of this splendid variety are pure white. The tube of the lip is finely lined with purple in the interior on a yellow ground. The lamina of the lip has a large crimson-purple blotch on either side of the throat, the rest being nearly white. (First-class Certificate.) Henry Little, Esq. (gardener, Mr. Howard), Baronshalt, The Barons, Twickenham.

CYPRIPEDIUM MARY BEATRICE.—This was derived from *C. gowerianum* magnificum crossed with *C. bellatulum*. The dorsal sepal is orbicular and

deep purple with dark veins. The oblong-elliptic petals are paler purple, covered with black spots. The large, dull purple lip reminds one of *C. bellatulum* in shape. (Award of Merit.) G. W. Law-Schofield, Esq. (gardener, Mr. Shill), New-Hall-Hey, Rawtenstall, Manchester; Messrs. Charlesworth & Co., Heaton, Bradford.

LAELIOCATTLEYA HERODE.—The parentage of this hybrid was *Cattleya o'brieniana* × *Laeliocattleya elegans* Turneri. The sepals and petals are of a rich, soft rose, and recurved above the middle. The lip has a short tube, widely diverging in front, and deep purple on both surfaces. The apex is also deep purple, and all the intermediate area together with the sides is of a soft, clear yellow. (Award of Merit.) M. A. A. Peeters, Horticultural Establishment, Brussels.

ODONTOGLOSSUM CRISPUM MRS. F. PEETERS.—The sepals and petals of this handsome variety have a large chestnut-red blotch in the centre, surrounded by a pale rose band, and heavily shaded with purple on the back. The lip is beautifully wavy and blotched with cinnamon on a white ground. (Award of Merit.) M. A. A. Peeters.

ODONTOGLOSSUM ADRIANAE VICTORIA REGINA.—The sepals and petals of this variety are elliptic, and gradually narrowed to an acute point. The sepals are heavily marked with circular, chocolate blotches on a creamy-white ground; the spots on the petals are fewer and smaller. The lip has numerous brown blotches scattered over it. (Award of Merit.) M. A. A. Peeters.

LAELIOCATTLEYA MASSANGEANA.—The parentage of this species was *Laelia tenebrosa* × *Cattleya schilleriana*. The oblong sepals and broader petals are of a deep coppery-brown. The broad, wavy lamina of the lip is of a rich velvety purple, the colour being continued well into the throat; the side lobes are paler purple, and the base of the tube nearly white. (Award of Merit.) M. A. A. Peeters.

LAELIOCATTLEYA CALLISTOGLOSSA EXCELSA.—The parents of this bigeneric hybrid were *Cattleya gigas sanderiana* (female) and *Laelia purpurata*. The sepals are bluish, and the huge petals a shade or two darker. The lip is also of an immense size, very wavy, being thrown into immense folds, and of a rich crimson-purple. The throat is clear, pale yellow, surrounded by a white band, this blotch being very prominent. The base of the tube of the lip is crimson. (First-class Certificate.) Messrs. F. Sander & Co., St. Albans.

CATTLEYA MOSSIAE OUR QUEEN.—The sepals are pure white; but the broader and long petals are distinguished by three pink lines along the centre and connected by netted lines of the same colour, forming a distinct band. The lip is white with a large, marbled, bright purple blotch on the centre; while on either side of the throat is a pale lemon blotch. The variety is very beautiful and quite unique. (Award of Merit.) Messrs. F. Sander & Co.

CATTLEYA MOSSIAE ROUSELEANA.—The sepals of this variety are warm rose, the huge petals being several shades darker and brighter. The lip is crimson-purple with a large orange blotch in the throat divided or cut into by the crimson; the tube of the lip is of a deeper rose than any other part of the flower. (Award of Merit.) M. Le Marquis de Wavrin, Chateau de Rousele, near Somergem, Belgium.

LYCASTE BALLAE.—This hybrid was derived from *L. Skinneri* × *L. plana measuresiana*. The sepals are of a uniform dull red, or red, tinted with brown. The petals are densely mottled with reddish-purple so as to appear of that colour. The terminal lobe of the lip is spotted crimson, and the side lobes are crimson. (Award of Merit.) Messrs. Charlesworth & Co., Heaton, Bradford.

CYMBIDIUM I'ANSONI.—This is a supposed natural hybrid, one parent being obviously *C. lowianum*. The greenish yellow sepals and petals are lined with pale brown and suffused reddish brown towards the base. The lip is much larger than that of *C. lowianum*, and white, with a pale brown band just within the apical margin. The face of the column is spotted with purple on a white ground. It is a distinct and pretty form. Messrs. Hugh Low & Co., Bush Hill Park, Enfield.

ODONTOGLOSSUM CRISPUM CONFETTI.—The sepals and petals of this handsome variety are white, more or less suffused or shaded with rose, and densely marked all over with reddish-brown, circular spots. The lip is white at the apex, yellow at the base, and

marked in the centre with a large red blotch. (Award of Merit.) M. Lucien Linden, L'Horticole Coloniale, Ltd., Brussels, Belgium.

ODONTOGLOSSUM CRISPUM RADIOSUM.—The flowers of this variety are hexagonal and of good circular shape. The sepals are heavily tinted with rose and furnished with several large brownish-purple blotches. The petals are lighter with fewer blotches on the centre. The lip is richly marbled with cinnamon brown on a white ground. (Award of Merit.) L'Horticole Coloniale.

CATTLEYA MOSSIAE WAGENERI HASSALL'S VAR.—The flowers of this variety are of great size and handsome. All parts of the flower are pure white with the exception of a large two-lobed clear yellow blotch in the throat. The variety differs from Wageri proper by the flowers being larger and of finer form. It is the best form of Wageri yet seen. (Award of Merit.) Messrs. Stanley, Ashton & Co., Southgate, London, N.

CALANTHE VERATRIFOLIA.—A plant of this white-flowered species, carrying nine spikes of bloom, was exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking. (Botanical Certificate).

DENDROBIUM HERCORGLOSSUM.—The small flowers of this species are borne in clusters of three to four near the top of the stems. The sepals and petals are rose, and the saccate lip white, tipped rose. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

DENDROBIUM CANDIDUM.—The stems of this species are 9 in. to 12 in. high, and bear lateral clusters of small, white flowers, having a green blotch on the base of the lip. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

Floral Committee.

TULIPA BATALINI.—The leaves of this pretty species of Tulip are linear, grooved and glaucous. The flowers are of medium size, clear, soft yellow and tinted with orange at the base. (Award of Merit.) Messrs. Barr & Sons, King Street, Covent Garden, London.

TULIP MABEL.—This is the breeder stage of one of the English Florist's Tulips, belonging to the rose section. Its selection for this honour shows the current of taste for a simple, yet handsome self colour. The segments are of a rich rose with a white base. (Award of Merit.) Messrs. Barr & Sons.

TULIP MRS. MOON.—The flowers of this Tulip are notable for the great length of the flower which is golden yellow. The oblong, cuspidate segments are individually very long. It belongs to the Cottagers' section of Tulips, and is certainly handsome. (Award of Merit.) Messrs. Barr & Sons.

OENOTHERA SPECIOSA ROSEA.—The flowers of the type are white. In this instance they are of a rich rose with darker veins and a white and yellow base. It makes a very handsome addition to the herbaceous border. (Award of Merit.) Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, London, N.

TULIPA GALATICA.—The leaves of this Tulip are wavy, glaucous and fairly strong. The flowers are bright yellow, with an elliptic, olive-green blotch at the base of each segment. (Award of Merit.) M. C. G. Van Tubergen, jun., Haarlem, Holland.

GLOXINIAS.—An Award of Merit was accorded to Mr. J. J. Upton, Irlam, Manchester, for his strain of Gloxinias, which were marvellously freely flowered for this early period of the year. They included self-coloured, banded, spotted and edged types. The variety Lord Roberts was notable for the circular spots on the dark purple of the ground colour of the lamina. They were the best flowered lot in the show.

BOUGAINVILLEA MAUD CHETTLEBURGH.—The bracts of this seedling are of great size, most profusely produced and of a rich violet-rose colour. It is certainly a fine and free flowering variety. (Award of Merit.) Col. Rous (gardener, Mr. Chettleburgh), Worsted House, Norwich.

ECHIU CALLITHYRSUM.—The leaves of this Bugloss are lanceolate and covered with grey, adpressed down. The thyrse is elliptic, about 1 ft. long, densely flowered, the blooms being of a rich blue. (Award of Merit.) The Hon. John Boscawen, Tregye, Perranwell, Cornwall.

SCHIZANTHUS WISETONENSIS.—The leaves of this plant are pinnate and lobed. The stems are 18 in. to 2 ft. high, much branched and most profusely flowered. The flowers are generally of some shade of rose, pink or blush, the lower part of the corolla

being darker; but the palate varies from pale lemon to deep orange-brown. The variety is very pretty. (Award of Merit for the strain.) Messrs. Hugh Low & Co., Bush Hill Park, Enfield.

EDRAIANTHUS DALMATICUS.—The leaves of this pretty rock plant are linear and grassy. The stems are 6 in. high, and bear a dense cyme of blue-purple, erect, bell-shaped flowers. The plant is hardy and easily grown in sandy soil on the rockery. (Award of Merit.) Messrs. Geo. Jackman & Son, Woking Nursery, Surrey.

PELARGONIUM MRS. J. G. DAY.—The flowers of this Ivy-leaved variety are of large size, rich scarlet red, doubled without being crowded, and freely produced on stout stems, that may be cut for decorative purposes. The leaves are of a uniform dark green. This is one of the darkest of the Ivy-leaved section. (Award of Merit.) Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.

LILIUM THUNBERGIANUM ORANGE QUEEN.—The stems of this Lily are about 1 ft. high, leafy to the top, and bear one or two well-expanded flowers of a rich orange or apricot-orange, spotted with black on the lower half of the segments. (Award of Merit.) Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester.

TREE PAEONY LADY SARAH WILSON.—The flowers of this variety of Paeonia Moutan are of immense size, semi-double, and bluish-pink, with a central violet stripe to the petals and sweetly scented. (Award of Merit.) Messrs. Kelway & Son, Langport, Somerset.

BEGONIA LORD ROBERTS.—This double variety of tuberous Begonia is very full, with several centres, though not crowded; and is distinct and charming on account of the broad and deep rosy-carmine edge to the creamy white petals. It is, in fact, one of the most distinct and conspicuous of the Picotee edged varieties. (Award of Merit.) Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, Middlesex.

BEGONIA MR. W. G. VALENTINE.—Here we have another highly meritorious, double tuberous Begonia, with bright scarlet flowers, the petals of which are arranged round a single centre. It is certainly choice and handsome. (Award of Merit.) Messrs. T. S. Ware, Ltd.

CARNATION HERBERT J. CUTBUSH.—The flowers of this border variety are of large size, smooth-petalled, bright scarlet, and in every way a first-class flower. The calyx, even in old flowers, does not split, owing apparently to its great strength. Grass is produced in great abundance, and in every way the variety seems perfect. (Award of Merit.) Messrs. Wm. Cutbush & Son, Highgate, London, N.

BEGONIA MRS. HALL.—If size is a virtue, then surely this variety must carry the day, for the flowers are practically prodigious, measuring about 6 in. across. The petals are not very numerous, but very broad with plain edges of a beautiful salmon-pink and highly refined. There is more than one centre to the flower, but as it was only in the first stage of its development, its ultimate form has yet to become a reality. It may be the precursor of a new type or group. (Award of Merit.) Messrs. J. Laing & Sons, Forest Hill, London, S.E.

CHAMAELIRION CAROLINIANUM.—In this North American plant we have a dwarf rockery subject for a peaty bed. Though allied to the Bog Asphodel, it looks different, having a cylindrical, spike-like raceme of small flowers, opening creamy-yellow and soon becoming pure white, with linear segments and densely arranged. The leaves are spatulate and mostly arranged in a tuft at the base of the simple stem. (Botanical Certificate.) Messrs. T. S. Ware, Ltd.

Fruit and Vegetable Committee.

MELON BUSCOT PARK HERO.—This new variety is the result of crossing Improved Green with Hero of Lockinge. The fruit is globular, slightly inclined to be grooved longitudinally, deep yellow externally and strongly netted, with grey, raised edges. It is a green-fleshed variety, sweet and juicy. (Award of Merit.) A. Henderson, Esq., M.P. (gardener, Mr. W. L. Bastin), Buscot Park, Faringdon, Berks.

Beans.—A vegetarian organ, speaking of the variety of Beans kept in stock at the society's depot, suggests experimental sowings at this season of brown Beans, butter Beans, red Beans, large and small Haricots, Soya Beans, and German Lentils. We should like to hear more of these pretty experiments.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE nicely worded letter of invitation issued by His Grace the Duke of Portland no doubt had a good deal to do in bringing together a large proportion of the 169 gentlemen who sat down to the spread and entertainment arranged on behalf of the 61st anniversary festival of this grand old society at the Hotel Metropole, on Friday, the 18th ult.

In addition to all the élite of horticulture His Grace was supported by members of the Privy Council, various officers and members of City companies, and dignitaries of the Church of England.

After cordially proposing the toast of "Her Majesty the Queen," as patroness of the institution, the noble duke, in referring to the Prince of Wales, announced that His Royal Highness had most graciously consented to succeed the lamented Duke of Westminster as President, whilst the Duke and Duchess of York had intimated their willingness to act as patron and patroness respectively.

In giving the toast of the evening His Grace referred to the fact that two years ago he had been invited to act as Chairman, but illness had then prevented him from accepting it, whilst even now his qualifications were scarce, he being rather inclined to sport than botany. In speaking of his own gardens he mentioned them as a white elephant, and said they plainly exemplified the old statement that the older the gardens the less use and ornament they were, but at present, through the skill of his gardener, the place was an oasis. His Grace further spoke to the effect that progress had never been bigger than in gardening science, the gardens in the western counties being good examples of this. The importance of fresh developments in horticulture as a means to win portions of our congested population back to the land was a vital question, whilst increased knowledge of horticultural science can attract heart and hands to the improvement of horticulture in the town districts. His Grace spoke of School Boards and the recent adoption of the science of botanical knowledge amongst their curriculum. After further general observations the Duke spoke of the G.R.B.I. as the only charity of its kind in the United Kingdom, mentioned that its objects are to grant assistance to old and helpless gardeners, market gardeners, &c., and their widows, who, through misfortune, are in distressed circumstances and unable to help themselves. At the present time 179 persons—98 men and 81 widows—are receiving permanent relief at an annual cost of £3,256. To meet this liability the charity has an assured income of £900, thus leaving a sum of £2,356 to be raised by voluntary subscriptions and donations.

Mr. Harry J. Veitch, the amiable treasurer, looking not very much better for his recent journey to Palestine, responded to this toast by expressing his gratification to the Royal Personages who had consented to take a more lively interest in the institution, thereby honouring the whole gardening community. He called last year's work a record, but he was pleased to say this year had beaten it. Over 11,000 letters had been posted from the office, besides all the good work which the five auxiliaries had done to bring in their £300 to the fund. The system of dispensation of benefits was explained, and the "Good Samaritan" Fund was strongly urged. Feeling reference was also made to the deaths, notably of the Dukes of Westminster and Argyll, and Mr. Malcolm Dunn, each of whom had done great work for the institution. In conclusion Mr. Veitch remarked "Nobody agrees better, and is more pleased with the South African and Ottawa collections now being made, but I want the claims of gardeners and widows to be still borne in mind."

Lord Powerscourt referred to the late Mr. Malcolm Dunn as the most able gardener ever under his employ.

The Rt. Hon. A. H. Smith-Barry, M.P., proposed "Horticulture," and said that he was very enthusiastic in horticultural pursuits, and had read a great deal about the Babylonian, Egyptian and North African gardens.

In replying to this the Very Rev. the Dean of Rochester made one of the characteristic speeches for which he is famous. He told how he had passed eight milestones of life, had lived with the best Queen who ever sat on a throne, also with peasants and millionaires, had friends amongst admirals, generals, &c., but had not yet found anybody to beat the man who works on the land. He

spoke of the skill now shown by horticulturists, specially mentioning Mr. Harry Veitch, dilated very favourably upon the gardening periodicals, and remarked "a garden is a place of rest and peace. Horticulture is a beautiful blessing, not to be restricted to rich people, and the county councils were doing much (under the tuition of Mr. John Wright and the Messrs. Dean) to keep the working people out of public-houses."

The Master of the Worshipful Company of Skinners proposed the toast to "Our Visitors," which was responded to by the Venerable the Archdeacon of London.

Mr. Geo. J. Ingram received the usual hearty ovation, when he announced that the list of subscriptions had reached £1,980.

Mr. N. N. Sherwood, V.M.H., trustee of the institution, thanked the noble chairman for his gracious presence on the occasion. He was welcomed as a genuine and strong sportsman; and his noble home, Welbeck Abbey, was a grand show place, and by permitting it to be such His Grace had been the means of allowing thousands of amateurs to take a fancy and love for flowers. Mr. Sherwood kindly offered to make the collection up to £2,000, and appealed to the chairman to persuade the Duchess to become a vice-president of the institution. In replying, his Grace agreed to the latter suggestion, told some amusing anecdotes about his ancestors, thanked the donors of the beautiful flowers which covered the tables, and paid a high and deserving eulogy to the work of Mr. Geo. J. Ingram as secretary.

SOCIETIES.

ROYAL HORTICULTURAL.—May 23rd, 24th and 25th.

(Concluded from p. 622.)

THE show last week having opened on the day we went to press, some of the exhibits received rather inadequate notice. The group of Orchids exhibited by M. Lucien Linden, L'Horticole Coloniale, Parc Leopold, Brussels, was remarkable for size amongst foreign exhibits, considering the distance it had to be conveyed. Notwithstanding this every flower was in the freshest possible condition. At one end was a fine bank of *Miltonia vexillaria*, notable chiefly for the great size of the flowers, some of them being giants even amongst their kind. *M. v. Memoria Lindenii* was the finest. The *Odontoglossums* were decidedly the feature of the exhibit. *O. crispum* in many fine forms attracted a great amount of attention, on account of the richness and variety of the blotches and markings. Very choice were *O. c. Confetti* and *O. c. radiosum* (see *Plants Recently Certificated*), *O. c. domino*, *O. c. eminens*, *O. c. figaro* and others. Natural hybrids were plentiful, including *O. wilckeanum* in great variety, *O. xanthotes*, *O. andersonianum* and *O. Adrianae*. The latter was represented by the more typical, densely punctate or spotted forms, as well as by several, with much larger spots or blotches, approaching *O. crispum* itself.

Scant notice was given to the lovely group of *Clematis* set up by Messrs. Geo. Jackman & Son, Woking Nursery, Surrey. The plants had been grown and trained, balloon-shaped, pillar-like or in climbing fashion. *Clematis Jackmanii*, Lady C. Neville, a large pale lavender variety; Otto Frobel, a very large white one, with lilac tint; Duchess of Edinburgh, a double pure white, a splendid form, and Fairy Queen (which was one of the finest and ought to have been nearer the front) with white-edged flowers and a deep pink beam in the centre were the pick of this section. *C. coccinea* attracted a great deal of attention, and the Countess of Onslow, Duchess of Albany, &c., were also greatly esteemed.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, in addition to their table of herbaceous cut flowers and their outdoor group of *Acers* and flowering shrubs, had a marvellous collection of clipped trees. This exhibit excelled that of last year, good though the previous group had been. There were boats with sails flying, dogs, fowls, tables, chairs, spirals, and many other quaint things cut in Box or Yew, which caused endless amusement to the sightseers.

Messrs. Fisher, Son and Sibray, as briefly reported last week, arranged a choice assortment of

hardy ornamental dwarf trees and shrubs, foliage and flowering. The yellow-leaved Oak, which must prove a splendidly effective thing when properly disposed in the pleasure grounds, was shown in numbers. *Acers*, of course, predominated. There were *Acer linearilobum atropurpureum*, a beautiful lobed purple Maple; *A. Prince Hendjery*, with broader leaves and also a capital decorative shrub. *A. reticulatum*, *A. japonicum aureum*, a very pretty pair; the latter, splendid for contrasting with *A. l. atropurpureum*. There were also *Betula purpurea*, a very dark leaved variety; *Corylus purpurea*, also dark purple but larger leaved, and climbing or tree, and hush Ives, *Vitis Coignetiae*, a large strong-leaved Vine, very suitable for pergolas, &c., and *Euonymus Silver Gem*, with many other things, all of the first excellence.

Messrs. James Backhouse & Son, York, exhibited an exceedingly sweet little rockery crowded in a tasty manner with alpine flowering plants. Chief among these were *Saxifraga longifolia*, *Silene acaulis plena*, *Gentiana verna*, *G. acaulis*, *Lychnis alpina*, *Saponaria ocymoides splendissima*, *Veronica repens*, *Cortusa Mathioli*, *Delphinium nudicaule*, *Viola pedata*, *Trollius*, *Chieranthus*, *Trillium*, *Eritrichium nanum*, a pretty little blue subject, *Symphyandra Wannerii*, &c., &c. Ferns, Maples and Pines were set up as a background. The arrangement secured a great deal of attention.

The Misses Hopkins, Mere Cottage, Knutsford, Cheshire, put up a varied group of hardy alpine and herbaceous plants. *Primulas* and *Auriculas* were specially well shown, and particularly good was a double crimson-purple variety having a yellow centre, and named Rex Theodore. The Golden Queen *Auricula*, *P. Gaiety*, *Trollius Fortunei* fl. pl., *Trilliums*, and other subjects were exceedingly fine.

Messrs. Isaac House & Son, Coombe Nurseries, Westbury-on-Trym, Bristol, showed a very fine collection of Pansies and Violas in the newest of best named varieties. Of Violas, Golden Fleece, a very deep yellow variety; Ruth, the largest of the yellow rayless Violas; and Argosy, another new yellow, were lovely things. Border Witch is a beautiful lavender variety, Marchioness, pure white; Bullion, deep yellow; Fergusson, a deep purple-blue; and the Bronze Prince Pansy, James Campbell, and others were exquisite.

Mr. M. Pritchard, Christchurch, Hants, put up a very varied group of hardy cut flowers. His *Paeonies*, *Trollius*, *Phloxes*, *Cytisus*, *Lilac*, *Dielytra*, *Pyrethrum Agnes Mary Kelway*, *Iris germanica atroviolacea*, *I. pallida variegata*, *Tulips*, *Erémurus elwesianus*, *Campanula dahurica*, and an endless array of other things were set up, making a lovely and much appreciated group.

Guildford Hardy Plant Nursery, Mill Head, Guildford, had a choice collection of the smaller alpine and hardy decorative subjects. *Phloxes*, *Gentianas*, *Saxifragas*, *Violas*, *Daphnes*, *Androsace sarmentosa villosa*, *Eritrichium nanum*, *Aubrietia tauricola*, *Armeria lauchiana*, and many other things were arranged in this pretty collection.

Mr. Amos Perry, Winchmore Hill, London, N., staged a surpassing fine table of hardy cut blooms. *Glorious* might be used to express the beauty and charm of so fine an arrangement and collection. There was *Incarvillea Delavayi*, that splendid and comparatively new plant; *Verhascum phoeniceum*, *Euphorbia polychrome*, *Anemone sylvestris plena* (the double Snowdrop Anemone), *Erigeron salsuginosus*, *Polemoniums*, *Centaureas*, *Geums*, *Paeonies*, *Thalictrums*, *Violas*, and goodness knows what there was not.

From Messrs. W. H. Rogers & Son, Ltd, Southampton, came a splendid and very sweet assortment of cut *Rhododendrons* and other flowering shrubs, sprays, &c.

Mr. G. W. Piper, The Nurseries, Uckfield, showed his much admired and exceedingly lovely Tea Rose Sunrise.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, arranged outside on the grass, a group of brightly-coloured Japanese *Naples*, fine leaved, broad leaved, green, red and yellow-leaved, a pretty group.

Messrs. John Waterer & Sons, Bagshot, Surrey, grouped an extraordinarily fine collection of hardy *Rhododendrons*. Many of the varieties represented choice new hybrids, and were conspicuous for size of truss, brilliant colouring, and good form. Such varieties as *alnm elegans*, a soft pink, Michael Waterer, a charming crimson-red, Sappho, white with dark

upper throat, Pink Pearl, *Fastuorum flore pleno*, Mrs. Wm. Agnew, &c., were perfect gems.

From Messrs. W. Fromow & Sons, Sutton Court Nurseries, Chiswick, W., came an exceedingly choice collection of Japanese *Maples*. Space forbids our listing any of the varieties.

Messrs. Thos. Cripps & Son, Tunbridge Wells Nurseries, Kent, also set up a like group of fine and coloured-leaved *Maples*.

A pretty and select group of *Acers*, *Ivies*, *Euonymus*, *Rhododendrons*, *Ligustrums* and other subjects were arranged with taste out of doors by Mr. J. Russell, of Richmond.

VEGETABLES.

VEGETABLES were not plentiful, in fact, with the exception of *Asparagus* and a few others, they were minus. There was some fine bundles of the above from both Mr. A. J. Harwood and Mr. W. Godfrey, both Colchester growers, thus showing that the soil in that district is suitable for the production of this vegetable.

There was a collection of Apples from Mr. J. Watkins, of Withington Nurseries, Hereford, who had Striped Beeing, New Bess Pool, Ottershaw, Court Pendu Plat, Lord Beaconsfield, Royal Russett, Flander's Pippin, and many of the earlier varieties such as The Queen, Lord Grosvenor, and Monk's Codlin. There is much art in preserving Apples to this time of the year, and great credit is due to the exhibitors for illustrating in such a practical manner what can be done in the way of storing hardy fruit, provided proper care be taken with gathering, and a suitable place provided for keeping the fruit through the winter.

Lord Wantage, of Lockinge, exhibited a very pretty lot of fruit interspersed with Fortune's Yellow Rose. *Monstera deliciosa* was shown in grand style, as also were Melons, Grapes, Strawberries, Apples, and Tomatos.

Mr. McIndoe, gardener to Sir J. Pease, Bart., staged a nice lot of fruit, consisting of black and white Grapes, Pineapples, Melons, Nectarines, Cherries, Figs, Apples, Strawberries, Lemons, and Plums. His dish of Early Rivers' Nectarines was specially fine, as was also his Black Tartarian Cherry.

A. Henderson, Esq., M.P., Buscot Park, Farringdon, Berks., had a nice lot of fruit, consisting of some fourteen Melons, five lots of Peaches and Nectarines, three of Strawberries, eight of Apples, and one dish each of Figs and Cherries.

Mr. W. Poupart, Marsh Farm, Twickenham, staged a collection of *Rhubarb*. Myatt's Victoria, and Champagne were very fine.

From Mr. S. Mortimer, Rowledge, Farnham, Surrey, came a collection of Cucumbers, all of which were exhibited in his usual style. Marvel, Sutton's Ar, Peerless, Tender and True, Telegraph and Perfection showed skill in cultivation. It is a pity that more encouragement is not given to the production of fruit and vegetables, for after all these are the mainstay of our gardens. We do not agree that they represent a greengrocer's shop, for what finer example could there be of a gardener's skill in this particular branch than that shown last season by Mr. Beckett, who staged such a meritorious collection of the most choice varieties in cultivation. We hope the society will do something to encourage the production of these in the future, even though they may not have been successful in the past.

AWARDS GIVEN BY THE COUNCIL.

THE order in which the names are entered under the several medals and cups has no reference whatever to merit, but is purely accidental.

GOLD MEDALS.

Sir F. Wigan, Bart., Clare Lawn, East Sheen, (gardener, Mr. W. H. Young), for Orchids.

Messrs. F. Sander & Co., St. Albans, for Orchids, Azaleas, &c.

Messrs. J. Veitch & Sons, Ltd., Chelsea, for Caladiums, Cacti, flowering shrubs, &c.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gardener, Mr. J. Hudson, V.M.H.), for fruit trees and Water Lilies.

Lord Wantage, Lockinge Park, Wantage, for fruit.

SILVER CUPS.

Mr. J. Cypher, Cheltenham, for Orchids.

M. Lucien Linden, Brussels, Belgium, for Orchids.

Messrs. Charlesworth & Co., Heaton, Bradford, for Orchids.

Mr. Chas. Turner, Slough, for Roses, Pelargoniums, Carnations.

Messrs. J. Carter & Co., High Holborn, London, for vegetables, Calceolarias, &c.

Messrs. Barr & Sons, Covent Garden, London, for Tulips, herbaceous plants, &c.

Messrs. W. Cutbush & Son, Highgate, London, for topiary work, &c.

Messrs. Fisher, Son & Sibray, Ltd., Sheffield, for stove and miscellaneous plants.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, N., for Orchids and new plants.

Messrs. G. Paul & Son, Cheshunt, for Roses, cut flowers, and Bamboos.

Sir Charles Pigott, Bart. (gardener, Mr. J. Fleming), Wexham Park, Slough, for Palms and Crotons.

Messrs. R. Smith & Co., Worcester, for Clematis and Roses.

Messrs. J. Peed & Son, West Norwood, S.E., for Caladiums, Gloxinias, &c.

Messrs. W. & J. Birkenhead, Sale, for Ferns.

Messrs. J. Hill & Son, Lower Edmonton, for Ferns.

Sir J. Pease, Bart., M.P., Guisboro', for fruit.

Messrs. T. Rivers & Son, Sawbridgeworth, for fruit trees.

Messrs. G. Bunyard & Co., Maidstone, for fruit.

Messrs. W. Paul & Son, Waltham Cross, for Roses and Rhododendrons.

Messrs. T. S. Ware, Ltd., Feltham, for Begonias, herbaceous plants.

Messrs. H. Cannell & Sons, Swanley, for Cacti, Cannas, plants, &c.

SILVER GILT FLORA MEDALS.

Messrs. Stanley, Ashton & Co., Southgate, for Orchids.

W. A. Gillett, Esq., for Orchids.

Mr. H. J. Jones, Lewisham, for Begonias and cut flowers.

Mr. W. Rumsey, Waltham Cross, for Roses.

Mr. Amos Perry, Winchmore Hill, for hardy perennials.

Messrs. G. Jackman & Son, Woking, for Clematis and hardy perennials.

Mr. B. R. Cant, Colchester, for Roses.

Messrs. R. & G. Cuthbert, Southgate, N., for Azaleas.

Mr. M. Prichard, for herbaceous plants.

The Guildford Hardy Plant Nursery, Guildford, for Alpines.

Mr. H. B. May, Edmonton, for foliage plants and Roses.

Messrs. J. Waterer & Sons, Bagshot, for Rhododendrons.

R. I. Measures, Esq. (gardener, H. J. Chapman), for Insectivorous plants.

The Duke of Northumberland (gardener, G. Wythes, V.M.H.), for Nepenthes.

Messrs. J. Cheal & Sons, for Cacti, &c.

Messrs. R. Wallace & Co., for hardy plants and Lilies.

Messrs. Kelway & Son, Langport, for Paeonies, &c.

Messrs. Sutton & Sons, Reading, for Calceolarias.

Mr. J. Russell, Richmond, Surrey, for trees and shrubs.

Leopold de Rothschild, Esq., Ascott, Leighton Buzzard (gardener, Mr. J. Jennings), for Carnations.

SILVER GILT KNIGHTIAN MEDALS.

A. Henderson, Esq., M.P., for fruit and vegetables.

Mr. J. Watkins, Hereford, for Apples.

SILVER FLORA MEDALS.

Mr. W. Icton, for decorative plants.

Messrs. J. Laing & Sons, Forest Hill, S.E., for Maples and stove plants.

Mr. T. Jannoch, Dersingham, for Lilies of the Valley.

Mr. W. Poupart, Twickenham, for Lilies of the Valley.

Messrs. Thos. Cripps & Son, Tunbridge Wells, for Maples.

Messrs. R. Green, Ltd., London, for Crotons.

Messrs. B. S. Williams & Son, Upper Holloway, for Orchids.

Ludwig Mond, Esq., Regent's Park, for Orchids.

Mr. G. W. Piper, Uckfield, for Roses.

Messrs. F. Cant & Co., Colchester, for Roses.

Messrs. Hogg & Robertson, Dublin, for Tulips.

Messrs. W. H. Rogers & Son, Ltd., Southampton, for Rhododendrons.

Messrs. J. James & Son, Woodside, Farnham Royal, for Cinerarias.

Messrs. Ed. Webb & Son, Wordsley, Stourbridge, for Begonias, Gloxinias, &c.

Lord Gerard, for Carnations.

Messrs. J. Backhouse & Son, York, for Orchids, Alpines, &c.

Messrs. W. Fromow & Sons, Chiswick, for Maples.

SILVER KNIGHTIAN MEDALS.

Mr. S. Mortimer, Farnham, Surrey, for Cucumbers.

Mr. W. Godfrey, Colchester, for Asparagus.

Mr. A. J. Harwood, Colchester, for Asparagus.

SILVER BANKSIAN MEDALS.

Marquis de Wavrin, Somerghem, Belgium, for Orchids.

Messrs. Dobbie & Co., Rothesay, for Sweet Peas.

Mrs. Bodkin, for Cacti.

Messrs. A. W. Young & Co., Stevenage, for Cacti.

The Misses Hopkins, Knutsford, Cheshire, for herbaceous plants.

Mr. P. Erseleus, Romford, for Petunias.

Messrs. Gt. Van Waveren & Kruijff, Haarlem, Holland, Astilbes.

NATIONAL TULIP.—May 23rd, 24th, and 25th.

This year's show of the National Tulip Society brought forth blooms up to the usual standard of excellence, but rather scarcer in quantity. The society held its show in conjunction with that of the R.H.S. in No. 2 tent at the Temple Gardens, on the above dates.

In Class I. for twelve Florists' Tulips, Mr. J. W. Bentley, Breeze Mount, Kensell, secured the premier award with Trip to Stockport, Masterpiece, Pet, Mabel, Annie McGregor, Gem, Grant, Bertha, Modesty, Bessie, Samuel Barlow, Duchess of Sutherland, and Lord Stanley. The collection was very creditable. Mr. A. Chater, Cambridge, came second, having a splendid Adonis, Trip to Stockport (premier bloom of this class), Sir Joseph Paxton, Annie McGregor, and others. Mr. A. D. Hall, Agricultural College, Wye, Kent, followed third, and fourth, Mr. G. Edom, Walton, Epsom. For six ditto, Mr. A. D. Hall was first. In this lot his Geo. Edward, Mabel, and Attraction were the most conspicuous. Mr. A. Chater was second, Mr. J. W. Bentley, third, and Mr. C. W. Needham, fourth.

In Class C., Miss Scott, Malabar House, St. Albans, was the only exhibitor. For three feathered Bybloemens, Mr. J. W. Bentley, Manchester, beat Mr. A. Chater, and Mr. A. D. Hall came third. In the breeder Tulip classes Mr. A. D. Hall led off, having an excellent half dozen. These were Goldfinder, Adonis (premier breeder Bybloemen), Sulphur, Maid of Orleans, Rose Hill, and Mrs. Barlow. Mr. J. W. Bentley, Manchester, who had splendid specimens of Goldfinder and Rose Hill, was second; Mr. A. Chater, third; and Mr. G. Edom, fourth. The Sam Barlow Prize for a single feathered Bybloemen was won by Mr. J. W. Bentley, who staged Tulip Mrs. Wood. Mr. G. Edom, Walton, Epsom, was the first prize winner for a collection of Florists' Tulips, and the lot he put up certainly did him great credit. The strength, form, and brilliance of the blooms and their even feathering was most charming and good. Small though the show was there was yet quite sufficient to satisfy and interest a large number of the visitors, whether Tulip fanciers or not. Surely the system of staging them could be improved.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize for last week's competition was awarded to Mr. E. Ireland, Bicton, Devon, for his article on "Grevillea robusta," which was crowded out of last week's issue by the Temple Show, but now appears on p. 630. This does not affect the competition for this week, which will be duly announced in our next issue.

QUESTIONS AND ANSWERS.

. Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargonium, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Weed in Boating Lake.—*Survivor*: The sample of water weed you sent us consisted of two or more species of Conferva, and at least one Cladophora, which are fresh water Algae, which often prove troublesome in tanks, ponds, lakes, &c. The size of your lake (4 acres) makes the destruction of the weed rather a formidable matter. The stillness and shallowness of the water are in favour of the weed. We think it would be advantageous to have the depth increased to 3 ft. The lake might also be dried every year, or every second year, during the winter months when work is not very pressing, and the mud with all the weeds it supports taken out. This mud could be thrown in a heap in some out of the way part of the recreation grounds, and allowed to dry and sweeten, and the weeds to decompose. This material would then constitute a good top-dressing to spread over the grass during the winter months. So treated, the lake would keep tolerably clean for the greater parts of the summer. If thus cleaned out every year or second year the quantity of material to be removed annually would not be great. The fishes could be temporarily preserved in a tank or small pond till the mud had been removed. This would render the summer cleaning a very easy matter, dispensing with a great deal of labour. Fishes and water-fowl should tend largely to keep down the weed, after the latter has been weakened by the cleaning out of the mud.

Growth on the Leaves on Vines.—*B.*: The leaves you sent us were of a rich dark green and apparently from well fed Vines. They were more or less covered on the under surface with green warts, which are considered as evidence of the maintenance of a too close and moist atmosphere. They have very little effect upon the general health of the Vines unless they are particularly large and numerous, when they might hinder more or less the proper performance of the physiological functions of the surface cells of the leaf. Your best plan would be to ventilate the vinery more freely and regularly so that the atmosphere will be dry for a greater or less period of time every day. This will tend to harden the tissues of the leaves, and hinder the further production of warts upon them. It will also increase or strengthen the constitution of the Vines and their foliage, and tend largely to render them safe from the attack of mildew and other fungoid diseases, as well as insects. The dull, cold weather, no doubt, induced you to keep the house close so as to prevent the lowering of the temperature, and obviate the necessity of much firing. This plan has its drawback in many ways and should not be persisted in for any length of time.

Erica carnea and E. mediterranea.—*E. C. H. D.*: These two Heaths, if they may be spoken of as two, are very closely allied. *E. carnea* is a native of the central range of mountains of Continental Europe, ranging from Switzerland to the Balkans, where it is usually a low straggling shrub. Where it descends to the sea board of the Atlantic it becomes a more upright shrub, from 2 ft. to 5 ft. high, with rather shorter flowers. In some of the western counties of Ireland an intermediate form is found, so that you may conclude it is difficult to distinguish them by means of a small piece unless one had specimens of *E. carnea* at hand for comparison. It is not a native of Great Britain, so that we presume your specimen was obtained from a garden, park, or other place in which it had been planted. Thanks for the specimen received. You might state whether it was from a garden or otherwise.

Plant in Artificial Pond.—*J. Galletly*: The green, water plant you sent was a species of Spirogyra, one of the fresh water Algae that increases at a great rate when the conditions are favourable to its existence. The Spirogyras like clean spring water, but will also grow in ditches that are not very clean. We are afraid there is nothing that would effectually destroy them without being injurious to other plants and fishes, &c., in the pond. You might check their growth for a considerable time by draining the pond, that is, by letting the water run away, after which you could give the bottom and sides of the pond a thorough cleansing, skimming off the surface of the clay bottom with a spade or draw hoe. If you could permit of its being done you might let the pond remain dry for a time, giving it a heavy coating of quicklime. After a week or so the lime might be swept up as thoroughly as possible, scrubbing it out with water and a broom, if practicable. The pond might then be re-filled. It should then keep clean for some time.

Names of Plants.—*E. C. H. D.*: *Hippocrepis comosa*.—*A. H.*: The *Euphorbia* is *E. Characias*, not *E. Esula*. It is much farther advanced than about London. The shrub is *Exochorda grandiflora*.—*W. M.*: 1, *Erinus alpinus*; 2, *Ajuga reptans rubra*; 3, *Genista praecox*; 4, *Cytisus albus*; 5,

Veronica gentianoides; 6, Narcissus poeticus recurvus.—*A. L.*: 1, Euphorbia palustris; 2, Aquilegia vulgaris; 3, Trillium grandiflorum; 4, Caltha palustris flore pleno.—*Adam*: 1, Cardamine amara; 2, Lunaria biennis; 3, Saxifraga aizoon rosularis; 4, Saxifraga aizoon minor.—*A. G., W.*: 1, Cattleya intermedia; 2, Oncidium sarcodes; 3, Dendrobium chrysotoxum; 4, Dendrobium densiflorum; 5, Cypripedium callosum; 6, Odontoglossum Hallii.—*E. C. H. D.*: 1, Erica mediterranea; 2, Euphorbia Lathyris; 3, Centranthus ruber; 4, Vicia sepium.—*A. Reid*: Trifolium minus, one of the small, yellow Clovers.—*Tomas*: Chaerophyllum sylvestre; 2, Stellaria Holostea; 3, Cardamine pratensis.—*J. S., L.*: 1, Orobanchus vernus; 2, Leucothea Catesbaei; 3, Pinus Coulteri; 4, Nuttallia cerasiformis; 5, Thuyopsis dolabrata; 6, Picea orientalis.—*E. C. H. D.*: 1, Trinia vulgaris (it is rare); 2, Erodium cicutarium; 3, Arenaria peploides; 4, Stellaria media var. umbrosa; 5, Thalictrum minus; 6, Lychnis vespertina; 7, Cochlearia anglica.—*P. C. M. V.*: Hakea eriantha.—*H. J. G. R.*: Alyssum Wierzebeckii.—*A. T.*: 1, Dierilla rosea; 2, Viburnum plicatum.—*W. J.*: 1, Geranium argenteum; 2, Alchemilla alpina; 3, Phlox stolonifera; 4, Polemonium reptans; 5, Scilla hispanica alba; 6, Corydalis nobilis.—*R. M.*: 1, Pyrus pinnatifida; 2, Crataegus Oxyacantha punicea plena; 3, Laburnum vulgare; 4, Syringa Josikaea; 5, Deutzia scabra; 6, Ribes aureum.—*A. M. W.*: 1, Laelia purpurata var.; 2, Cypripedium Godefroyae; 3, Miltonia flavescens; 4, Miltonia candidum; 5, Oncidium pulchellum.—*A. J. B.*: 1, Polypodium pectinatum; 2, Nephrolepis Duffii; 3, Selaginella Kraussiana Brownii; 4, Selaginella emiliana; 5, Asplenium bulbiferum minus.

Communications Received.—The Gresham Publishing Co.—Hunter & Gow.—T.M.—R.L.—Abbo.—T. & A. Constable.—J.W.—R.A.D.—J. B. Bailliere et fils.—Geo. Newnes.—A. Henderson.

TRADE CATALOGUES RECEIVED.

J. VEITCH & SONS, LTD., Royal Exotic Nurseries, Chelsea, London, S.W.—Novelties and Specialties.

JOHN PEED & SON, Roupell Park Nurseries, West Norwood, London, S.E.—Peed's Caladiums.

H. CANNELL & SONS, Swanley, Kent.—Sixty Bedding Designs.

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GOOD KEEPING APPLES.

As proved by exhibits during the present month both north of the Tweed and south of the Thames the following lists of really good Apples enumerate the best for late use:—Culinary varieties, as shown at Edinburgh, were Earl Cowper, Bramley's Seedling, Desse de Buff, Annie Elizabeth, and Bismarck. Dessert varieties, as shown at Edinburgh, were Blenheim Orange, Cox's Orange Pippin, Reinette du Canada, Fearn's Pippin, Beaumann's Red Winter Reinette, Blue Pearmain, and King of the Pippins. The following list shown in London from Kent:—King of the Pippins, Bess Pool, Chelmsford Wonder, Wellington, Alexander, Brownlee's Russet, Sandringham, Bramley's Seedling, Castle Major, Worcester Pearmain, and Winter Queen. These were all in first-rate condition when exhibited.

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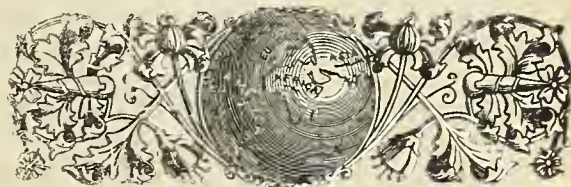
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 9th, 1900.

NEXT WEEK'S ENGAGEMENTS

TUESDAY, June 12th.—Paris Universal Exhibition (temporary
show); Cambridgeshire Horticultural Society's Show, at
Cambridge; Salterhebble and District (Halifax) Rose
Show.

WEDNESDAY, June 13th.—Yorkshire Gala (3 days); Cornwall
Agricultural Show, at Truro (2 days).

THE STANDARD WORK ON HORTICULTURE,
SCIENTIFIC AND PRACTICAL*.—The
long expected new edition of *The Gardener's
Assistant*, from its first issue in 1859, regarded
as the best practical book on horticulture
in our language, is now being issued. The
first edition we systematically read from
end to end, and thought it a wonderful
book, as no doubt it was in those days;
but as time went on we soon discovered that
its science was obsolete. The new edition,
dated 1878, we procured and considered a
work of great accomplishment; and though
progress in the practical sphere of horticulture
has been gradual from the time of the
first issue, the scientific aspect of the sub-
ject has not only progressed by leaps and
bounds, but has been entirely revolutionised,
so that it is no longer the same thing.
Practically the same thing may be said of this
book, which, indeed, retains its original title
and legend of inscription; but the whole
work has been remodelled and rearranged,
so as to be thoroughly in keeping with the
spirit of gardening at the present day. The

*THE GARDENER'S ASSISTANT. A Practical and
Scientific Exposition of the Art of Gardening in all
its Branches. By Robert Thompson of the Royal
Horticultural Society's Gardens, Chiswick. New
Edition, Revised and entirely remodelled under the
Direction and General Editorship of William Wat-
son, Assistant Curator, Royal Gardens, Kew. With
Contributions from Dr M. T. Masters, F.R.S.,
Edward Mawley, F.M.S., G. Masee, F.L.S., F.
W. Burbridge, M.A., F.L.S., J. Fraser, F.L.S., E.
T. Will's and numerous other Eminent Specialists.
Illustrated by numerous Engravings in the Text and
a series of coloured plates. Divisional—Vol. I.
London: The Gresham Publishing Company, 25,
Farringdon Avenue, E.C., 1900.

original book, in one volume, was the work of several eminent men of their day, and Mr. Robert Thompson, the then superintendent of the gardens of the Royal Horticultural Society, at Chiswick, was the editor. The present edition was commenced under the joint general editorship of Mr. Edward W. Badger and Mr. A. F. Barron, but after considerable progress had been made and the services of many specialists enlisted, they had to relinquish the formidable task on account of failing health. Since then the general editorship has been entrusted to Mr. William Watson, of Kew, who intends to see the work carried to a successful issue. The work is indeed well advanced, and publishing has been commenced. It has so increased in bulk as compared with the original edition, that the present one is to be published in six imperial octavo, divisional volumes, bound in cloth at 8s. each; and at the same time in 18 parts at 2s. 6d. each. This latter method will suit the requirements of those who intend to have the volumes put in more costly or special bindings according to fancy, or requirements.

The whole work is arranged in two main sections, firstly, the flower garden and pleasure ground, and secondly, the fruit and kitchen garden. The first divisional volume to hand runs to 208 pages, the subject matter of which is dealt with in seventeen chapters, all of the utmost importance to gardeners and gardening. The physiology of plant life, the morphology, external and internal, as well as the general structure of plants, are all dealt with by Dr. M. T. Masters, F.R.S., in the first ten chapters, and needless to say, the name of this eminent author is sufficient guarantee that the subject has been brought thoroughly up to date, and in full accord with the opinions of the best informed authors of the present day. This is saying a great deal, for much has been discovered even since the last edition was published. The chapter on "Plant Structure" deals with the cell-life of the plant, and the protoplasm or contents of the complete cell, showing how from apparently very simple beginnings, a highly developed and complicated plant is built up of cells, variously differentiated according to the functions they have to perform. Under "The Living Plant" we have an explanation of various phenomena, such as parasites, saprophytes, microbes, symbiosis, sensation and movements of plants, continuity of protoplasm, &c. The various forms of roots, their respective parts and functions, the caulicle, stem and their modifications, the cotyledons, leaves, nutrition, growth, branching, reproduction, hybridisation and classification of plants are all dealt with at great length, explaining matters in such a way as they have never previously been placed at the service of gardeners in a work of this kind, devoted purely to horticulture. For many years past, the physiology of plant life has been decidedly a weak point in the education of gardeners, if, indeed, it entered into the curriculum of their instruction at all. A thorough study of the information here placed at their disposal should do much to enable them to pass the examination in horticulture which is conducted annually by the Royal Horticultural Society; or for the matter of that, the examinations instituted by the various county councils throughout the country. It will have served its purpose if it induces young gardeners to study and profit by a general knowledge of the subject of plant physiology.

The definition of "the sap" in plants will no doubt interest a great many gardeners, who take time to ponder the matter as here explained. There is no fluid of uniform composition throughout the

plant nor any true circulation of the sap. The following quotation gives the author's apt expression about the downward current:—"There is also a passage of fluids in a downward direction, but not definitely or exclusively so throughout the plant. The juices, in fact, are transferred from point to point according to different requirements, irrespective of direction." A difference in temperature upon one part of the plant will make that grow earlier and faster than the rest which may be in a colder atmosphere. In this alone we have an interference with the old fashioned hypothesis of a regular circulation of fluids in plants. We have seen one part of a Vine in an early vinery, and the rest, including the roots, in a much later house. That part of the Vine in the early house ripened its bunches of grapes much earlier than those in the later house. Verily the gardener will find many useful and interesting lessons on the physiology of plants here.

A calendar of operations for the twelve months of the year is dealt with by Mr. H. C. Prinsep, who is a well known and competent authority on such matters. Edward F. R. Mawley, Esq., tackles the subject of meteorology. F. W. Burbidge, M.A., F.L.S., deals with hybridisation, a favourite subject of his. Plant diseases caused by fungi come under the master hand of G. Massee, Esq., of Kew. Soils and manures are the themes which J. J. Willis, Esq., of the Rothamsted experiment station, sets himself to explain and elucidate. Mr. W. Spinks, of Birmingham, takes up the subject of tools and instruments used in gardens; and Mr. James Boyd, of Paisley, tackles the subject of garden structures, for which he is fully competent. Mr. J. Fraser, F.L.S., has a lengthy chapter on the subject of insect and other plant enemies, as well as a shorter chapter on garden friends, which may help the gardener to distinguish between friend and foe when trying to keep his plants clean.

The above covers the subject matter of the first divisional volume, so that each section is more thoroughly, and exhaustively dealt with than in any previous edition of the work. The fact may also be borne in mind that each subject is brought in line with the present state of knowledge, covering all the points which have been the burning topics of recent times. Succeeding chapters and volumes will be largely filled up with the writings of Messrs. A. F. Barron, W. J. Bean, Edwin Becket, W. Crump, Richard Dean, W. H. Divers, Rev. Wolley-Dod, James Douglas, Malcolm Dunn, W. Goldring, James Hudson, James Kelway, Frederick Moore, James O'Brien, Archibald Piper, T. F. Rivers, J. Smith, A. Ward and William Watson, all of whom are well known writers, and experts in one subject or another, while some of them are authors. The reliability of the information throughout the work will therefore be unquestionable, seeing that so many experts in various parts of the British Isles have been enlisted in the cause, thereby ensuring that *The Gardener's Assistant* will continue to be the standard work on all matters horticultural. While the work will be published as described in six imperial octavo divisional volumes, it may be pertinent to the subject to state that the pages measure 10½ in. by 7½ in., each of which have two columns of letter press. The cloth boards are stout and serviceable; while the paper is thick and smooth, without being glazed or glossy, so that the eye can peruse the pages for hours together without being wearied or dazed under the influence of artificial light as in the case of glossy paper. The illustrations used throughout the volume and intercalated with the text are exceedingly numerous; and consist of

carefully executed woodcuts. This method of illustration is a necessity where microscopic work has to be reproduced in exact detail as in the histological delineation of the structure of plants externally and internally as well as in giving the minute details of insects injurious to plants, and the fungi likewise parasitic upon or in them. Needless to say, the illustrations of the histological structure of plants, and the insect and fungoid enemies of the same have been dealt with on a scale hitherto unattempted, so that the numerous figures add incalculably to the value of the book. Modern tools and machines of various economic importance are also well represented and according to the spirit of the times. Several coloured illustrations are also inserted at intervals throughout the book, so that no pains have been spared to make the work both attractive and of the first importance to gardeners, amateurs and all who take an interest in gardening or any of its various branches. Every young gardener should make a point of securing the book as part of his equipment in joining the profession, and we have no hesitation in affirming that those who set themselves to master the contents or any particular portion will find many a useful and valuable hint to guide them in their career for the time being, and in after life. Gardeners who have already climbed to the top of the ladder in the profession, will also profit by having it on their shelves in a handy position for reference when in doubt upon any subject, or when memory may fail in any of the intricate phases or points of their profession. The amateur, with leisure, and who loves his garden, could not enlist the services of a more reliable assistant.

The Reed Mace, *Typha latifolia*, is one of the handsomest of British aquatic plants.

The Star of Bethlehem naturalises beautifully in grassy lands.

Winter Cucumber plants like a good bottom heat and fresh soil to ramify in.

Warts are said to be removable by rubbing them several times with an Onion dipped in salt.

Hawthorn Leaves make a substitute for Chinese tea, but flavour is a matter of opinion or acquired taste.

Roots of *Dielytra spectabilis*, Solomon's Seal, and various flowering shrubs, are suitable for forcing.

Dried Sugar Pulp.—The dried pulp of the Beets used in making sugar can be used for making paper, mucilage, and as a food for stock.

The Scarlet-fruited Thorn, *Crataegus Oxyacantha punicia*, is almost equal in decorative merits to the renowned Flery Thorn, *C. Pyracantha*.

The Common Hop, *Humulus Lupulus*, grows many feet during a season. For shady arched trellises it is a subject worth noting.

Anthurium Wardii and *A. Knightii* are rivals for first place in the favour of plant lovers. The latter is, if anything, the better variety.

Pine Seeds.—At Riga, Russia, more tons of Pine seeds are put on the market each year than at any other point of the world.

Sparrows are an unmitigated nuisance in many places. Being so, it is no crime to harry or destroy their nests. By doing this we largely diminish the numbers of possible young ones.

Grafted Roses.—The *American Florist* says:—"It is now a common opinion with growers of Roses that grafted plants of The Bride, Bridesmaid, and Kaiserin are more profitable than those on their own roots.

Standard Fruit Package.—New York now has a law making the standard fruit package one quart, or 67 cubic in., and providing a penalty for violations, unless the smaller package is marked "short" in letters at least ½ in. high.

Weather in London.—The two closing days of last week were bitterly cold and rainy. Sunday and Whit-Monday were both lovely days, especially the latter. Tuesday and Wednesday were duller and slightly cooler.

Appointments.—Mr. James Troup, for the past six and a half years gardener to Mrs. Jardine Paterson, of Balgray, Lockerbie, has been appointed gardener to Sir Robert Jardine, Bart., of Castle Milk, Lockerbie, Dumfriesshire. Mr. Wm. McLean, for the past seven and half years foreman at Laurick Castle, Perthshire, succeeds Mr. Troup at Balgray.

The "Rose of Hell."—The "rarest flower in the world" has again been found. According to an American paper two prospectors (surveyors) have brought specimens of a plant from a mountain in the neighbourhood of Guatemala, and the flower was given its sulphurous name by the natives because it grows near the crater of a living volcano, which they suppose to be the entrance to the infernal regions.

Nettle Fibre in Germany.—Nettle fibre has lately come greatly into use in Germany in the manufacture of fine yarns and tissues. In nettles pinning alone, some hundreds of workmen are employed, these having in use over 10,000 spindles. The raw material is imported almost exclusively from China, from whence 660,000 to 800,000 lbs. are annually sent to Germany. Nettle fibre produces one of the finest known tissues obtainable from any known kind of vegetable fibre. Should favourable results follow upon some experiments which are to be made, nettle-growing will be more extensively added to.

College Men as Foresters.—The Division of Forestry of the U.S. Dept. of Agriculture commenced investigating the condition of forests along the Pacific coast last summer. They are still pursuing their quest, and several parties will start in June or earlier for the Red-wood belt of California and the Red-Fir forest of Washington. The object is to compare the reproduction with the present depletion, and to investigate the possibility of re-foresting logged-off lands. There will be from fifteen to twenty-five men in each state. Most of the work will be done by young college men under the direction of forest experts.

Cannell's Bedding designs.—It is evidence of the activity of a firm when it publishes a pamphlet of bedding designs, and classified list of the plants necessary for the effective filling of these beds. Such a publication, small though it is, will do as much or more than a large work embracing the subject. The plans for summer beds contained in Messrs H. Cannell & Sons' "Sixty bedding designs," are representative of many varied forms and conceptions each easy to understand, or to choose from. Each design is numbered and its parts are sectioned or marked out, lists of plants for each part being given. Those that suit our fancy most are No.'s 21, 22, 24, 28, 33, 44, and 49. But we recommend the little work for personal inspection; its price is 6d., from Messrs H. Cannell & Sons, Swanley, Kent.

CUCUMBERS AND MELONS.

OUR house is only 12 ft. by 9 ft. with no front lights, the roof resting on the front sills. It is heated by six rows of 4-in. pipes, two running under the bed at the front, across the west end, and along the back wall, finishing up with supply pipe. The bed being in the form of a brick pit, is filled up with brick rubbish, covering the pipes about 6 in., leaving an even surface for the soil, which consists of three parts leaf soil, to one of loam.

The seeds are sown the first week in January, a space being left at the west end of the bed for Melons, which have to be grown with the Cucumbers, and let me tell the young gardeners that it does not always answer one's purpose to go by the rule of thumb, and if you have not a house built sufficient for all purposes, you must still try to be up to time with your more fortunate neighbours, and your aim should be to place on your employer's table, fruits and vegetables before, or as soon as those who have gardens near by. Do not let those who employ you have to tell you that Messrs. So & So have had Strawberries, Cucumbers, Melons, &c., or ask:—"Why have we never had them?" As a rule they will not listen to any reason, and what does it signify, so long as your employer tells you the fruits

you sent in were of good flavour? I tell you the first fruits are the sweetest, grown under what conditions you like.

I cut our first Cucumbers in the last week of March, from a plant in the bed, but I always fruit my earliest in 8-in. pots, which stand on a backstage. I cut from these a fortnight before the plants in the bed. They only carry two Cucumbers, then they are thrown away. Melons are now ripening.—*J. Wallace, King's Lynn.*

RICHARDIA AFRICANA.

THIS useful plant, better known as Lily of the Nile, Calla or Arum, is often not so well grown as it deserves to be, and as a succession of flowers may be obtained for four or five months, there are few plants which give better return for the attention required. The treatment I have found to suit them admirably is as follows:—When they have ceased flowering (usually towards the end of May) water should be gradually withheld, and in three or four weeks the leaves assume a yellow tinge. The plants should then be cut down to within about one inch from the soil, knocked out of the pots, and planted out in the open ground, and when growth commences, water liberally. They should be carefully lifted towards the end of September, retaining as much of the soil about the roots as possible; remove all young shoots from the base, and pot in with a soil composed of three parts loam, and one part well rotted manure; water them and place in an intermediate house, keep rather close for a week or ten days, then remove to a greenhouse. If an intermediate house is not to hand, place in a shady part of a greenhouse away from door or ventilators until they have recovered from the lifting. Plants treated in this way grow more vigorously each year, until they are obtained with stems as thick as one's arm, bearing on an average five flowers in succession from January to May.—*G. Robins, The Gardens, Dudley House, Springrove, Isleworth.*

SEEDING FLORISTS' TULIPS.

I READ with much interest Mr. Thurstan's article on "Obtaining Seed from Florists' Tulips" and cordially agree with everything he says. He, however, gives us no idea of what varieties he would use in obtaining seed. Now my idea is that the chief thing to be aimed at in improving the Tulip is vigour of constitution. Older raisers seemed to have aimed at nothing more than refinement of marking and improvement of form, all very desirable I grant, but unless we can get vigour and robustness into the flower, its votaries will always be confined to a few enthusiasts. We ought also to try to get a race of beautiful breeders to rival the Darwin Tulips. There is no reason why this should not be done, and if we could produce breeders with the brilliancy and vigour of the Darwins, and the beautiful purity of base of the English Tulips, we shall have done something that will cause us to be praised by the horticultural world. With these various ends in view I would suggest the following cross fertilisations:—

Rose Hill × Annie McGregor, to get large scarlet breeders.

Annie McGregor × Rose Hill, to get large scarlet breeders.

Lady Grosvenor × Industry, to get intense scarlet-crimson breeders.

Talisman × Glory of Stakehill, to get large rosy-purple breeders.

Alice Grey × Bridesmaid, to get large pale lavender breeders.

Dr. Hardy × Goldfinder, to get large orange-scarlet breeders.

Samuel Barlow × Goldfinder, to get large orange-scarlet breeders.

Mrs. Barlow × Rose Hill, to get rosy-scarlet breeders.

Goldfinder × Sulphur, to get orange breeders.

Polyphemus × Rifleman, to get darkest brown breeders.

Sir J. Paxton × Lord Stanley, to get bright brown breeders.

Talisman × David Jackson, to get deepest purple breeders.

As the Tulip bloom is now on, I hope some of your readers will try some of the above crosses and I hope I shall live to see the result.—*J. W. Bentley.*

BUNCH PRIMROSES OR BORDER POLYANTHUS.

It is immaterial to me which name the present race of hardy border kinds goes under. I mean those to be seen now so largely used for spring gardening. In this race you get the early blooms through the autumn and winter, on single stems like the *P. acaulis* or wild form. Later on they throw up strong stems with big heads of bloom. This tendency favours the Primrose. Added to this it makes a distinction in the name from Polyanthus—unless you term one the gold-laced, and the other border Polyanthus. To this same I may say they are all border kinds. It seems to me there is much in a name, looking at it from some people's standpoint. However, to me a name is not of so much importance so long as the material is good.

I consider these hardy kinds a great gain to our gardens. It is wonderful the time they continue in bloom, and the mass of bloom they give, throwing their trusses out of the leafage so well. I have a long border in front of my cottage filled with them, with a narrow border on the other side of the walk full of three different coloured Wallflowers, and now early in May the sight is grand.

Rich crimsons, white, deep yellow, purples, and almost every shade are to be seen in these Primroses, and it is worthy of note how these can be had at such a small cost. I often think were such sights only to be had under glass, then we should hear more of them. But are they of any less value? I consider them of more value, as they can be enjoyed by all classes.—*J. C., F., Chard.*

PACKING CUT FLOWERS.

AT the present time, and for a while to come, seeing so many families are either "in town," or at least from home, a very great deal of flower packing has to be done by those who produce flowers for their employers. The aim of him who packs flowers, or aught else, should be to so perform his work that after having travelled for a long distance it can be undone in perfect form.

The proper choice of boxes for flower packing is a most important matter. Good boxes from a grocer's establishment are very often of first-class service. These can be bought cheaply. They should be thoroughly scrubbed out with scalding water. After drying them, and before use, lay a lining of tissue paper along both the sides and the bottom of the boxes.

A wide selection of different sizes and forms of boxes should be on hand. Larger boxes are certainly necessary for Callas, Rhododendrons, Azaleas, Kalmias, Foxgloves, or Delphiniums. For Roses smaller boxes must be used, and each Rose bloom, especially if they are from the finer sorts and forced, might be wrapped in damp tissue paper. In the packing itself the long stemmed flowers should be put into the boxes first, and to make the layer cover the bottom, choose others with stems not so long, until at the opposite end from which one started, the blooms which have very little stem, such as Gardenias, Stephanotis, and the like, can be placed. Always place the heaviest blooms at the bottom. If a second row of flowers be inserted, and these are likewise heavy, it is generally best to place light stakes across the box, fixing them to the sides just above the lower layer. Over the stakes spread a sheet of tissue paper. Below the lid a thin light layer of damp moss may be placed. An important point in packing is to pick out boxes of a size that will almost exactly hold the quantity of flowers to be sent. By so doing, the unnecessary packing of extra material or undue crushing of the blooms is avoided.

For heavier flowers, such as those I previously noted, cool Rhubarb leaves may take the place of the tissue paper. Cut out the thicker ribs from the blades.

To send off a bouquet may at times puzzle the unaccustomed. Cube-shaped boxes, 15 in. sq., having a partition in the centre inside, and a 4-in. hole through this partition to allow the handle of the bouquet to be taken through, must be prepared. A stout cord fastened to the bouquet handle and brought down through holes in the bottom of the cube, will act in retaining the bouquet in a firm poise. Wreaths may be fastened to boxes made wider than the wreath and 3 in. or 4 in. deep. To carry by hand, a riddle or sieve may be used.—*Artist.*

TRANSATLANTIC "LINERS."

IN Virginia there is an Apple tree which measures 9 ft. 5 ins. round. The largest branches are 6 ft. in circumference. It is 52 ft. high and 71 ft. broad, and is supposed to be seventy years old. It has produced as much as 110 bushels in a season.

Many other giant prolific Apples are in the neighbourhood.

Circumstances alter cases, and even the humble String Bean can assume a high position, as is shown by a recent Klondyke skit, which depicts a lady exclaiming at the vulgar ostentation of her neighbour, whose Easter bonnet was festooned with dried String Beans, those being, I need hardly say, at a premium there.

Flowers from a diphtheria funeral have recently caused another death here in Chicago. They had been given to a child to play with afterwards.

Strawberries are now selling freely at 3d. a pint. Lately we were threatened with a famine on account of southern lands being flooded. One crate sold for 24/- then.

The first Cherries of the year came in lately from California, and sold for 2/- a quart; they were black and red Tartarians, and yellow Ox-hearts. Some years ago the earliest cargo brought £1,230 for 2,200 boxes. Florida and Louisiana fruits came later, and are much better.

Acalypha Sanderii is being offered by a seed firm as the "Medusa plant of the Philippines, Dewey's favourite flower"!! It has an imposing wood-cut in a magazine all to itself. Another firm, when stamps are sent for catalogue, encloses seeds worth more than the 5d. charges, and also an envelope which counts as so much cash on an order. Verily, we are behind a stretch or so in advertising, are we not?

The lady treasurer of the Illinois Horticultural Society recently made an eloquent address on the "Healthfulness of Horticulture for Women" before the Promotion of Health Club, when the "Woman with the Hoe" was brought vigorously to the front. Teachers have been endeavouring, without success, to induce the park authorities to set aside vegetable patches for the benefit of school children in order that they may learn something of practical agriculture. It was a small favour to refuse.—C. Marquarie, Chicago.

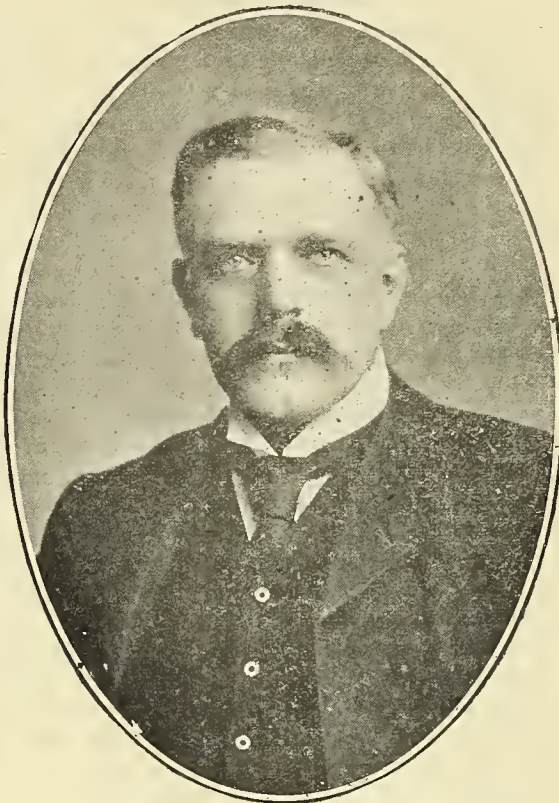
NOTES ON GRAPE THINNING.

WHY we often see (even on exhibitors' tables) so many bunches of Grapes ragged in appearance, and mixed with small berries, is caused by careless and unskilful thinning. Many never get proper tuition at first, and to get clear of an old "beaten rut" is very difficult. To suppose that all Grapes require the same manipulation is untenable. Some varieties have large berries compared with others, and some set very freely; while other sorts do not in certain soils and positions. To attempt the thinning of all the berries to regular distances over the bunch, is against unity of size of berry and handsome bunches when the Grapes are ripe. These points when strongly developed (unevenness of bunch) militate strongly against bunches in competition, and lightly too. Small stoneless berries are easily known to those who thin carefully and observe closely. The berries which are largest at first are best at the "finish," and all stoneless berries should be removed, except such as are, in a majority, often found in Black Morocco, Muscat Hamburg, and others when badly grown. Gros Colmar and Gros Maroc seldom set badly, and such grapes which grow so large in berry (both often to 1½ in. in diameter) may be thinned out regularly at first, and as soon as set; but if small berries are present they should be removed. Even if the large ones are somewhat irregular they should be left, and as they swell they will squeeze into proper form. I once discussed the methods of thinning with Mr. Kirk in his finely appointed vineries at Alloa, just after his return from the Crystal Palace, where he defeated easily all comers by handsome bunches of the finest quality, and I was pleased to have one so distinguished as a grower of Grapes in my way of thinking. Much can be done when thinning by tying up shoulders of bunches in a temporary form, at thinning time, then neatly and compactly fastened to hide bare stems.—M. Temple, Carron, N. B.

PEOPLE WE HAVE MET.

MR. JAMES ROBERTSON.

THE subject whose portrait we have pleasure in introducing on this occasion is Mr. James Robertson, J.P., &c., the sole proprietor of the old established firm of Messrs. Hogg and Robertson, 22, Mary Street, Dublin, where he takes a considerable share of the public work transacted in the Irish capital. He is also connected with the Royal Dublin Society, and is a breeder and exhibitor of Kerry and Dexter cattle independently of his duties as seedsman and



MR. JAMES ROBERTSON, J.P.

bulb grower. The La Maucha and Babraham (Cambridge), herds of Kerry and Dexter cattle, are well known, not only at Irish, but even at English exhibitions.

Besides being a good business man, Mr. Robertson is a keen observer, and full of enterprise, as the experiments he undertook about seven or eight years ago amply prove. The village of Rush, where Mr. Robertson lives, is situated on a promontory on the north-east of the county of Dublin, and about fifteen miles north of the city of that name. The inhabitants are believed to be of Danish rather than of Celtic origin, as their habits and methods of cultivation are different from those of their neighbours a little more to landward. The town lands only run to about 172 acres, and consist chiefly of sand, similar to that which exists in Holland, but lighter in colour because of the lesser quantity of humus it contains, owing to the small quantity of manure which has hitherto been applied to it. The natives have been in the habit of manuring it with seaweed, but very little if anything else. This form of manure tends to make the land lighter and relatively poorer in the long run, owing to the continued addition of sand with the seaweed. The inhabitants of the little township have been notable, however, for the quantity of early Potatoes which they were able to raise upon the land and dispose of to advantage in the Dublin markets in advance of their neighbours, whose soil was more retentive and the crops later.

With the eye of a business man, Mr. Robertson was quick to perceive that that this sandy soil was similar to that of Holland and might be turned to good account in the production of bulbs. Sunshine and wind are plentiful, but rain scanty; but this deficiency is rectified by an abundance of moisture in the subsoil during the late autumn and winter months. Here again we recognise a similarity to the conditions of the soil of the Netherlands from whence such a large proportion of the bulbs come to this country. Mr. Robertson acquired some of the land in this district, and proceeded to plant it with Narcissi, Tulips, and other bulbs. From the commencement the experiment proved so remarkably successful that Mr. Robertson went on extending the area planted with bulbs, till at the present time something like sixteen acres are under bulbs of a very varied description.

The Narcissi are in strong force, and excellent satisfaction has been given by such as N. obvallaris, Codlins and Cream, N. Barrii, Dorothy E. Wemyss, N. poeticus, and its double forms, N. maximus, and N. Sulphur Phoenix. Some of the above are remarkably difficult to grow in certain soils and districts, but here they do well. A great many more of the popular and useful varieties are equally well grown here.

Tulips are also grown in their thousands, including the May-flowering, the Cottage, Garden, Darwin and other sections, besides species and sub-species or garden forms. Amongst the latter we might mention T. macrospeila, T. billetiana, T. fulgens, T. lutea, many fine named varieties of T. gesneriana, T. spathulata, T. maculata, T. elegans alba, T. Picotee, T. Golden Crown, T. Golden Eagle, T. vitellina, T. viridiflora, and many others. Mr. Robertson has a stock of something like 50,000 bulbs of Golden Crown, and his stock of T. vitellina is also very extensive. Amongst Parrot Tulips, such as Perfecta, Cramoie Brilliant, Lutea major, Mark Graaff, and others succeed well.

The French strains of Anemones do remarkably well in the sandy soil, and amongst them The Bride is noteworthy. English and Spanish Irises are grown in quantity and so successfully that the sandy desert is made to blossom as the Rose in June and July. Hyacinths are also under trial, but the ultimate success of this experiment remains to be determined. Gladiolus Colvillei alba, otherwise known as The Bride, is a great success here, and is grown in quantity. The application of the term "Holland in Ireland" to this bulb farm is therefore not inapt, but appropriate.

Mr. Robertson is also a keen exhibitor, and we have on more than one occasion seen his exhibits on this side of St. George's Channel, and have heard of the reputation of the same in Ireland. He was accorded a Cultural Certificate by the Royal Horticultural Society of Ireland. An exhibit at the Drill Hall, Westminster, on the 2nd May, 1899, brought him the Silver Gilt Flora Medal of the Royal Horticultural Society; and this was repeated on the 16th of the same month. He turned up at the show of the Midland Daffodil Society, Birmingham, last year, as well as at the spring show of the Royal Botanic Society, receiving in each case a Silver Medal.

SCOLOPENDRIUM VULGARE CRISPUM.

It may be of interest to some to learn that this—and I take it for granted that all the varieties of the common Hart's-tongue—may readily be increased by means of root cuttings. True, the process in its early stages may be a slow one, yet, where it seems desirable to largely increase the stocks, no other method with which I am acquainted offers similar advantages for doing it considering that from a well rooted plant in a 4-in. pot some 200 root cuttings may be obtained, which with a modicum of attention will in two or three years develop into plants almost or quite equal to the mother plants from which the root cuttings were derived. I have had no personal experience respecting this which I take to be a somewhat novel mode of Fern propagation, and whether any other genus of the Fern family is capable of being increased in the same manner I know not. It may occur to some that the Nephrolepis will; but I take it that as some of them naturally reproduce themselves from the creeping rhizomes they are not a parallel case to the Scolopendriums, which only produce true fibrous roots, and so far as ordinary observations go, are destitute of foliage buds. The method pursued is to take a plant shortly before growth commences in the spring; to wash every particle of soil from the roots; to disentangle these and cut them up into lengths of 1 in. or thereby; to put them into pots made up with suitable soil the same as you would root cuttings of Bouvardias; and to place them in a damp, but not high temperature. If the pots are covered over with a pane of glass, less attention will be required. Always keep them moist, because in the earlier stages of growth anything approaching real dryness would be fatal. As the young plants begin developing prick them off into 60-size pots, round the edges of the same; then afterwards pot on as required.—W. B. G.

SAINTPAULIA IONANTHA.

SAINTPAULIA IONANTHA, is one of the most desirable of recent additions to our stoves, either as an edging, or better still, as a hanging plant, suspended so that it is on a level with the eye, it forms at once an interesting, unique, and beautiful plant. It is a native of Usambara, in East Central Africa, and was first brought before the notice of horticulturists at the Ghent Quinquennial Exhibition in 1893. The habit reminds one of Ramondia, and the texture of the leaves resembles that of a Gloxinia. The flowers, which are odourless, and of a bright, rich, violet-blue colour, arise from the crown in spreading cymes, and continue to be produced for months, according to cultivation. Its dimorphic flowers, right and left-handed styles, combined with its disputed chances of insect pollination, insures its position as a plant of more than usual interest to the botanist, whilst from a horticulturist's point of view its propagation and cultivation is most desirable. Like the other members of the order Gesneraceae it is easily reproduced vegetatively by leaf propagation; likewise easy from seed. Grow in a compost consisting of two parts loam, one part peat, mixed with some leaf mould and sharp sand. A position in the propagating pit will insure its welfare whilst in a young state, afterwards give a light place in the stove. A 4 in. pot is sufficiently large for a two year's old plant, and which, if occasionally fed and maintained slightly pot bound, will become an attractive and floriferous plant.—*Alpine.*

FLOTSAM AND JETSAM.

THE Easter florists' windows surpassed anything previously attempted. The quantity of Lilies was amazing, although Roses crowded them closely. White, glistening window floorings are used, with mirror backgrounds, and the masses of colour, skilfully relieved with Smilax, Ferns, and Palms; not a poor specimen to be seen anywhere.

I bought half-a-dozen Tea Roses of various colours, with long stems, for 9d. They were very good. A local nurseryman has been fined lately under the San José scale law. He had sold some trees here which had not been examined and certified by the state entomologist. This was the first case under the new law, which provides for an annual inspection of nurseries.

Mrs. Dewey's former husband, General Hazen, was extremely fond of Petunias, and she used to keep large bunches constantly on his grave.

At the inauguration of the new aldermen here lately some of the floral offerings were fearful and wonderful to behold. One was a seven-foot Indian, made of Roses and Violets with feathers in its Carnation head. A son of the Emerald Isle got five floral harps and an armchair. An immense elephant was made of Roses, while a rooster and a gigantic pair of scales were also the objects of much attention.

Rather a unique advertisement was issued for Easter bonnets by a local firm. They remarked, as the Violet represents watchfulness, so do we watch the markets; as the Rose represents worth, so do our values; as the Lily represents majesty, so are our styles; as the Chrysanthemum represents truth, so are our statements, and our watchword; and as the Fuchsia represents taste, so do we stand for tastiness in every detail.

It was surrounded by good wood-cuts of the flowers named. American Beauty Roses sold at from 20/- to 48/- a dozen; Easter Lilies 12/- to 16/-; Violets 2/- a bunch; Carnations 2/- to 6/- a dozen; Tulips 4/- to 6/- a dozen; Narcissus, Daffodils and Jonquils, also Lily of the Valley, 4/- a dozen. Plants fetched good prices, Azaleas running from 10/- up, and Rhododendrons and Acacias higher. Even Genistas were from 3/6 upwards. Colour is more used than previously.—*C. Macquarie, Chicago.*

Kitchen Garden Calendar.

Most vegetable crops are backward this season, and none seem to make that progress one would wish. The dry weather in many places accompanied with cold winds is sadly against a free and healthy growth. Thinning of most crops will now need attention, and this if possible should be done in showery weather or many of the plants will break off instead of being pulled out by the roots. Where the ground is very dry it is a good plan to give a thorough watering a few hours before thinning takes place, as this will

admit of the plants being the more readily drawn. It is not advisable to thin Onions too much unless the bulbs are wanted for exhibition purposes; if thinned to about 3 in. apart this will be ample. Carrots should be singled out according to the variety, the early short-topped varieties to 2 in. the others to 8 in. or 9 in. Parsnips, Beetroot and Turnips should be allowed a similar distance.

SEAKALE.—This ought to be looked over and carefully disbudded, removing all but the strongest growth on each plant. The ground between the rows should be hoed to destroy any small weeds that may be making their appearance. Liberal waterings with liquid manure or a sprinkling of guano will also be beneficial, for unless the plants get a good start it is impossible for them to make fine crowns for forcing.

ASPARAGUS.—The beds ought now to have a liberal watering to induce them to push up stronger for unless they have some extra support the plants will soon get exhausted and cease to send up growths. Keep the beds free from weeds by slightly moving the surface with a hoe. Beds that are intended for early forcing should not be cut over after this date.

WINTER GREENS.—Whenever the weather is favourable for planting, push forward with the work for the sooner the plants get established the better chance there is of them resisting the hot weather. If there is the least signs of club root give the ground a dressing with newly-stocked lime, examine the plants previous to planting and discard all those affected.

LETTUCE.—Cos varieties will now be getting good, as they are much better if tied up before they get too far advanced, pay attention to this regularly, but do not tie more at one time than are required for two or three day's supply as the hearts rot much faster when blanched. Lettuce should never be tied when wet, for if the leaves are brought together when in this condition decay soon sets in.

CELERY.—As the ground becomes vacant after Potatoes or early Peas, prepare trenches and get out Celery, as there is no advantage in allowing the plants to get too large before putting them out. Early Celery is liable to go to seed if checked in its growth; to avoid this keep the plants well watered. Those who are desirous of having this ready for early exhibitions must use collars for blanching, as these do not in the least interfere with the growth. Watering can be done without any fear of rotting the hearts of the plants.

SALADS.—Continue to sow Radishes at short intervals. If two or three varieties are sown together every fortnight this should keep up a supply. Lettuce must also be sown in like manner, and the plants transplanted before they get very large. The larger kinds ought to be allowed a space of 12 in. each way, the smaller sorts from 6 in. to 8 in. Mustard and Cress, Chervil, and small Onions should also be grown for this purpose, the latter if not more than 3 in. high are much in request in some establishments. Pay attention to the staking of both Runner Beans and Peas, and make another sowing of each as soon as the previous ones are well through the soil. Should the weather be hot and dry water liberally.—*F. W. J.*

FRUIT UNDER GLASS.

VINES.—The young Vines from eyes struck in February and later, are now making good progress, and are filling the 32-sized pots in which they are growing with abundance of roots. By no negligence allow them to become pot-bound. The next shift should be into 8-in. or 9-in. pots. Use thoroughly sound pots, else there may be irritating breakages at a critical stage later on. If new pots are used steep them in water for some minutes.

The compost for the next potting may consist of fibrous loam (loam with body in it, though not clayey). From a sixth to an eighth part of mortar, passed through the $\frac{3}{4}$ -in. riddle, should be added, together with a quarter part of dried Mushroom dung and a 6-in. potful of bonemeal to the barrow-load of loam. Drain the pots thoroughly and with care, and pot firmly.

SECOND YEAR VINES, which were cut back this spring and potted on recently into 10-in. pots should be regularly, indeed, rigorously, attended to in watering and syringing. Unless every care that experience can pre-conceive is laboured upon these young canes, good stock seldom results. They re-

quire free ventilation, free thinning-out, and attention to tying-in.

POT VINES ripening their fruits should be watered and the house freely ventilated, so long as the bunches remain upon them.

VINES PLANTED OUT, and which have ripened their crops, are practically at the end of their season's operations. Stimulants or, indeed, water may now be withheld from such Vines. A second thinning of the berries in recently-thinned bunches of succession houses may be given about this time. The growing shoots must be kept tied in, a little tightening at a time being given to the raffia or string.

THE PEACH HOUSES should be maintained at a temperature of from 65° to 70° during the day, down to 60° at night. The present weather is very trying to the indoor fruitsman. Blinks of sunshine are quite scarce, and a whole day's sunshine has scarcely been known this year—and the longest day is on the 21st of this month! Be more sparing with the syringe during these dull, cold days.—*D. K.*

THE PLANT HOUSES.**The Stove.**

AMONG the features of the plant stove in the meantime, the Caladiums are the most conspicuous. Where a really good variety or selection of varieties are housed, the feast to the eyes is delicious. I think that gardeners as a rule are not much given to moralizing on the subjects under their care. The first prize for a dozen table plants, or for a group, or even a single specimen looms up more frequently than thoughts of a critical or logical nature. How very wonderful the structure of a Caladium leaf is, and even more wonderful is the colouring of it. How is it that this plant here, which is a Caladium, and that plant there, which is likewise a Caladium, and whose leaf structure so far as is known is identical, and with their roots in the same compost, and with all conditions similar, are yet so opposite in colour? One may be yellow, the other may be purple. These differences lead on to further enquiries, and from one thing we get on to another, soon to find that there is yet heaps to investigate, and much that will long remain a puzzle. A little weak manure-water acts helpfully on the size and colour of plants which are under development. The stems of the larger leaves should have a stake neatly placed against them.

Gloxinias in 5-in. and 6-in. pots, when well flowered, are far more commendable than great specimen plants in 8-in. pots. As a rule the latter are coarse. They may make large and beautiful plants, but one generally finds the flowers are not what they ought to be either in form or colour. And better none at all than Gloxinias which are "washy." The stages and paths of the house in which they are growing should be kept moistened. The plants must also be kept shaded from sunshine.

The Greenhouse.

One of the finest and most admired plants in the greenhouse at the present time is Schizanthus pinnatus and its varieties. If readers of THE GARDENING WORLD have not a stock of it, it certainly is not for want of recommendation, and hints from various correspondents at many different times. For decorative use as a pot plant or for growing to produce a supply of cut blooms, well, there is nothing finer, and that is an end to it.

ROSES.—In pots or planted out, Roses are apt to become badly mildewed in such shifty weather as we are experiencing. One of the safest and best antidotes to either its establishment or its spr. ad, is to spray the bushes morning and afternoon with warm soapy water. Of course, where plants are in flower the spraying would have to be discontinued. Weak growths must be removed, as they will only tend to weaken others which remain. Try, by free ventilating, by judicious watering and use of the fingers and pruning knife, to grow your Roses "hardily," as they say. Only by care (and do they not deserve it?) can large beautiful Roses be obtained.

AZALEAS and HEATHS which have just gone out of flower and which would be the better for a shift on, may undergo this operation now. Before repotting them, take the precaution to soak the ball. It need not be soaked, but it must be moist. Then for a compost use a mixture of loam, peat, some charcoal and plenty of coarse sand. The peat and loam should be in equal parts, but select turfy loam. Pot very firmly, allowing only a small shift and let the pots be thoroughly well crocked. After the operation place them in a shady part and keep them syringed twice or thrice a day.

FORCED PLANTS, or plants lately forced, should now be plunged out in a shady border and should be kept supplied with water.—*J. H. D.*

HINTS FOR AMATEURS.

A Hardy Fern Dell.—Wherever possible, a hardy Fern dell or dingle should be planned as one of the features of all moderate-sized gardens. Ferns, we all know, can be successfully grown where many or most other things would fail. When once established they grow splendidly beneath the shade and drip of trees, yet shade and drip are not essential factors for their perfect growth. No doubt they are generally found in cool, some glens, but we may also find species on bare and sunsmitten walls.

If no better or more suitable place presents itself to the garden designer, Ferns can be planted as belts to lawns, near shade if possible, and the edges next the paths may be grt with a band of dwarf-kept Ivy, St. John's Wort, or Perlwinkle. Other plants may be used with the Ferns, as for instance the Bluebell in spring and early summer, hardy Cyclamen, Primroses, Solomon's Seal, Hepaticas, Cypripedium spectabile, C. Calceolus, Campanulas, Foxgloves, Lily of the Valley, Saxifraga umbrosa, Colchicum speciosum, Musk, and such other plants as flower before the Ferns become too dense, or those that are able to spread about. The species and varieties of Ferns themselves may comprise such as Nephrodium Filix-mas and its varieties. Of these N. F. m. Ellacombei is a tall, slender-growing, and beautiful one; N. F. m. Bollandae is equally graceful and tall, and there are others. The Aspidiums are a varied and handsome section. Aspidium angulare is the type, a well marked and well known sort; A. a. oxyphyllum is exquisitely lovely, as it unfolds its bright green fronds with their brown rachis and curled edges in early June.

A. a. polydactylum differs from the latter in being more uniform in the shape of its fronds, that is, they do not taper from the bottom upwards so evenly. A. a. tripinnatum elegans is a tall growing Fern whose place should be at the back, or on the higher part of the dell.

It might here be mentioned that when the ground is limited and a collection of Ferns is desired, a dividing wall may be erected, to be, of course, as soon as possible covered and hidden by Ivy. The top of the wall should not be level, but should rise and fall to present a sinuous surface. The base of it should be broadened out, and tall growing shrubs or even trees may be planted to arch over the top of it.

Nephrodium spinulosum dilatatum is a slender species and contrasts well against Asplenium Filix-foemina cruciatum coronatum and A. F. f. nodosum multifidum. These have distinctive characters. The latter is the dwarfest, and is bushy and crested. The A. F. f. cruciatum coronatum has broad, beautifully spread fronds, also slightly crested, and is of a lighter green colour.

A. F. f. cruciatum is a very dwarf Fern, whose place is more correct at the front of a fernery. The rachis or central rib of the fronds bears a few scattered leaflets along its length, and spreads out into a tail-like crested tuft at the apex. This species is still exceedingly pretty. It varies somewhat in habit, and may at times be found quite dense and bushy.

A. F. f. Pritchardii cristatum, A. F. f. nodosum ramulosum, A. F. f. Fieldiae, A. F. f. grandiceps, and A. F. f. furcans are all very fine Ferns, each of them distinct, yet difficult to describe in general terms.

An extremely pretty little Fern is Asplenium niponicum from Japan. It spreads between the stones and boulders of the rockery in densely thick carpets, growing to about 1 ft. in height.

It has dark red stems, and the pinnae along the central rib are themselves pinnatifid and crenate. It is a beautiful species. A. F. f. cristatum magnificum may be chosen because of its size and handsomeness. A. F. f. reflexum cristatum is a capital addition. Aspidium angulare linearis is of the slenderest and prettiest hardy Ferns of which I know. A. a. alato-revolutens grows tall and archingly. In its early stages it is creamy-yellow. A. a. decompositum plumosum is remarkably sweet. Its broad, long, close set, and finely dissected fronds are charmingly beautiful.

For a sturdy and erect growing variety, one at the same time vigorous and pretty, Nephrodium Filix-

mas propinquum cristatum should be taken. N. F. m. crista-galli is rather taller, broader and larger in every way than the foregoing.

The following, which are all exceptionally worthy, must be more fully noticed at a later period:—Osmunda regalis purpurascens, O. cinnamomea Aspidium angulare latifolium, Asplenium F. f. orbiculatum, A. F. f. glomeratum (very prettily crested), A. F. f. regale, A. F. f. tartile, Scolopendrium vulgare, S. v. cochleatum, S. v. velosil, S. v. marginale, S. v. fissocrenatum, S. v. variegatum, Woodsia scopulina, Polypodium vulgare, P. v. semi-lacerum, P. v. omnilacerum truncatum, and many others.

Staking.—At this time when the pressure of work demands attention on all sides, the necessary operation of staking is apt to be left undone until a sharp gale or storm visits us and leaves its mark. The plants in the herbaceous borders are very much in need of stakes here and there. The Pyrethrums are a goodly size, and the Campanulas and Paeonies are large; the latter are indeed flowering, and there are Lilliums, Irises and other things which must at once be seen to. The sites for the Dahlias after being dug out and having manure placed in them, should have a 3 ft. stout stake placed at the back of where the plant will be. Young trees, too, which were planted this spring and which may have been hurriedly staked, should be looked to whenever time permits to drive them home more.

Hoeing.—I do not intend to further explain the uses of hoeing than has so often been done already. It is referred to here only to once again impress its great usefulness. The present season has not been at all plenteous in its amount of rain as yet, so that every possible means should be taken to preserve the moisture which the soil does contain.

Watering.—In warm summer weather it sometimes is necessary to run the hose-pipe and distributor all day long. But young stock, newly planted out bedding plants, &c., should only be watered in the evening or at earliest, late in the afternoon.

Hardy Bamboos.—Wherever new gardens are being planned we find that small Bamboo gardens or at least moderate plantings of them are being made. This has arisen chiefly from the fact that newer and better kinds have been brought into the gardens of this country. They are most graceful shrubby plants, and endow our gardens with a caste of scenery which takes us in imagination away to the tropical lands of the east. Bamboos are striking characteristics of the tropical vegetation of the Indo-Malayan region. Their diversity is great. Among them we have species of tall growth and robustness; others are slender, very fine and comparatively small. As a rule they enjoy a damp half-shaded piece of ground. A very limited piece of ground suffices to contain a nice collection. Plant them in masses or clumps, keeping the various kinds well apart so that their distinctive characters may be fully developed and freely viewed. Or if it is rather preferred, such species as Arundinaria japonica, which is about the hardiest, may be planted high on the back parts of sheltered rockeries or Fern dells. In all instances the sites for the plants should be well prepared. Good fibrous loam may be spared for them. The undermentioned form list of varieties which are perfectly hardy.

Arundinaria Fortunei variegata has long, white-streaked leaves, stems 2 ft. to 3 ft. high, and the habit is bushy. A. japonica is one of the very best. It has long, broad leaves, and very tall strong stems. It succeeds well anywhere, so long as the site is sheltered. It attains a height of 15 ft. A. nitida is exceptionally hardy, and as it grows to 8 ft. or 10 ft. in height, is much branched and bears pretty tapering dark green leaves, it forms a very desirable species.

Arundinaria Simoni is a tall and delightfully graceful Bamboo, much used in some of the London parks in their sub-tropical bedding arrangements. The plant which grows 15 ft. or more high, is hardy and vigorous, and is very beautiful when clothed in its pretty bright green leaves.

Bambusa palmata.—This is also one of the hardiest and most effective species. It is distinguished by the large size of its leaves, which are generally 3 in. or more in width.

Phyllostachys aurea.—To obtain the fullest effect from this beautiful species it should be planted

in bold masses. It is slender and graceful, attaining a height of 15 ft. P. mitis is exceptionally beautiful, and grows taller than almost any of the others. P. violascens is remarkable for the changes of colour which it assumes, being violet tinted in the early part of the year, and changing to yellowish-brown.

P. viridi-glaucescens forms dense spreading bushes. It is the best of the tall-growing kinds, retaining its bright green foliage throughout the winter. Numerous illustrations of Bamboos and Bamboo scenes, have from time to time appeared in THE GARDENING WORLD. The Bamboo garden at Kew was figured on page 681, vol. XIV; Phyllostachys aurea in the same vol. at p. 793. The following were figured last year:—Arundinaria nitida, p. 121; Bambusa palmata, p. 473; Phyllostachys Henonis, p. 57; P. nigra, p. 361; and P. viridi-glaucescens, p. 521.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Hardy Cypripediums.—J. W. Keswick: These beautiful hardy plants succeed well planted out in cool, moist, humic soil in sheltered situations. C. spectabile is most frequently planted and is the prettiest of them all. It does well on the edge of ponds. C. Calceolus, the Lady's Slipper, is also fine; C. acule is quite hardy, and so is C. candidum and C. pubescens. You can obtain a list of half a dozen for, from 5s. to 7s. 6d.

Japanese Maple.—T.: We cannot say what variety of Acer you refer to—there are so many. But having, as you say, three or four differently coloured leaves it probably was a plant grafted with three or four distinct varieties. The Japanese do these funny things.

Fruits for a strong Soil.—W. Thorn: Robust varieties of Apples will succeed, but Plums and Black Currants do best. Both, by the way, are valuable market crops, and Plums yield more per acre, on an average, than do either Apples or Pears.

Azalea balsamiflora.—J. Wrench: The species you enquire after is a beautiful salmon-rose, double flowered subject, and one of the most useful for greenhouse decoration or for yielding buttonhole flowers, of any we could mention. Any nursery firm could supply you. Treatment is the same as for ordinary Indian Azaleas. It flowers, or can be made to flower, at the end of March.

Caltha palustris.—W. Fisher: This British native is better by far than many another early flowering bog plant brought from afar. It grows in noble groups in marshy and muddy ground. You should allow it the same conditions when you transplant it. Take as much of the soil and as many of the roots as possible.

Mulching Roses.—J. Stuart: Yes, a mulch of good dung would be beneficial.

Solanums.—M. Perry: If you are but starting with their culture, secure old plants and prune them hard back. Keep them in a close pit or greenhouse till they start new growth. They may be planted out in a sunny border during the present month. Water them, keep well syringed, and they will grow, flower, and berry successfully. Lift and repot them before the frost can do harm in autumn. Place them then in a greenhouse, and keep them moderately dry.

Phloxes.—Wm. Rintoul: It is not advisable to divide and replant the crowns at so late a period. You may take strong cuttings of the young shoots, however, and strike these in sandy soil. Plant them out-of-doors in their permanent quarters whenever they are strong and fit enough. They should thus produce handsome panicles of bloom next year.

Streptosolen Jamesonii.—Lean-to: This plant strikes readily from cuttings put in sandy soil, and then placed into close cases or frames. When they

are rooted and have developed to a moderate size, the plants may be planted out in a sandy border and trained upward to pillars.

Uprooting Bindweed.—*B. W.*: Just as you yourself have put it, "uprooting" the plants by means of a fork, and persistence in hoeing afterwards (if hoeing is possible), is the only practical way of getting rid of this beautiful but notorious weed. Couch grass and Pest-Harrow are likewise very troublesome.

Vitis discolor.—*W. Ingram*: Take young pieces of growth with a heel attached, and strike them in a propagating case. You see we have given it another name to the one you use, viz., *Cissus discolor*. It is a member of the Vine family. Heat, shade, moisture, freedom to grow, and cleanliness must be accorded it.

Choisya ternata.—*A. L.*: The shrub with Orange-like blossoms which you describe, is *Choisya ternata*, a Mexican subject. The flowers are sweet-scented. The shrub succeeds very well in the southern half of England, when planted against a wall. It was introduced to this country in 1825. In northern parts of the country it does not flower out of doors; greenhouse culture is there recommendable. Any good garden soil will suit it.

Narcissus from seeds.—*Walker*: Certainly *Narcissus* can be raised from seeds. See that the seeds in the capsules are thoroughly ripened before sowing, and sow as soon as ripe.

Plants for shaded Window Box.—*L. F.*: You may buy plants such as *Marguerites* and *Pelargoniums* already in flower, and if these are used they will last a long time fresh and cheerful. *Coreopsis* also do fairly well; so does *Myosotis alpestris*, the Forget-me-Not, *Chlorophytum elatum variegatum*, *Funkia albo-marginata*, China Asters, Daisies, *Doronicum caucasicum*, *Lobelia*, Golden Feather, Musk, *Calceolarias*, and a number of dwarf annuals.

Sowing Poppies.—*Winston*: The seeds should have been sown by this time, but if put in at once they will germinate very speedily. Sowings can be made on land whose surface has been stirred with a rake or hoe. The seed of Iceland and Shirley Poppies may be sown broadcast on ground beneath Apple trees, or on narrow patches of border in various parts of the garden. By sowing the larger Paeony-flowered and Mikado Poppies in the looser parts of the shrubbery and rockery, the effect later in the year is supremely fine. Foxgloves may either be sown or planted in the same kind of places.

GYMNOGRAMME SCHIZOPHYLLA PROLIFICA.

THE ordinary form of *G. schizophylla* bears a solitary plantlet at the apex of the frond, which stops short somewhat abruptly where the adventitious young plant is situated. The variety under notice is characterised by having numerous plantlets or young Ferns scattered along the frond at various points. The species belongs to the genus of Ferns that have their fronds more or less densely covered with a mealy white or grey powder in some, and golden powder in others, and are known as silver and golden Ferns, respectively. *G. schizophylla* differs in being almost or entirely green. The young plantlets on the fronds of the variety under notice (*G. s. prolifica*) restore the powder and show that the species belongs to the silver Ferns. The silvery-white powder first makes its appearance on the tiny bulblet or rudimentary plant, and the anxious cultivator may at first think that he has got an unwelcome visitor in the shape of a mealy bug. Closer observation will dispel this view. As the bulblets develop into plants, the tiny fronds have their stipes more or less covered with this white powder, so that when there are several old fronds on the mother plant, the latter is rendered quite distinctive and pretty by the sprinkling of young plants here and there over the fronds. We noted it in the collection of Ferns grown by Messrs. W. & J. Birkenhead, Sale, near Manchester, and think it a pretty addition to any collection.

RHODODENDRONS.

THE very mention of the name *Rhododendron*, stirs up a well of memories, mental scenes full of charm. For when the Rose Bay blooms, is the sky not blue? Do not the hungry little blackbirds squeak, squeak in the Fern hank near by, while the cushat dove and squirrel dive or gambol in the greenwood dells where the clouds upon clouds of viridescent leaves rustle their frills, and sparkingly glisten at the touch of the golden streams of sunshine? Some may say their beauty is too rudely glorious (there are such), that they are immodest queens, to be met with by restrained admiration.

Ah well, the more resplendent the better, for dull days are rife, bright cheerfulness is scrump.

As a rule, the colours of the flowers are rosy, thus the name of Rose Bay. The generic name is derived from Greek words, *rhodon*, a rose, and *dendron*, a tree. Since selection and hybridisation has been in progress, additional ranges of colours have been secured. There are now *Rhododendrons* almost marble-white, others are creamy, and the red elements range between coagulated-blood-hue, and faintest blush,

where the roots are rather much exposed to the sun, a mulching of some such material as short grass, dung, or fibre, should be given to them. *Rhododendrons* are propagated by seeds, layers, grafting or inarching. The following notes describe good early sorts, the *Azalea* types coming first:—*R. triumphans* has rosy-pink flowers with a bright orange throat; *R. flavum* var. *amoenum* is not at all so pretty or showy, being a washed out pinky-white with rose flushing. *R. sinensis* var. *Comte de Papadolpi* is a gem, a gem of the first water. The flowers are comparatively large, borne in close trusses, and of a cheery orange-crimson colour. Large plants are very handsome. *R. flavum* is well known. It is one of the finest and hardiest species we possess. Its flowers become deep bronzy-yellow.

Almost identical with *R. sinensis* *Comte de Papadolpi* is the variety *Baron Edmund de Rothschild*. The flowers are a trifle smaller, and probably a little brighter, having more of the salmon tint in them. It is one of the very best and brightest varieties now in flower.



GYMNOGRAMME SCHIZOPHYLLA PROLIFICA.

peach or pink. The blue factor is so far represented by those shades described as lilac, violet, and lavender. But, of course, if we step into the hotanist's domain, we will be required to include what previously, as gardeners, we termed *Azaleas* with their indescribable tints. The characters have recently been carefully re-considered, with the result that the so-called distinctive characters were found to be inconstant, merging into one another so repeatedly that the *Azaleas* and *Rhododendrons* are now soldered into one genus.

The hardy *Rhododendrons* form a large part of the composition of pleasure ground scenery, and to all who are about to model or re-arrange garden grounds I still advise further planting of these kings of the May and June flowering shrubs.

The *Azalea* group (for they will always be kept somewhat separate) enjoy a sunny and rather dry site. On the other hand, the hardy *Rhododendrons* care more for a shady, cool-bottomed position, a special site being along the gently sloping sides of a dell or gully. They are partial to a peaty soil, deep and moist. Lime to them is death. In situations

R. sinensis itself is a fine old shrub. *R. flavum* *globosum*, a nearly white variety, is also good and conspicuous when fully developed.

R. aurantiacum frigidum, with small flowers in close clusters and suffused with distinct ochre and some crimson, is a specially fine and fragrant type. *R. rhombicum* is very early, but fragile as early. It is very distinct, being a pretty lavender-mauve. *R. flavum* *macranthum* is a splendid subject with fine-sized orange-yellow flowers.

HARDY RHODODENDRONS PROPER.—*R. Frances Thiselton-Dyer*, deep rosy-pink, and having a darker throat, has larger flowers and trusses than *Kew No. 1*. This latter has close-set, bouquet-like trusses, and the flowers are bright lilac-crimson. *R. Smirnowi*, from the Caucasus, is a pretty, sinuously edged flower, of a deep peach colour in the centre, becoming pale magenta tinted at the edge.

R. Luscombei is fairly well known. The corolla is bell-shaped, smooth and wide open, the tube being very short. The finely waved edge and the clear crimson-pink shade of the flowers makes this one of the most charming of early *Rhododendrons*. *R.*

Kew No. 2 is certainly a good variety, but in point of cheerfulness the palm must be awarded to Kew No. 1. Kew No. 2 is pale mauve, shading to purple. The throat, in its upper part, is speckled with deep purple spots. *R. purpurea splendens* is a noble variety, with great sized trusses of very large flowers. They are deeply coloured, and the stamens are very distinct, giving it additional merit. Violet-red may be accepted as its colour description, with the usual guiding spots on the upper part of the throat.

R. altaclarens resembles *R. Frances Threlton-Dyer*. It is a good variety, and may well be included in a collection. *R. russellianum* is a perfect charmer. The pretty flower trusses are well relieved by the rosette of dark green oval leaves. The colour of the flowers is rosy-crimson. It has a neat habit of growth, and carries itself sturdily.

R. Fortunei, brought from China by the famous collector whose name it bears, is a soft lilac-pink form, with large flowers on loose clusters, and deliciously fragrant. This latter quality should be noted.—*J. Harrison-Dick*.

TULIPS AT LONG DITTON.

THE collections of Tulips which have now been got together by Messrs. Barr & Sons, at their Long Ditton Nurseries, Surrey, are extensive, including all the more important for garden decoration such as the early Tulips, to be succeeded by the later species and sub-species which keep up the display of bloom during the end of April and the month of May. Synchronous with the last of these are the Darwin Tulips and the English Florists' Tulips, which carry the blooming period into the month of June, at least in the midland and northern counties. The Darwin Tulips have evidently come to stay, for are they not superbly beautiful? The Florist proper is now turning his thoughts towards the development of breeder Tulips of vigorous constitution so that anyone will be able to grow them. The Darwin Tulips do not always conform to the canons of the Florist in the matter of arrangements of the colours at the base of the flower, but otherwise they practically correspond to the Breeders of the Florist.

DARWIN TULIPS.

These are mostly self coloured Tulips varying greatly in size, form and colour, and simply consist of a vigorous strain of Tulips raised from *Tulipa gesneriana*, so that they are really closely allied to the English Florist's Tulips. A selection only of the best and most handsome for garden decoration can here be given. *Minister Pootvleit* is a tall and bright rosy-scarlet variety. *Calypso*, on the contrary, is dwarf, glowing scarlet internally and yellow at the base. It is an excellent variety, and so are *Violet Queen*, rich violet purple internally; *May Queen*, rosy-pink, very pleasing and grown in great quantity; and *Dorothy*, a small bloom of a soft lavender-pink, delicate and very pretty. Large flowerers are *Emanuel Sweet's*, soft rose; *White Queen*, creamy-white, shaded faint purple internally; *Louis Mimmerel*, dwarf, rosy-pink and pleasing; *Heckla*, a dark crimson variety grown in quantity; *Bronze King*, bronzy orange; *Joseph Chamberlain*, rich red; and *The Sultan*, a blackish-maroon variety spoken of as the black Tulip, and grown in great quantity. It is certainly very distinct and fine for contrast with the lighter colours. *Early Dawn* is another superb variety with wavy foliage and rosy-pink flowers. The same may be said of *Loveliness*, which has silvery edges to its rosy flowers. *Glow* is a brilliant scarlet; and *Scarlet Beauty*, orange-scarlet with longer flowers. *Queen of Brilliants* is softer than *Glow*, with larger flowers. *Queen of Roses* is soft rose and very pleasing in colour. *Carmine* is rose externally and carmine internally. *Salmon King* makes a very even lot, standing at 18-in. high. *Orange Beauty* is dwarf with buff-orange flowers externally and deep orange internally. The deep violet-purple flowers of *Prince de Schomberg* are large and handsome. *Coquette* is rosy-pink, with silvery edges, dwarf and pretty. *Purple King* is another good standard sort with rich and bright purple flowers. All these selfs when grown in mixture are bizarre and highly attractive. These Darwin Tulips will presently be more extensively grown, for they are of vigorous constitution and easily grown in any garden soil of moderate quality.

COTTAGE TULIPS.

Under this term Messrs. Barr & Sons include all those Tulips which succeed the early ones most

commonly grown for bedding purposes. They are very varied in size, shape and colour, and for bedding purposes are certainly exquisite during the month of May. The origin of most of them is either entirely unknown or very obscure. Many of them have been picked up in old fashioned gardens, where they have been forgotten and lost to the world save to the proud owners of them, till rescued from undeserved oblivion. They are sufficiently handsome to grace the garden of a duke. *Golden Beauty* has black anthers which contrast admirably with the golden segments.

Those who like variegated flowers will find an admirable one in *Bueno Aventura*, which is beautifully striped with golden yellow and scarlet, and of dwarf habit. *La Panachée* is striped in a similar way with red and white. It is largely used in the Paris markets. Better known is *Picotee*, which is pale yellow on first expansion, but becomes white with a rose edge that deepens and widens with age.

Tulipa spathulata is supposed to be the old type of *T. gesneriana*, the flowers being rosy-scarlet with a violet base. *T. macrospeila* is a great favourite here on account of its dwarf habit, and rosy-cerise flowers, with a black blotch at the base of each segment, bounded by a golden line. *T. billetiana* has long, pointed, yellow flowers more or less shaded with red. *Golden Crown* is yellow, shaded with red at the edges. *T. acuminata* is notable for its long and very narrow segments. *T. fulgens* is later than *T. elegans*, and a glorious crimson-red flower, with the tips of the three outer segments recurved. *T. maculata* reminds one of *T. macrospeila*, but has scarlet flowers as well as golden-edged black blotches. *T. viridiflora* is the green Tulip, and *T. viridiflora praecox* differs in being larger and earlier. *T. retroflexa* is one of the most graceful of the late bedding Tulips, having long flowers with three of the segments much recurved. *T. flava* is soft yellow. Several yellow varieties of *T. strangulata*, gathered in the district where the type grows wild, differ from one another in having a black blotch at the base, or in being spotless. One of the most charming of all the species of Tulip is that named *T. saxatilis* which had an Award of Merit from the Royal Horticultural Society some three years ago. The flower is of moderate size, of a bright pink above the middle and golden yellow at the base, the outer and inner face being of the same two colours precisely.

Faerie Queen is so named because it was found near the place where Spencer wrote his "*Faerie Queen*." The flowers are rosy-mauve, edged with gold, a very peculiar and pleasing combination. A very peculiar combination is presented by *Cameleon*, which is soft purple, shaded with yellow internally, and having broad black edges. *Gala Beauty* is striped with crimson and yellow. A clear pure yellow is that named *Annie*. The palm for the best late yellow Cottage Tulip is given to *Mrs. Moon*, which is notable for the great length of its rich yellow flowers, and handsome appearance. *Rose Queen* is a dwarf and rich rose variety. *Bridesmaid* is rose with a creamy-white centre.

The Parrot Tulips are a class by themselves, and most remarkable they are with their great ragged flowers of yellow and green, crimson and bronze and green, orange and green and olive. They flower very freely at Long Ditton, and make very striking and handsome beds.

ENGLISH FLORISTS' TULIPS.

BIZARRES.—This section is distinguished by the base of the flower being yellow. The flowers of this type are again classified into Breeders and rectified Tulips, the former being selfs, and the latter feathered or flamed and feathered as the case may be. The Breeder form of *Masterpiece* is bronzy-orange; it sometimes breaks into a very fine feathered form. The Breeder stage of *Richard Yates* is mahogany crimson, and the rectified form is feathered and flamed with crimson. The Breeder stage of *Samuel Barlow* is also mahogany-crimson, and the rectified form is flamed with deep crimson. *Sir Joseph Paxton* in the Breeder form is dark plum, but when rectified it is flamed and edged with deep, shining chocolate. It is a magnificent Tulip. The Breeder stage of *Sulphur* is buff-orange, but it enjoys considerable popularity because it is sweetly scented. *William Lea* in the Breeder stage is of a rich maroon plum colour. Another of the princes of this race is *Dr. Hardy*, the Breeder stage of which is a rich

scarlet, while the rectified form is flamed with rich scarlet on golden segments that are of great substance. Another charming Tulip of dwarf habit is *Colbert*, which has a rich chocolate beam on a rich yellow ground. *James Wilde*, in the Breeder stage is dull mahogany brown, but when rectified is flamed and feathered with chocolate on bright yellow. *Gold-finder* is bright scarlet in the first stage but not of much value when rectified. *Lord Stanley* is feathered and flamed with maroon-crimson on gold.

ROSES.—The characteristics of this section are a white base and a ground colour of rose, pink or scarlet. *Aglaia* in the rectified form is a large flower flamed with crimson and rose. The Breeder stage of *Mabel* is one of the best of the section on account of its snowy white base. When rectified it is flamed and feathered with scarlet and rose on a white ground. The rectified *Anastasia* is feathered with crimson-lake. The Breeder stage of *Industry* is deep rose, but is never good in the rectified form. The Breeder of *Kate Connor* is soft rose, and the rectified form feathered with a fine scarlet. *Lady Constance Grosvenor* is of a soft rose, but is a taller grower than *Kate Connor* with greener foliage. *Annie MacGregor* is of a rich scarlet in the Breeder stage and one of the most handsome of Tulips.

BYBLOEMENS.—Here again the base or ground colour is white, while the overlying colour may be either purple, violet, lilac or other hue in that category. *Adonis* is a finely shaped and square flower with short blunt petals, flamed and feathered with chocolate on white. In the Breeder stage *Miss Foster* is of a dark heliotrope shade with a solid white base. *Mrs. Jackson* is flamed and feathered with purple-black. *Music* is another large and well-shaped flower of a rich plum purple colour in the Breeder stage. *Talisman* is also rich plum in the Breeder stage with beautifully rounded petals; but when rectified it becomes flamed and feathered with a rich, glossy, chocolate-purple on white. All of the above varieties of English Florists' Tulips are highly refined and amongst the best of their kind in the whole race.

THE ESSENCE OF THE SHOW.

IN most minds there is but one show in their thoughts at present, that of the Royal Horticultural Society, yearly held in the Temple Gardens. Thus it is that we can head our notes and use the definite article with precise effect. Enough has already been written conveying the fact that this year's show in point of quality of the exhibits and their number is equal to, or better than, the best of past years. That is saying much. And with such a noble display what a pity that we could not have had fair and sunny weather. Yet though the first day and a good part of the second one were constantly showery no one seemed to be in a grumpy mood, in fact, the very opposite. Whether we can attribute the amiability to the beauties of the tons of flowering and foliage plants, to the fact of friend meeting friend, to the quality of the visitors attending, or to the greater fact that the rain meant pounds into the pockets of the very persons whose efforts had made the show,—cannot very well be found out. In the tents far more space was needed to allow of dignified or unhindered advance. But with the present condition of things more space for pedestrianism could not be given. It also serves to show how large the Horticultural Hall would have to be, if such an institution ever comes to be sanctioned. We can hardly imagine that princes, and queens, dukes and duchesses, lords and ladies care to be squeezed and carried along in a crowd. The Royal Horticultural Society is of very high standing now, and due provision must be made to uphold its dignity and position.

Now for a ramble through the tents, and to touch here and there something of especial interest. In the largest of the tents *Sir Charles Pigott's* group, arranged by his gardener, *Mr. Fleming*, was one from which a lesson or two could be taken by those who may have the desire to exhibit in a similar capacity elsewhere. The first point was, that everything was beneath the eye. The second item was the plan of arrangement. The group was composed of mounds or banks, larger ones and minor ones. By mounds we mean that a central plant, such as a tall *Cocos* is set up, and around the base of it such

other plants as *Ericas*, *Boronias* or *Begonias* are placed, and perhaps in touch with the stem, and above the pot plants, sprays of *Gypsophila elegans* or something like it. On one occasion we remember Mr. Fleming to have used long flowering shoots of *Euphorbia jacquiniæflora*, making them arch over from the axils of the lower leaves of tall *Cocos plumosa*. Fresh Maldenhair Ferns in five inch pots were very freely used, and look where you would not a single opening could be found. The finish was perfect. Only the brightest, freshest, and most graceful decorative plants are ever employed. At the same time this Temple group of Mr. Fleming's seemed to be just a little too compact.

Next to it was Laing's beautiful tuberous *Begonias*. Very noticeable in the centre of the group was the single yellow crested variety named *Cristata*. It is useless to speak of the possibilities contained in these crested *Begonias*, of which several specialists have forms. Not a great deal of interest seems to be excited by them; still, a finely crested, loosely built *Begonia* bloom, so long as it was strong would be useful for floral decorations.

The tyro's methods of describing plants unknown to them are the source of much amusement to those unto whom plants are as part of themselves. It was rather surprising to hear a young gentleman ask of a friend "What are those things with the leaves like *Ruharh*?"—pointing to beautiful *Caladiums*! But this was equalled by another amateur gardener who saw Mr. Jones' splendid bright blood-red crimson Carnation bearing his own name. Wishing to impress her friend with her knowledge of plant crossing she ventured the suggestion—"It is quite distinct; I should take it to be a cross between a *Rose* and a *Camellia*!"

The Messrs. Rivers' fruit trees in pots won the general admiration of visitors. In one cluster, we counted fifteen large Cherries borne at the apex of a last year's shoot. This was on a hush tree of that best and earliest of black Cherries, *Guigne Annonay*. All over the hushes (which were models of cleanliness, good culture and training), there were many other clusters. Knight's Black (not here shown) is also a splendid early Cherry. *Belle d'Orleans* is a sturdy growing variety, with broad dark foliage. Governor Wood, an early red variety, judging by a remark made by an expert, is one of the best selling varieties in cultivation, as the expert just mentioned, had planted sixty thousand young trees in his nursery.

Stepping along to Jackman's *Clematis*, one species more than any other, attracted the visitor's attention—that was *Clematis coccinea*. It is a free flowering plant, and when trained as a bush, or balloon fashion and studded with its somewhat hottle or vase shaped flowers, with orange-scarlet base and creamy yellow tips, it is charming. There were of course many other lovely varieties; and if another might be mentioned it would be *Fairy Queen*.

Both in Messrs. Ware's and Messrs. Cannell & Son's group, the names of military heroes, conspicuous in the present war, were also prominently dotted about as the names of certain new varieties of flowers. Lord Roberts came in for a full share of distinction. The *Begonia* of that name which received an Award of Merit, and which we describe under "Plants Certificated," bears an extraordinarily fine bloom. G. W. Valentine is another of their new ones. Baden-Powell and Mrs. Baden-Powell as seen on Messrs. Cannell's stand have much promise. Their *Cannas*, however, were the *forte*, and in a passing remark one of their representatives enthusiastically said: "Sell? why, selling in tons!" This is sufficient to prove how very fine "Cannell's *Cannas*" are.

The Messrs. Barr & Sons, of King Street, Covent Garden, had even a greater selection of alpine plants, and cut herbaceous and bulbous flowers (including *Narcissi* and *Tulips* in wonderful diversity) than ever they had before. The dwarf Japanese trees, recently imported from those eastern islands, were quite a revelation to many. Messrs. Cheal's wonderful topiary models, with the "Cock-a-doodle-does" which pleased the children, the puppies begging for a biscuit, and the ship in sail, were very amusing. But space necessitates a stoppage. We had thought to give lists of really fine varieties of Spanish *Iris*s, *Tulips*, *Azaleas*, and other things. These however must be held over.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

THE following Orchids were in flower at Kew, on the 1st of June:—*Bletia hyacinthina*, *Stenoglottis longifolia*, *Pleurothallis gelida*, *P. semipellucida*, *Bifrenaria Charlesworthii*, *Cymbidium lowianum*, *Odontoglossum crispum*, *O. Rossii majus*, *O. triumphans*, *O. maculatum*, *O. Coradinel*, *O. cordatum*, *Masdevallia coccinea caerulea*, *M. harryana lilicina*, *M. c. Lindeni*, *Oncidium concolor*, *Miltonia vexillaria*, *Maxillaria praestans*, *Physisophon Moorei*, *Cynorchis compacta*, *Dendrobium jamesianum*, *Masdevallia triaristella*, *Angraecum scottianum*, *Cypripedium carnosianum*, *C. harhatum*, *C. b. giganteum*, *C. Curtisii*, *C. Victoriae Mariae*, *C. nigrum*, *C. niveum*, *C. mastersianum*, *Selenepedium grande*, *S. caricinum*, *S. calurum*, *S. dominianum*, *S. Roezlii*, *Coryanthes macrantha*, *Vanda sauvis*, *V. tricolor*, *Microstylis congesta*, *Phalaenopsis sanderiana*, *Dendrobium Phalaenopsis*, *D. Parishii*, *D. devonianum*, *D. jerdonianum*, *Oncidium luridum*, *O. flexuosum*, *O. phymatochilum*, *Sobralia Lowii*, *Ansellia humilis*, *Phaius Bensonae*, *P. Veitchianus*, *Epidendrum subpurum*, *Laelia cattleya highburienensis*, *L. c. Hippolyta*, *Cattleya labiata Mossiae*, *C. l. autumnalis*, *C. l. Mendelii*, *Epidendrum elegantulum*, *Laelia cinnabarina*, *Odontoglossum cichrosium*, *Cymbidium lowianum*, *Sobralia macrantha*, *Cattleya citrina*, *Brassia verrucosa*, *Maxillaria tenuifolia*, and *Calanthe Dominii*.

GEOLOGICAL FEATURES OF BAVARIA.

"CERTAIN cities, such as Munich and Nuremberg, certain highland resorts in the south, commonly associated in the tourist mind with Tyrol—these are all that the name Bavaria conveys to us in ordinary conversation. Lovers of the arts may add Bayreuth, far away in the north, planted against the granite knot of the Fichtelgebirge; while travellers to Vienna may remember something of the Danube plain, and of the banks of Willows between Regensburg and Vilshofen. Bavaria, however, with its plateaux and its devious by-ways, offers a variety of geological features, and is rich in scenic contrasts. . . . Nothing could differ more in character than the two roads from Nuremberg to Kelheim, down the slope of the same geological formation. They divide at Neumarkt, and the one takes to the valley of the Sulza, joining the finer Altmühl river at Beilngries. Such towns as Berching, and other scenes unknown to Bædeker, conspire to give this route an air of high romance. The other road runs across the plateau, bare and uniform, until it drops into the ravine in which even the Danube runs at Kelheim." Thus writes Prof. Cole in the June number of *Knowledge*. "The structure of the great part of Bavaria has led to the formation of walled towns at every market-centre. In many cases, these are merely clusters of houses, intimately connected with the farmlands that lie beyond their gates. However, in a population brought together for mutual protection, division of labour soon arises, and the lower floors of many houses become turned into the shops of specialists. Other ground floors to this day, even in Rothenburg, are used as stabling for the cattle; and at morning the cows are driven out through big barn doors from beneath the houses of the burghers, and are brought in again at evening within the protection of the walls. The whole history of this open country is typified in the story of its towns. The collective voice of what was once a settlement of agriculturists became in due course represented in the Rathhaus, where civic custom soon held sway; the craftsman, at first a necessary adjunct, became the critical purchaser and controller of the products of the farms; the great-grandsons of the men who dug the moat and built the ramparts learnt to carve the most exquisite panels on their house-fronts, and turned their proud and self-centred city into a sort of Gothic Florence. From the farrier and the maker of rude weapons sprang the men whose art in metal-work was destined for the table of an Emperor. Yet still, at every turn, the inflocking peasantry, the slow ox-waggon, the shop-windows full of scythes or apple-baskets, proclaim the absolute dependence of the city on the open plateau round it."

VISITS TO NURSERIES.

MESSRS. LITTLE AND BALLANTYNE, CARLISLE.

THE historical town of Carlisle, in Cumberland, has been long known to horticulturalists and others, through the name of Messrs. Little & Ballantyne.

The firm first and foremost specialises trees and shrubs. They have the honourable distinction of being nurserymen and wood-foresters to Her Majesty's Government. Their trade at the same time includes farm and garden seeds, and implements, with fruit-trees, herbaceous plants, and decorative flowering and foliage plants.

Landscape gardening contracts, and contract planting comes within their domain. It is no wonder, then, that a firm with these connections, and with such a period of past history—a period of 88 years,—should have their fame tinkling in every corner of the Kingdom.

The business offices and warehouses are conveniently situated close to the busy station at Carlisle, while the nurseries are placed at a distance of about one mile and a quarter from the south-east side of the station. The situation of the nursery is well exposed, and from the sturdy growth of the trees and shrubs, the soil seems admirably adapted for their growth. A system of frequent transplanting is instituted so that stock from this Carlisle firm is noted for its safe planting qualities, largely due to the abundance of fibrous roots. It will serve to give an idea of the quantity of young trees and shrubs of all sorts that are planted, when it is stated that of Larch alone, no less than 7,000,000 plants are in the nursery. The Knowefield Nursery, at Carlisle, is very extensive.

The avenue leading to the nursery from the public highway, is a sample for all planters to go by. It is so very varied, yet withal complete,—not patchy, and so perfectly pleasing to our sense of the beautiful, that at first it charms one. If this is what the firm can do merely with the idea of showing their stock to advantage, (for the planting, while beautiful, is on the nursery principle of having groups of one species here, and of another there) what can they do when effect and that alone, is their object? But as most of the subjects composing the belts of the avenue will be separately noticed as we go along, nothing further need be specified in this connection.

Having sought out Mr. Arthur, who is manager in these nurseries, under his able direction we recently made an inspection of this large nursery. Acres upon acres are filled with Larch in various sizes, all of which have been raised by the "Little & Ballantyne" firm ("Little & Ballantyne" is the telegraphic address of the firm). The Japanese variety (*Larix leptolepis*) is also extensively grown and finds considerable favour with the firm, on account of its superior hardiness, quicker growth, and finer beauty. The seeds of the Larch are sown in long beds, from which the seedlings in due course are transplanted. From the highest point in the nursery the far-away caps of the Skiddaw and Scawfell Mountain tops are plainly visible.

Breadths of Ash trees, Planes, Walnuts, and Pines stretch in goodly columns outward on many sides. We had also the pleasure of seeing how thousands, or rather millions, of *Rhododendrons* are raised from seeds. Beds with raised turf walls (than which material there is nothing better) run parallel to each other a yard apart, and in these beds the seeds are sown. Loose Spruce branches are placed over the top of the beds during the severest part of the winter, to yield a slight protection to the little seedlings. All the finest named hybrids are here, and, of course, extensive lots of the commoner varieties for more liberal planting. Hybrid Perpetual Roses in the best named varieties are grown to afford the purchasers a wide range of selection. They are all of stout and healthy growth fit for any position in gardens of all aspects.

The "Golden King" Holly, a new variety raised by this firm, is an exceedingly handsome subject. It possesses the bright yellow colouring which makes *Golden Queen* so popular, and as it originated as a sport from the vigorous and hardy *Hodgensii*, its constitutional qualities are superior to the pretty "Queen." It has received six First-class Certificates both at home and on the Continent, and as a valuable addition to this class of decorative subjects it is only a question of time when it will be exten-

sively used for all kinds of ornamental planting. The species of Box trees (*Buxus*) are represented in variety. Birch trees, which do form, and ought further to form part in the composition of all landscapes or ornamental grounds, vie with the various kinds of Beech, the copper, the purple, the Fern-leaved, and the common Beech for the greater popularity.

The selection of Conifers consists most largely of the useful timber sorts. The Douglas Firs are grown in immense quantities, and so are the varieties of *Abies excelsa*, as, for instance, *A. e. aurea*, *A. e. pygmaea* (which is so suitable for rockeries or for covert), *A. e. Remontii*, *A. e. clauseniana*, and others. The beautiful *Abies Menziesii* which forms such handsome lawn specimens can be had from seedlings, two years old, up to plants a few feet high, in large quantities. Equally good for the pleasure ground is *A. smithiana*, *A. parryana glauca*, *A. nigra* (the Black Spruce), and *A. Whitmanii orientalis*, *Abies albertiana*, *A. Hookeri*, *A. pungens glauca*, and *A. concolor violacea* are species in the front rank of merit as ornamental evergreens.

Picea is the name here given to the Silver Firs, and if we may place a list of suitable and commendable kinds before the readers, the following may be accepted:—*Picea grandis*, a graceful and fine growing tree; *P. cephalonica* is handsome, dignified and large; *P. Fraserii* is well known and extremely pretty; *P. nobilis* and *P. magnifica* are both telling trees when planted adjacently; *Picea nordmanniana*, *P. Veitchii* and *P. brachyphylla* may also be included.

Junipers have a charm all their own. They seem to speak of the freedom of wild mountains, of solitude and ruggedness. Not that they are ungainly themselves or unduly robust, but there they are, pillar-like, close set, and quiet. Yet *Juniperus viridis pendula* rather does away with the idea of their being "pillar-like," for this subject is fairly open and graceful.

Then there is the Pine tribe, with varieties both for forest and garden.

In all cases where noble specimens are desired freedom must be given to them, both to allow for development and the proper exhibiting of their contour and habit. *Cryptomerias* for either the shrubbery or as lawn specimens should be included in the make-up of all gardens. *C. japonica* is the best for specimen planting, and *C. elegans* and *spiralis* are useful and pretty when mixed with other dwarf Conifers.

What our gardens and lands would be without the varied charms of the *Cupressus* group is hard to imagine.

But as no one has any idea of doing without them it does not matter. The list of them is long, and might be uninteresting to those not acquainted with this class of subjects. *C. lawsoniana stricta*, however, must be favoured with a notice. It is an erect growing, bright and cheery Conifer. *C. Waitzii* and *C. lawsoniana lutea* are both very beautiful evergreens, and as hardy as beautiful.

The flowering trees and shrubs are in no less array than the evergreens. *Rhododendrons* have already been referred to. The selection of them is quite complete. And if any special shrub is desired, be it a *Spiraea*, *Syringa*, *Viburnum*, *Pittosporum*, *Wiegela*, *Prunus*, or aught else, it is pretty certain to be found in the nursery under note. Those who can visit such a nursery as Messrs. Little & Ballantyne's should try to do so at a time when the flowering subjects are in bloom. The true character, habit, and beauty of each will then be seen and judged of in a manner compared with which the reading of descriptions seems useless. Besides the many acres of trees, shrubs, and herbaceous plants, all sorts of popular greenhouse plants are cultivated under glass. Great care is taken in all departments to have everything fit and ready for transition at any time.

GARDENING MISCELLANY.

SMILAX.

TREATED like Carnations, may be grown outdoors in summer successfully, says an American journal. It advises that young stock from 2-in. pots should be planted in a border about May 15th, to be taken

up about September 1st. In this connection it may be remarked that *Smilax* thus grown outdoors will stand from 5° to 10° of frost without injury.

RANUNCULUS AMPLEXICAULIS.

AMONG all the members of the genus *Ranunculus*, few of them have white flowers. Most of them have yellow blossoms, but *R. amplexicaulis* has flowers which are pure white, and leaves of a glaucous tint. It flowers freely, and is a well-liked subject for the rockery, a sheltered position in deep porous soil should be selected for it.

SELECTION OF JAPANESE MAPLES.

THE following embrace distinct variations individually, and for anyone wishing a small selection the list may well be taken as it stands. *Acer reticulatum*, *A. marginata*, *A. atropurpureum*, *A. atropurpureum dissectum variegatum*, *A. pictum album*, *A. palmatifidum*, *A. sanguineum*, and *A. Negundo variegatum*.

PLANTS FOR A SUNLESS CORNER.

NOTHING portrays what grace is, so well as does Solomon's Seal. It is one of the very finest plants we have for the early summer garden, and for a sunless corner, associated with Ferns, Creeping Jenny, *Saxifraga umbrosa*, Bluebells, and other things it is par excellence the finest early flowering plant which can be used.

CHOISYA TERNATA.

THIS is now widely distributed and may be found in all sorts of positions both indoor and out; that is, in the southern counties, where it makes most rapid growth when planted out in sheltered situations, but frequently gets slightly damaged by frost. Owing to the luxuriant growth it makes when planted outside, it seldom flowers with the same freedom it will under other treatment. I saw in a drawing room recently a large plant which during the winter had been kept in a cold orchard house exposed to all the fresh air it could be; this was most profusely flowered and really marvellously beautiful. I know of nothing unless, possibly, a well-flowered *Eriostemon* with which to compare it. It has in many cases been planted outside because of its failing to flower with sufficient freedom under glass. This need not be done, for if plunged out in the open during the summer and the roots confined to the pots, so that a short sturdy growth is secured and well ripened, it will flower most profusely.—W.B.G.

CHIONODOXA LUCILIAE ALBA.

LOVELY as the normal type of this, one of the most beautiful of all hardy flowering bulbs, is, it is far eclipsed by the white variety. If *Glory of the Snow* is a fitting name for *C. Lucillae* what can be said of this one which far exceeds it in glory? See Naples and die! Well, a lover of flowers might fittingly say "see *this* and die," for there are few I take it who, seeing a good batch of it for the first time, would not fall into an ecstatic mood over it. It is truly a glory of the snow, whiter than very much of the snow we get a sight of near London, and unquestionably the most beautiful of all white early flowering bulbous plants.—W.B.G.

WILD GARDENING AT KEW.

IN one or two of the bordering belts of grass-land and shrubbery which fringe the outskirts of the kept grounds in the Royal Gardens, Kew, there has been planted quite a collection of bulbous and hardy plants. At the present time amid the long grass, most of which is also flowering, there may be noted red, yellow, and white Tulips, thousands of Blue-bells, Buttercups, Daisies, *Saxifragas*, *Brodiaeas*, *Poet's Narcissi*, banks of the pinky-red *Lychnis*, *Camassias*, with large and picturesque-leaved oriental *Poppies* with their hairy flower heads. All these plants (and they seem in far greater variety growing in the grass) are mixed in delightful confusion, dribbles of white here, fading into a scattering of bright yellow there, and blue and red all over; furnishing a scene ever changing, ever new—one which we never tire of which appears always fresh and beautiful.

A HANDSOME SHRUB BED.

IT sometimes happens that we wish to plant a triangular or other shaped corner bed at the place where paths diverge. It may be that only moderately dwarf plants are desired for the purpose. I can imagine nothing finer than the following three shrubs

in combination, and which I recently saw in just such a position as above described. It consisted of *Osmanthus ilicifolius*, which is very dark, bushy, and "crisp-like"; *Taxus baccata fastigata variegata*, and an edging line of *Eunonymus radicans variegata*. These have to be kept distinct and clear from each other by clipping, though they need very little of this, their habit being upright and bushy. The Yew and the *Osmanthus* should be planted alternately. A bed of good bushes is first-rate in appearance. *Liliums* for summer flowering must be placed throughout the bed.—J.

KALMIA GLAUCA.

SHRUBS like the above named, which are bushy, free flowering, and brightly coloured as well as being otherwise interesting, are valuable, and might be made use of more freely. The present is the best time to see this shrubby North American member at its best. The habit is compact, with dark green, short, elliptical leaves, and it bears crowds of flowers of a peculiar pink colour. The shape of the flowers and the manner by which the stamens are held down to the inner edges of the corolla, is very curious. If a wide bed be planted with *Kalmias*, *Liliums* or *Foxgloves* may be placed between the bushes all over the bed. These will succeed and continue the flower display after the *Kalmias* are over. A peaty soil, as deep as can be got, should be selected or accorded to them.

A FINE BOX BED.

ON the north side of the Palm house in the Royal Gardens, Kew, there are two very finely planted beds of *Buxus*. They are beds I always admire, and they must be classed as strictly formal. They are circular, about 39 ft. in diameter, raised in the centre, and contain four kinds of Box. The centre is covered with the beautiful *Buxus sempervirens pendula variegata*, a bright and gracefully growing variety. Then come three formal edging rows. The innermost of these is devoted to *B. s. marginata*, trimmed as conical bushes. The middle row is of the common Box, also clipped into nice even bushes of nearly 2 ft. in height and about 2 ft. apart. And outermost of all is *B. s. aurea*, nearly 1 ft. high, and as broad, or broader than it is high, and coloured a bright yellow. The evenness and exactitude of the beds, laid out as they are on grass and surrounded with other formal beds and trees, are exceedingly pleasing.—J.

SOCIETIES.

MANCHESTER SHOW.—June 2nd to 7th.

THE annual Whit-week festival was opened in charming weather, and with a display for extent and varied character that fully sustains the traditions of the Royal Botanical and Horticultural Society of Manchester. Possibly the chief point of interest was the Orchid exhibits, but those visitors who will not be tempted by this section of the floral world found sufficient of interest in the many other forms that Mr. P. Weathers had secured for his Gala. Florist, border flowers, and shrubs were in quantity, and what is more to be desired, of high excellence, whilst the *Gloxinias*, *Caladiums*, and many other plants produced an exhibition of great interest and extent.

ORCHIDS.—Five classes were devoted to these, and in addition several large groups were arranged not for competition. For the best collection for amateurs, E. Ashworth, Esq. (gardener, Mr. Holbrook), Wilmslow, staged the premier lot, including *Cattleyas*, *Laelias*, *Odontoglossums*, and *Cypripediums* of fine varieties. Thomas Statter, Esq., Whitefield, was second. In the nurserymen's class Mr. J. Cypher, Cheltenham, had a superb lot arranged in the form of a double crescent well raised at the back. Ferns and *Caladiums* were interspersed, which threw out the charms of the many varieties of flowers that were utilised. Mr. John Robson, Altrincham, and Messrs. J. Heath & Sons, Cheltenham, were the remaining prize takers.

For the collection of *Cattleyas* and *Laelias*, open, Mr. J. Cypher again took the lead with plants of considerable size and fine quality. Messrs. J. Heath & Sons came second. For ten specimens Mr. J. Cypher still held his own with *Laelia purpurata*, L. p. *Queen Victoria*, *Miltonia vexillarium*, *Cattleya Mendelii*, C. *Skinneri*, &c.

FLOWERING AND FOLIAGE PLANTS.—For ten stove and greenhouse plants in bloom, Mr. Cypher staged a grand lot of medium-sized plants, including *Hedera tulipifera*, *Bougainvillea cypherii*, *Anthurium scherzerianum*, *A. s. Wardii*, *Pimelia Hendersonii*, *Azaleas* in variety, *Erica ventricosa magnifica*, *E. affinis*, and *E. Cavendishii*. These were staged at the back of the Orchids, and made an imposing bank.

For a miscellaneous group arranged for effect, not exceeding 200 sq. ft., Mrs. Pease (gardener, Mr. McIntyre), Darlington, set up a good arrangement, with cork and moss freely used, on which were raised Palms, Crotons, and flowering plants. The Earl of Ellesmere (gardener, Mr. Upjohn), Worsley Hall, was second.

For the local group of 100 sq. ft., G. B. Blair, Esq. (gardener, Mr. Patterson), Whalley Grange, was first.

For the nurserymen's class of 250 sq. ft., Messrs R. P. Ker & Sons, Liverpool, were first with an exquisite arrangement of choice, well grown plants, including Crotons, Lilies, *Amaryllis*, Palms, and Ferns.

For six foliage plants, Mrs. Pease was to the fore, with Palms and Crotons chiefly.

For a collection of Roses and Ferns, James Brown, Esq., staged a capital lot with good flowers and clean foliage.

For six exotic Ferns (open), Mrs. Pease won with good plants, having very large *Adiantum Mariessii*.

Eight plants suitable for dinner table, F. W. Travers, Esq., Altrincham, was first; Mrs. Pease, second. For twelve *Cinerarias*, Baron L. von Kroop, and for twelve *Calceolarias*, James Brown, Esq. For twelve *Gloxinias*, Thos. Harker, Esq., these in each case being first.

For a collection of not less than thirty hardy herbaceous or alpine plants, Jas. Lamb, Esq., Bowden, was first with interesting plants, Edward Donner, Esq., Fallowfield, second. For not less than twelve plants, W. D. Thorley, Esq., was first.

Six hardy Ferns, Messrs. J. Lamb and T. Harker were first and second respectively. With six *Adiantums*, Baron L. von Kroop (gardener, Mr. Hodder), was first with good plants, G. B. Blair, Esq., second.

Twelve pots Pansies or Violas were shown by T. Harker, Esq., who was first.

Mrs. Pease won in each class for flowering and foliage stove plants. For a greenhouse foliage plant, G. B. Blair, Esq., was first, while for a greenhouse flowering plant, R. Luke, Esq., Bowden, was the winner. For a single Fern, G. B. Blair, Esq., led the way.

For a collection of *Caladlums*, Messrs. J. Peed & Sons, West Norwood, S.E., secured the society's Gold Medal for an imposing and beautiful collection, with *Adiantums*, which furnished a beautiful ground work. For a hand bouquet, Mr. J. Wilson, Didsbury, was first; Mr. John Kirk, Heaton Chapel, winning for the bridal bouquet.

MISCELLANEOUS EXHIBITS.

These as usual were of an extensive range and formed an agreeable change and interest to the classes noted in the schedule. Orchids were again the most important feature.

Messrs. J. Cowan & Co., Gateacre, staged a very fine collection for which they were awarded the Society's Gold Medal. This collection contained many rare varieties of *Laelias*, *Cattleyas*, *Coelogynes*, &c.

Messrs. Charlesworth, Heaton, Bradford, had as usual a group of much excellence and value, as is noted by the number of certificates awarded for new kinds. This collection was worthy of the high honour—a Gold Medal—that it gained.

Messrs. Stanley, Ashton & Co., Southgate, London, also contributed a small but interesting group of Orchids, for which they gained a Gold Medal.

Messrs W. Cutbush & Sons, Highbgate, London, N., were the recipients of a Gold Medal for a very fine assortment of Carnations and Heaths, backed up with Crimson Rambler Roses and Palms. This firm also sent a collection of their famous trained shrubs.

Messrs. Kelway & Sons, Langport, were also placed amongst the Gold Medalists with a charming collection of cut Paeonies and Pyrethrums, charming for their purity of colour and for the immense size and beauty of form.

The Whit-week show would be shorn of one of its

important features if the name of Messrs. Jno. Waterer & Sons, Bagshot, Surrey, was missing. This exhibit was stronger than usual, the lower portion of the avenue being utilized for their exhibit, which included hundreds of plants in great variety. This exhibit secures its annual acknowledgment of a Gold Medal.

Messrs. Sutton & Sons, Reading, are always welcome visitors, for the reason that each year finds some fresh and imposing exhibit. This season *Gloxinias* are the important feature with a basket of their new *Nemesia* in variety. This collection also received the highest award.

Mrs. Hodgkins as usual, contributed a beautiful selection of her botanical subjects.

Messrs. Hugh Low & Co., Enfield, had a small but interesting collection of Orchids.

Certificates were granted to many new introductions.

Messrs. J. Cowan & Co. received for *Cattleya Mossiae Beauty of Ladysmith* an Award of Merit, and for *Coelogyne pandurata* and *Cypripedium lawrenceanum hyeanum*, First-class Certificates of Merit, and for *Cattleya Mossiae* a Cultural Certificate.

Messrs. Charlesworth for *Cattleya Mossiae magnifica* and *C. Mendelii Pschye*, Awards of Merit; *Odontoglossum crispum Imperator*, O. c. *Lady Primrose*, *Cypripedium Chapmanii* var. *Heatonense*, *C. Vepanii*, First-class Certificates of Merit.

Mr. John Robson for *Cattleya Mossiae fimbriata*, Award of Merit; *C. M. var. Lord Roberts*, F.C.C.; *C. Mendelii Imperatrice*, Cultural Certificate.

Mr. J. Cypher, of Cheltenham, for *Laelia purpurata Queen Victoria* and *Cattleya Mossiae* distinction, Awards of Merit.

Mr. E. Ashworth for *Cattleya Skinneri*, *Cypripedium rothschildianum Harefield* var., Award of Merit; *Odontoglossum crispum* var. *Arthur Ashworth*, O. *Andrianae* var. *Ernest Ashworth*, F.C.C.'s.

Messrs. Stanley, Ashton & Co. for *Odontoglossum crispum Ada*, Award of Merit.

Messrs. Hugh Low & Co., *Odontoglossum anderssonianum albiflorum*, Award of Merit.

Messrs. Heath & Son, *Carnation Mrs. Brooman White*, F.C.C.

Messrs. Sutton & Son's *Gloxinia, Empress* strain, Award of Merit.

Mr. P. Weathers, the able curator, is to be congratulated upon the extensive and beautiful display of plants and cut flowers, with a large addition of horticultural appliances arranged outside on the lawn, and for the admirable manner in which the whole of the necessary arrangements were carried out, and although mentioned last, certainly not least, for the enjoyable re-union of all concerned in such a successful enterprise.

ROYAL HORTICULTURAL.—June 5th.

THE meeting on Tuesday, June 5th, in the Drill Hall, Westminster, S.W., was small, but the stuff shown was of excellent quality all round. Only two exhibits of Orchids were put up, but hardy cut flower groups and an exceedingly fine exhibit of Peas, Cucumbers, Potatoes, and Tomatoes from Messrs. Sutton & Sons combined to fill most of the hall with beautiful and interesting groups. The attendance was sparse.

Sir F. Wigan, Bart. (gardener, Mr. Young), Clare Lawn, East Sheen, showed a mixed collection of Orchids, comprising a fine *Aerides Fieldingii*, *Cattleya Mendelii*, *Laelia tenebrosa*, *C. Mendelii Nellie Wigan*, &c., *Dendrobium Farmerii albens*, *Laella digbyana*, *Cattleya Mossiae*, and *Miltonia vexillaria*. (Silver Flora Medal.)

H. T. Pitt, Esq. (gardener, Mr. H. W. Thurgood), Rosslyn Gardens, Stamford Hill, N., also showed a collection of Orchids, the finer among which were *Laelia tenebrosa*, *Miltonias*, *Cattleyas*, *Cypripediums*, and other things. (Silver Banksian Medal.)

Mr. H. T. Dixon, Woodside Gardens, Hailsham, Sussex, set up a neat group of border Carnations, which included capitally flowered plants of *Braw Lass*, *Bella Donna*, *Mrs. Violet*, *Artemis*, *Major-General Baden-Powell*, and the *Malmesbury Princess of Wales*. The group was neatly edged with *Maidenhair Ferns*. (Silver Banksian Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, London, exhibited *Irises*, *Paeonies*, *Astilbes*, &c., extensively. Their double *Paeonies* of the commonly grown kinds, and their *anemoneaeflora plena* and *rosea* types, with also the double-flesh white *Paeonies*, made an imposing display. *Anthericum*

algeriense, *Lupinus polyphyllus*, *L. p. albus*, *Geum miniatum*, and various varieties of *Papaver orientale* were also noted for their richness. The *Irises* in their sections as follows were strikingly beautiful:—*Iris aphylla delicatissima*, *I. flavescens*, *I. Beliotii*, *I. squalens Lady Jane*, *I. neglecta chamelion*, *I. germanica Gracchus*, and *I. graminea*. Such fine alpine as *Trifolium repans pentaphylla*, *Chrysogonum virgineum*, *Achillea rupestris*, *Armeria lauchana*, *Viola pedata bicolor*, &c., were very sweet. (Silver Banksian Medal.)

Messrs. R. H. Bath, Ltd., The Floral Farms, Wisbech, showed a new yellow border *Carnation* named "Lord Roberts." It is a very fine variety, tall growing, and of good substance.

Messrs. James Veitch & Sons, Ltd., Chelsea, exhibited a long table of *Gloxinias* in 5-in. pots, and bearing from twenty to thirty blooms per plant. The size, colour, form and substance of Veitch's strain of *Gloxinias* is specially good. The variety and distinctness of the colours too, are varied and pleasing. (Silver Flora Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., set up a long table of double and single flowering *Begonias*, *Gloxinias*, and a sweet assortment of herbaceous and bulbous cut flowers. The latter section was not so extensive as on previous occasions, but it seemed even more select. There was *Iris variegata Gracchus*, *Iris pallida*, *Munstead Iceland Poppies*, *Spanish Iris Alex. Von Humboldt*, *Spiraea palmata rosea*, *Gladioli delicatissima*, *G. Ne Plus Ultra* and double *Paeonies*. The *Begonias* of special merit in size, form, substance and colour, were *May Clarke*, rosy-pink, *Dr. Shaw*, canary yellow, *Mr. Walter Finch*, rich crimson, *Ellen Terry*, sweet rose-pink, and *H. A. Needs* bright clear scarlet crimson. The group was tastefully arranged. (Silver Flora Medal.)

Messrs. R. & G. Cuthbert, Southgate Nurseries, Middlesex, showed a collection of named *Astilbes*, than which there is nothing finer for cutting purposes or greenhouse decoration.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, exhibited *Roses* in pots and in a cut state. The *Crimson Ramblers*, *H. Tea Medea*, *Polyanthus*, "Leuchstern," and many varieties of *Briars*, were set up. An Award of Merit was given to a new *H. T.* named *Tennyson*, with large blooms of a soft blush colour. (Silver Banksian Medal.)

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, had a choice collection of cut herbaceous flowers. The finer of these were *Inula glandulosa*, various *Irises*, *Saxifragas*, *Chrysanthemum duplex*, *Scabiosa caucasica alba*, *Saxifraga pyramidalis*, *Cypripedium pubescens*, *Eremurus robustus*, *Incarvillea Delavayii* and many other good things. (Silver Banksian Medal.)

Messrs. Wm. Paul & Son, Waltham Cross, Herts, besides their exhibit of *Roses*, arranged a fine collection of *Rhododendron* trusses, embracing many good varieties.

Messrs. J. Kelway & Sons, Langport, Somerset, filled the whole length of one of the long tables with a superb collection of cut *Paeony* and *Pyrethrum* blooms. The latter were exceedingly beautiful in their fluffy masses of pink, red, white and cream. They are admirable for gardens of all sizes, and such good varieties as the following should be noted: *Doubles*—*Lady Carrington*, pink and soft blush *Briton Ferry*, lilac magenta, *Lady Beresford*, deep pink, *Kitty Green*, of the same colour, but rather different form, and *Summer Day*. *Singles* or *semi-doubles*—*James Kelway*, *Lord Kitchener*, *Henry Irving*, *Diamond Jubilee*, *Rudyard Kipling*, and others. The single and double *Pyrethrums* were most delightful and received great attention. There was *James Kelway*, a deep rich crimson with yellow disc, *Cygnets*, *Fairfax*, *Apermantus* (exceedingly fine), *Queen of White*, *Lady Symons* and others all of which are singles and are charming for any garden use. *Evelyn*, *Aphrodite*, *Ormonde* and others are good doubles. (Silver Gilt Flora Medal.)

Messrs. Jas. Veitch & Sons, Ltd., Chelsea, exhibited *Eremurus* and *Primulas*. The former received everybody's praise, and won a Gold Medal award. The spikes were cut and firmly set in vases, the back ones being 9 ft. in height, with about 5 ft. of bloom spike. The species shown were *E. himalaicus* and *E. robustus*. (Gold Medal.)

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, staged herbaceous cut flowers in quantity. The beautiful *Campanula glomerata dahurica*, *Eriogon alpinus*, *Centaureas*, *Lupines*, *Irises*, *Pyre-*

thrums, the double white Rocket, and many bunches of the new hybrid coccinea Clematises. The pretty little *Edrianthus dalmaticus* and Harrison's Briar Rose were also set up. (Silver Flora Medal.)

Messrs. Dobbie & Co., Rothesay, N.B., staged, as they did at the Temple Show, a collection of lovely Sweet Peas. All the best varieties were represented. (Silver Flora Medal.)

Lord Gerard (gardener, Mr. Walters), Ashford, Kent, showed a new Carnation named Lady Gerard, of an undecided colour, nearly white, but with a tinge of greenish-cream shade in the centre. The plants were dwarf.

From Lord Aldenham, Aldenham Court, Elstree, came a basket of the Nectarine Lord Napier; splendid fruits all of them, fine shape, good size, and very deep colour.

Messrs. Sutton & Sons, The Queen's Seedsmen, Reading, staged, as we have stated, a number of kinds of vegetables. The novelty of these was that they were staged growing in pots and boxes. The exhibit covered 60 ft. of tabling. It was interesting to see the Potatos in boxes with their tubers laid bare and exposed to view through a glass side specially prepared to show them off. Cucumbers were trained archingly, plants and fruits being present, and between each two pots of Cucumbers there were pots of Peas. Potatos and Tomatos in dishes occupied the front. It was a wonderful exhibit, and deserved even more than the Silver Gilt Knightian Medal awarded. The following is a list of the varieties of vegetables and salads exhibited:—Peas: Sutton's Early Giant, Sutton's A1 May Queen, and Empress of India. Cucumber Sutton's Lord Roberts. Potatos: Sutton's Ring-leader, Ninety Fold, May Queen, A1, Harbinger, and Sutton's Ashleaf. Also Sutton's Winter Beauty Tomato, and Sutton's Peerless Cucumber in dishes.

Messrs. Laxton Bros., nurserymen, Bedford, staged a "delicious" collection of Strawberries, all of them new and improved varieties. Laxton's Mentmore was seen in all its beauty; Laxton's Fillbasket, a bright red one, and Laxton's Leader, a very large, deep, rich red fruited variety, with a very tempting aroma. Laxton's Climax, is a rich coloured berry of large size and good appearance, resulting from Latest of All x Waterloo. Another variety, with Latest of All x Frogmore Late Pine as the parents, received an Award of Merit, namely, Laxton's Trafalgar. The appearance is not all that one could wish, and for market work it will not do, but the gentleman's gardener will find nothing finer in flavour among Strawberries.

Messrs. Thos. Rivers & Sons, Sawbridgeworth, exhibited a few boxfuls of Nectarines, in the varieties Early Rivers, Cardinal, and Lord Napier. The fruits were very even and beautiful.

Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, showed a collection of Briars flowering shoots. Inermis, Carmine Pillar, White Banksian rugosus rubra, R. America, rubrifolia, and others were shown.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, came out strongly, more strongly than they have hitherto done at Drill Hall meetings this year, with Irises and many choice herbaceous cut flowers. Iris germanica Enchantress, I. g. Victoriae, I. g. Princess of Wales, I. g. astarte, I. g. Queen of May, Lilium Thunbergianum marmotum aureum, Brodiaeas, Calochorti, Aquilegias, Ixias, Gladioli, Eremuruses and many other fine subjects. (Silver Flora Medal.)

Messrs. Paul & Son, The Old Nurseries, Cheshunt, exhibited trusses of hardy Rhododendrons, H. T. Rose, J. B. M. Camm, tricolor Beech, and Paul's hybrid Rhododendron Duke of York.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize for last week's competition was awarded to Mr. J. McAra, Kingsburgh, Prestonkirk, for his article on "Wayside Gardens."

QUESTIONS AND ANSWERS.

Daw's Champion Rhubarb.—W. G.: The chief recommendation that this variety possesses is its earliness for open air work. It will have leaf-stalks 6 in. long when Victoria Rhubarb under the same conditions is still only in the bud state. The stalks are also stouter about this time than many of the really early varieties, and of the richest dark crimson red. Other varieties are more serviceable later in the season, either for kitchen or market use, because they produce larger stalks, and greater weight for the ground occupied. The old Victoria Rhubarb is still an excellent sort for late work, and it is also fairly highly coloured. For early work Daw's Champion is no doubt very useful, for by planting it in a warm sheltered border you can get it much in advance of most other varieties. For colour, not only of the skin, but in the centre of the stalk, Ready Ruby would be hard to beat.

Aralia Sieboldi: How to Propagate.—J. L.: It could no doubt be increased by cuttings of the shoots put firmly into pots of sandy soil, and put in a close propagating pit to root. Owing to the size of the leaves, however, the cuttings take up a deal of space, and it would be more convenient if you require a quantity of the species to procure a packet of seed, which, we think, would be readily obtainable from some of the principal seed houses. They may be sown in a box and stood in a warm house till they germinate, after which cooler treatment will meet their requirements admirably. They come along slowly in their earlier stages, but you can pot them off after they have made a few leaves, placing them in pots sufficiently large to take their roots and allow for a little growth to be made.

To Work up a Stock of Phlox Nelsoni.—H. West: If the breaking up or division of the plants you have got will not be sufficient to give you the desired number of plants, we would advise you not to break them up but to wait until the young growth has been made and is beginning to harden up. Then take cuttings and put them in firmly, in sandy soil, in pots. Stand the latter in a frame facing the north, or in a shady position, and cover them with hand-lights. Let the cuttings have plenty of light, but no direct sunshine till they show that roots are beginning to be formed.

Asparagus Kale.—D. M. R.: It is late now for getting plants of the largest size, but as their use is for the production of sprouts or young shoots in spring, they have still sufficient time to make good growth for that purpose before the winter checks their development. By sowing the seed now in carefully prepared soil, and watering the bed so as to ensure speedy germination, the plants will be large enough for putting out when you have vacant ground by the clearing off of the stems of early Peas and the digging of early Potatos.

Sparrows and the Blossom of Early Peas.—H. W., T.: Sparrows do sometimes prove themselves a nuisance to Peas even after they have reached the flowering stage. For the sake of the early varieties at least you can run a few black cotton threads along each side of the rows of Peas, fixing the threads to the Pea stakes at the same height as the blossom.

Carnations Failing to Grow.—A. G. B.: Although the layers seemed healthy and strong when you planted them out, it is more than likely that the crowns were infested with the grub of the Carnation Fly. The eggs are laid upon the leaves of the plants during the previous summer and early autumn. The young grubs hatch out and pierce their way into the leaves, and from them into the core of the main stem or even the side shoots of larger plants. The leaves on such shoots may maintain their fresh appearance during the winter and spring months, but whenever the weather becomes warm they begin to wither away, because the grubs have eaten out the heart of the stems. Sometimes the presence of the enemy may be detected in autumn, and whenever you can detect the same you should cut off the affected shoots pretty low down in order to make sure of getting the grubs in them. They should be burnt in order to destroy the grubs, and prevent attack next year.

Names of Plants.—E. C. H. D.: Polygonum Bistorta.—A. Henderson: 1, Rhodotypos kerrioides; 2, Arundinaria Fortunei variegata; 3, Berberis stenophylla; 4, Pyrus Aria; 5, Rubus deliciosus.—Abbo.: Sedum glaucum; 2, Sedum lydium; 3, Veronica Gentianoides; 4, Cerastium arvense; 5, Artemisia Abrotanum.—R. L.: 1, Miltonia Phalaenopsis, Miltonia Clowesii; 3, Dendrobium thyrsiflorum; 4, Cyrtopodium philippinense.—R. A. D.: 1, Asplenium marinum; 2, Asplenium Trichomanes; 3, Asplenium bulbiferum minus; 4, Pteris longifolia; 5, Polygala damaisiana; 6, Ophiopogon japonicus.—R. M.: 1, Pellionia daveauana; 2, Elaeodendron orientale; 3, Phyllanthus speciosus; 4, Gasteria verrucosa; 5, Ornithogalum longibracteatum.—D. H. C. E.: Corydalis lutea, a native species, sometimes grown in gardens.—Andrew Hutton: 1, Adonis vernalis; 2, Orobis vernus; 3, Doronicum plantagineum excelsum; 4, Saxi raga granulata fl. pl.; 5, Barbarea vulgaris variegata, the common form grows wild by the sides of streams; 6, Alyssum saxatile sulphurea.—D. R.: Pilea muscosa, the Artillery Plant.—Student: 1, Armeria maritima Veitchii; 2, Aesculus rubicunda (syn. A. carnea).—L.: Saxifraga Geum.

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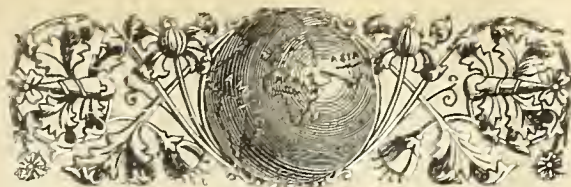
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 16th, 1900.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, June 18th.—Royal Agricultural Society's Show at York (5 days).

TUESDAY, June 19th.—Royal Horticultural Society Meeting in Drill Hall, Westminster, S.W.

WEDNESDAY, June 20th.—Royal Botanic Society's Floral Fête, Regent's Park; Rose Show at the Wishech Working Men's Club and Institute.

THURSDAY, June 21st.—Linnean Society Meeting, Burlington House, W.

THE FAMOUS KINNELL VINE AT AUCHMORE.

—Auchmore, one of the seats of the Marquis of Breadalbane, is situated at the south-west end of Loch Tay, the queen of Scottish lakes, and close by the village of Killin, Perthshire. The Marquis owns all the land and the mountains as well, for the Breadalbane estate extends from Abergfeldy on the north to some distance south of Loch Tay, and westwards to Oban on the coast of Argyshire, the length being something like 100 miles, and the width varying from two miles to ten miles. Very little arable land can be seen from any one point, though the views along Loch Tay and the river valleys are lovely enough, and here, practically, the only arable land is to be found, together with road, rail, and river, the latter being the agency that has made the passage for road and rail possible. From the mountain tops by Killin one can see Loch Earn (ten miles to the south) or streaks of it through the transverse passes, and Loch Tay to the bend, a similar distance; but on the lower slopes are the cultivated portions with woods creeping up the the minor valleys or dongas, beyond which are the heather muirlands, uplands, and dark-browed mountain tops and ranges. Practically, when one goes above 3,000 ft., the view is limited to the mountain tops, with here and there a glimpse into other valleys, or merely a little way into their dark and receding hollows. The mansion of Auchmore itself stands at an elevation of about 400 ft. above the sea-level, and is more or less surrounded with woods, though the south-west side was denuded a few years ago by a terrific hurricane of wind which levelled or smashed almost every tree on the ground. The average annual rainfall of the district (the registration of which is carried on by the gardener for the Meteorological Office) is 66 in., that is 5 ft. 6 in., and must contribute in no small degree to the volume of the Tay, which is 130 miles long. Snow still lies in considerable sheets in sheltered hollows on the higher mountain tops. Though the weather is often oppressively hot in these valleys on still, warm days in summer, winter, on the contrary, is often severely cold, as much as 44° of frost being sometimes registered. The weather during the past and the previous week had been oppressively hot, culminating in a thunderstorm on the morning

of the 6th inst., which brought a deluge of rain, much to the benefit of the crops, and relieving the oppressiveness of the atmosphere. The mountains have been made such by denudation, their strata being of great geological antiquity, belonging, in fact, somewhere amongst the lowest known stratified rocks, and classed under the term "Dalradian." Their structure is schistose, the sand of the disintegrated rocks shining like silver, owing to the quantity of mica present. The garden at Auchmore is situated on the banks of the River Dochart, close to where the latter empties itself into Loch Tay. The soil is gravelly, consisting of the alluvium laid down by the river in ancient times.

Such is Auchmore and its surroundings, the last place in the world where one would look for big Vines. The name "Kinnell Vine" refers to this portion of the estate, which at one time belonged to the McNab family, Kinnell House being the residence at the time the Vine was planted in 1831 or 1832. Kinnell has since been added to Auchmore, under the latter name. The estate is tenanted at present by A. O. Worthington, Esq., who kindly opens his garden to the public on Wednesdays, from 10 a.m. to 1 p.m., so that visitors may see the celebrated "Kinnell Vine." The neighbouring village of Killin being a popular resort for visitors in summer, particularly in July, August, and September, needless to say, large numbers take advantage of the privilege.

The Vine, a Black Hamburgh, was originally planted in a small greenhouse and trained to the roof over the plants beneath. The house has since been lengthened about equally at either end, till it now measures 170 ft. in length, by 12 ft. to 14 ft. in width. It is a lean-to of moderate height, the half span, however, allowing for a good length of rod. The roots are in the native soil, no border ever having been made, any more than provision for such splendid growth. The main upright stem is about 6 ft. high and 28 in. in circumference. At the eaves of the house two main rods are given off at that level, each traversing the whole length of its half of the house. One of these rods, at least, is the original one, for it retains the bend at its base caused by lowering it from the roof. From these main rods, others to the number of sixty-two branch off at right angles and are taken straight to the ridge of the house. From time to time a number of these secondary rods are cut out, and young ones taken up to fill their place. In 1898 there were 3,203 bunches of Grapes on the Vine; but at thinning time 2,553 of them were cut out, leaving 650 to come to maturity. They gave 1,300 lb. of Grapes, each bunch weighing $1\frac{1}{2}$ lb. to 2 lb. In 1899 there were 2,861 bunches, which were reduced to 650. This year, with the object of resting the Vine, the bunches were reduced to 360, being an average of six to the rods in full bearing. Judging from present appearances the Vine has yet a long and useful career before it, for every part seems wonderfully vigorous for such a patriarch. There are many fine and shapely bunches upon it, and the tenant being unable to consume the crop, a portion of it is sold to visitors, who thus have a double attraction to visit the garden. Mr. J. Cant has been gardener here for the last twenty-five years, and therefore knows a good deal of the history of the Vine during the best part of its career, having cut from $13\frac{1}{2}$ tons to 14 tons of Grapes from it in his time.

During the summer months very little is kept in the vinery beyond a few basket plants hung up near the front glass, and a few zonal Pelargoniums planted against the back and end walls, though only in places.

Some of them, both single and double, have been planted here for the last fourteen or fifteen years. Madame Thibaut and other varieties in another part are even older. They furnish flowers in profusion for cutting, and even keep up a supply all the year round, the crop being practically perennial. The Vine border (inside) is well fertilised, particularly near the front wall, and manure water placed in the evaporating pans at certain times. One side of the greenhouse is occupied with Maréchal Niel, Climbing Devoniensis, and other Roses, which throw up remarkable growths from the base every year. The early crop has mostly been cut and the Roses pruned back, but before long they will be flowering as freely as ever. Grown in the loam of the district, Hydrangea hortensis is carrying white and blue flowers with an admixture of pink ones. The white variety, Dr. Hogg, is also grown. The Taymouth Castle strain of Primula obconica is a very fine one, having large, rosy flowers. In the same house are collections of show Pelargoniums and tuberous Begonias. The latter make splendid bedding plants here, and constitute a great attraction to visitors. Something like 13,000 to 14,000 bedding plants of various kinds are put out every year. The highest part of the staging in this house is occupied with six plants of Phormium tenax.

The propagating house and stove form part of another range of glass. All kinds of stove plants were being rooted or raised here, including Celosias and Caladiums. Clerodendron balfourianum was flowering grandly in large pots, and trained against the back wall. The pillars were draped with a red variegated variety of Phyllanthus, the white one, nivosus, and P. angustifolius being also grown. Another division contained Begonia President Carnot, B. sanguinea, Calanthe Lindeni, Pandanus Veitchi, Tradescantia discolor, and other subjects. Orchids in bloom were represented by Oncidium sphacelatum, a fine form of Cypripedium barbatum, and others. The back wall of the fernery was brightened with the long trailing stems of Nepeta Glechoma variegata. Amongst the Ferns were Adiantum farleyense, Lomaria ciliata, Blechnum corcovadense, and the very finely cut Cheilanthes excelsa, all making good growth. Cucumbers were making headway against the front glass.

The open garden is well sheltered from the east winds; and the mountains, standing as they do all round the place, ensure a high temperature and good growing conditions during summer. It is a good fruit garden, Apples doing well as half-standards. Plums and Pears succeed well upon the walls, Williams' Bon Chretien Pear doing remarkably well. Others also succeed upon walls, but not in the open. Cherries upon walls are very liable to gumming, and on this account cannot be considered a success. This seems strange in face of the fact that Geans make giant trees of their kind in the district. Raspberries make fine canes and crop well. Strawberries succeed well on the gravelly soil, the varieties grown being Vicomtesse Hericarte de Thury, Duke of Edinburgh, Laxton's Latest of All, Elton Pine, and Sir Joseph Paxton. They are now in full bloom, their vigour and fruitfulness on the light soil being due, no doubt, to the heavy rainfall. During last month the registered amount was 6.94 in. Two years ago, in May, the average rainfall every twenty-four hours for days in succession was 1 in. Herbaceous plants are grown in considerable quantity round the borders of the kitchen garden, Narcissus poeticus flore pleno and Ranunculus aconitifolius flore pleno flowering grandly at the present time. Wallflowers are also gay, including a pinky variety named Eastern

Queen, and Ruby Gem, crimson and purple.

Mr. Henry Shoebridge, for the last eighteen years and nine months head gardener to Mr. and Mrs. Maurice Beddington, The Limes, Carshalton, Surrey, has been appointed in a similar capacity to Mrs. A. J. J. Banford, The Lodge, Misterton Hall, Lutterworth, Leicester.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, June 19th, in the Drill Hall, James Street, Westminster, 1—5 p.m. A lecture on "Aquatic Plants" by Prof. G. S. Boulger will be given at 3 o'clock.

Green Manuring.—An experimenter found the proportion of nitrogen in unmanured soil to be 141.5; in that manured with Rye grass, 190.8; and in that with Lucern, 289.4. In moist years manuring with Vetches or other leguminous crops will add as much nitrogen to an acre as 12,000 lbs. of farmyard manure.

The Gardening Charities.—We understand that the Welshpool Horticultural Society has been dissolved, and the surplus funds, some £200, divided amongst various charities. Through the kindly exertions of Mr. John Lambert, The Gardens, Powis Castle, The Gardeners' Royal Benevolent Institution benefitted by the distribution to the amount of £20, and the Royal Gardeners' Orphan Fund to the extent of £10.

Edinburgh Seed Trade.—On the evening of Friday, 25th ult., a very pleasant "smoker" was held in Milne's Hotel, in honour of Mr. J. H. Parker, shop manager to Messrs. R. B. Laird & Sons, Ltd., who was presented on behalf of the subscribers by the chairman (Mr. Harry Erskine) with a handsome cabinet of cutlery, also a lovely gold pearl brooch for his bride-elect, on the occasion of his wedding. A capital programme was submitted, and shared in by nearly everyone present.

Bristol and District Gardeners' Mutual Improvement Association.—The papers for the session May 31st to September 27th include "The Kitchen Gardener and what is expected of him," Mr. W. J. Hockey, Tatton; "The Culture of Strawberries in pots," by Mr. W. Staddon, Westbury-on-Trym; "Sweet Peas," by Mr. J. C. House, Coombe Nurseries; "The herbaceous border," by Mr. W. Ellis Groves, Redland; and "The advantages to be derived from the study of horticulture," by Mr. J. H. Vallance, Redland. The meetings are held in St. John's Parish Room, Redland, on the last Thursday in each month, at 7.30 p.m. At each of the meetings prizes are offered for fruits, flowers or vegetables.

Death of Lord Lovat's head forester.—On Sunday morning, June 3rd, Mr. Daniel Dewar died suddenly, aged 67, at his home near Beaufort Castle, after having been 36 years in charge of the woods and plantations of the Lovat estates. His death removes one of the oldest and most experienced arboriculturists in Scotland, also one of the most respected. Kindliness, cheerfulness, enthusiasm in his profession, and a disposition to help all whom he could, were persistent characteristics in this good man's life. He was actively engaged with his duties to the very last. Born at Crieff, Mr. Dewar trained first in the Botanic Gardens at Washington, America; then at Lord Digby's estate in Ireland, was afterwards appointed to the situation he has held so long. Mr. Dewar was the first to adopt the German system of close-planting, and all over the Lovat estates there are monumental examples of his sound practical and scientific knowledge of forestry, in the shape of valuable and extensive plantations, many of them planted under his directions. Mr. Dewar was specially successful in re-forestation of vacant ground by the system of natural reproduction. Like the late and very much lamented Mr. Dunn, he was always ready to give young men a lift in their profession when deserving, and by such alone his demise will be much felt. Deceased leaves a wife and three sons to mourn his loss—Mr. Hugh Dewar, of the Lovat Estates Office; Mr. John Dewar, who is serving with Lord Lovat's Scouts; and Dr Daniel Dewar, who is in practice in Manchester. The funeral took place on Wednesday, June 6th.

Mr. D. T. Fish, we regret to learn, is, or was a few days ago, dangerously ill. He has had severe internal inflammations and heart complaint. It is our wish and hope that he may soon be well again, and able to continue his wonted work.

Horticultural Examination.—The annual examination in horticulture, held under the auspices of the Royal Horticultural Society, is growing in favour, if one is to judge by the increase in candidates. In 1899 the number who presented themselves for examination was 165; in 1900 this rose to 236.

The Crimean Lime (*Tilia petiolaris*) is represented by a very fine specimen about 30 ft. high, and 25 ft. wide, in the front garden of the Bank of Scotland, Killin, Perthshire. It is a perfect specimen of its kind, feathered to the ground, with the branches drooping gracefully on all sides. In all probability there is no better specimen further north in Britain.

Gardeners' Charity Guild.—A sum of thirty guineas in hard cash was handed over to the secretary of the Gardeners' Royal Benevolent Institution by the G.C.G., the profits accruing from the annual concert of the Guild, which was held at Cannon Street Hotel, E.C., on March 14th of this year. It may also be pertinent to say that the Guild's officials were instrumental in obtaining thirteen annual subscribers of half a guinea each.

Lectures at Chiswick, by the Rev. Professor George Henslow, M.A., V.M.H.—Professor Henslow has kindly consented to deliver a series of four lectures in June and July to the students at Chiswick, and to any of the Fellows who like to be present. The lectures will be given in the Great Vinery, at 8 p.m. The subjects of the lectures will be, June 20th, Protoplasm, what it is and how it maintains Plant-Life; June 27th, Protoplasm: the Instrument of evolution among Plants; July 4th, the Phenomena of Germination; July 26th, the Uses of Leaves.

The Craze for Military Names.—If horticulture and militarism (war and peace) are in no other way united, they are in relation to nomenclature. Militarism supplies us (or has lately to a terrific degree) with names and titles of distinguished soldiers and leaders; we raise plants and baptise them with these, at present famous titles and names. Orchids, Rhododendrons, Narcissi, Camellias, Begonias,—and probably Onions and Cabbages, shortly—all have varieties adorned with the distinction General this, or Colonel that. But the worst of it is, we notice two separate firms having new Begonias with the same name—the name of Baden-Powell, and further confusion may arise.

Bristol and District Gardeners' Mutual Improvement Association.—The opening meeting of the summer session was held at St. John's Parish Room, on Thursday, May 31st. Mr. G. Brook presided over a large attendance. Mr. W. J. Hockey, of Yatton, was the lecturer, his subject being "The Kitchen Gardener, and what is expected of him." In a clear and concise manner he described the most suitable position for a vegetable garden, the soils best fitted for vegetable culture, with the best methods of treating it, advocating good drainage, trenching, effectual manuring, and an abundant supply of water laid on. With regard to manuring, he insisted strongly on the advantage of some knowledge of chemistry, to gardeners especially, in the use of chemical manures. He also advised all to keep a complete diary of their operations for reference, as well as comparison, of one season's results with another. He claimed for kitchen gardening that it was the highest part in the gardener's operations, and urged the constant endeavour to secure the best possible results. A short discussion followed, and Mr. Hockey was heartily thanked for his attendance and lecture. Prizes were offered for three Cabbages, and a brace of Cucumbers; those for the former being secured by Messrs. Ross and Binfield; the latter by Messrs. Hutton and Marshall. Certificates of Merit were awarded Messrs. Ross and Shaddick, each for a *Cypripedium barbatum*; Mr. Thoday, for a *Carnation* and *Gloxinia*; and Mr. McCulloch, for a collection of Zonal *Pelargonium* blooms. A feature of the exhibits was a collection of several varieties of Lilac bloom, shown by Mr. E. Poole, F.R.H.S., gardener to Lady Cave, Cleve Hill, Downend.—*W. E. Groves.*

Bradford Horticultural Society.—The annual exhibition of the above society will be held this year again in the Drill Hall, Peel Park Hotel, Otley Road, Bradford, on August 24th and 25th. All entries must be handed in by noon of Monday, August 20th, to Mr. W. D. B. Pearson, Peel Park Hotel, Bradford, who is hon. secretary.

Victoria Day.—June is the month of Roses, and on the 20th inst., Her Majesty will have completed the sixty-third year of her reign—the longest and most glorious on record. The Rose is the floral emblem of England, and the Dean of Rochester (Dr. Reynolds Hole) writing to me some time ago, expressed his heartiest sympathy with my suggestion that the Rose should be worn on the anniversary of the Queen's accession, and says:—"It is right that the Queen of Flowers should be thus associated with the Queen of Queens." May not this year, which has recognised the wearing of the Shamrock by Royal sanction, be also signalled in a special manner by the general wearing of the English Rose, on Wednesday, June 20th, and this date be henceforth known as "Victoria Day." [Very appropriate. *ED.*]—*Ellis Lever, Victoria Hotel, Southport, 11th June, 1900.*

Waterlow Park.—A fortnight ago this beautiful North London park was most delightful in its spring dress. Everywhere and everything was as neat and as clean as could be desired. The paths were bright and the grass nicely short, while the flower borders with their thousands of Wallflowers and Tulips gave the needed dash of lively colour. The paths are edged along both sides with stout iron loops, each just touching the other, and all of the same size. Such an arrangement in a public park saves the edges a very great deal, and seems to make the place smarter. There are some very fine trees throughout the park. We reported upon the summer bedding last year in this place, and mentioned that the L.C.C. only took over the estate some nine years ago. The old orchard trees are special features. There are fine water scenes throughout the grounds, and tennis, croquet and other lawns on the higher ground. In odd corners, rockeries with their pretty occupants are to be seen. The park supplies a great need in the Highbate district. Its management reflects credit on the attention bestowed by Mr. J. Pallett, superintendent.

Devon and Exeter Gardeners' Association.—The annual summer outing of this association will take place on Wednesday, 11th July next. A generally expressed wish was that the annual excursion this year should be to the eastern portion of Devon, where the county borders on Dorset, and the committee bore that in mind when making the arrangements. Permission has now been obtained from the undermentioned gentlemen to visit the estates. The association usually combines instruction with amusement, and with that object in view it has followed the lines so successfully pursued in former years of seeing the best gardens and pleasure grounds of private owners in the beautiful county of Devon. It is hoped that members, honorary members, and their friends may join in the excursion so as to ensure the success of similar outings in past years. The party will leave Queen Street Station, Exeter, by the 9.15 a.m. train for Axminster, reaching there at 10.18. At 11 o'clock the party will proceed in brakes to Lyme Regis, where luncheon will be served at the Royal Lion Hotel at 12.30. At 1.30 the journey will be resumed, the destination being Pinhay, the residence of Wilton Allhusen, Esq. After inspecting the gardens and grounds, the party will proceed to Rousdon, the seat of Sir Cuthbert Peek, Bart., where, in addition to the interesting gardens and grounds, the remarkable and historical landslip will be inspected—interesting geologically, and in many other ways. From the landslip a half hour's walk will bring the party into Seaton, where, at Gould's Restaurant, a substantial meat tea will be served at 5.30. The return journey will be made from Seaton at 9.35 p.m., reaching Exeter at 10.43; but if any of the party wished to return by the 6.23 train, permission will be given by the London and South Western Railway Company to do so. The fare, inclusive of all charges, will be 7s. 6d. to members, and 10s. to friends—non-members. Tickets must be taken not later than Friday, 6th July. The hon. secretary is Mr. A. Hope, Exeter, to whom communications may be addressed.

English Ivies are in demand in America for window boxes.

The Double Poet's Narcissus is now in perfection in villa and cottage gardens in the Perthshire highlands. It is very frequently planted, and flowers profusely. Both of the double forms (*Narcissus poeticus recurvus*, and *N. p. patellaris plenus*) are grown, and they flower profusely. The latter is not always perfectly double, so that portions of the scarlet rim of the crown are occasionally shown.

Produce from the Colonies.—It is very interesting to think that to-day we are only at the experimenting stage in our agricultural and horticultural commercial relations with our far off British colonies such as Australia. The latter country has just advanced so far as to have experimented with the cultivation and exportation of fruits. Having succeeded, it begins to feel for outlets for this fruit produce. Those of us who may live for half a century yet, shall find that these first ventures being made now shall have developed into constant and regular heavy exports, and to look back to the close of the nineteenth century, how interesting it will be to mark the progress. At the present time the agricultural department of Western Australia is making a series of experimental shipments of Grapes, Apples, Pears, &c., to London. Unfortunately, the Pears and Grapes suffered too much to be of any value on arrival. The Apples, however, both in appearance and flavour, were found to be of excellent quality. A further trial has been made in the shipment of cereals. These are all reported as excellent.

Messrs. Protheroe and Morris' Annual Bean-feast.—Many firms are so far generous, or take enough of interest in their employees, to provide annual outings for them, or, it may be, an indoor concert. Of those firms who thus favour the men in their service, Messrs. Protheroe and Morris, the horticultural auctioneers, of 67 and 68, Cheapside, E.C., and Messrs. Sander & Co., of St. Albans, are among the number. A cricket match between teams representing these firms was played on the Essex County Cricket Ground, Leyton, on Wednesday, the 30th ult. The Londoners beat the St. Albans men by sixty-seven runs. The players were: In Messrs. Protheroe and Morris' team—Messrs. T. A. Morris, H. G. Morris, A. E. Protheroe, J. B. Slade, Arns, Humphrey, Clarke, Hamilton, Hammond, Foskett, Goddard, and Keek. In the St. Albans team:—Messrs. F. Sander, H. Couch, C. Faulkner, E. Bass, H. Crockford, W. Gott, F. Harrison, H. Faulkner, C. Conningsby, and G. Faulkner. Mr. T. A. Morris made the highest score, totalling thirty-six. At about half-time the company assembled to a good dinner in the restaurant within the grounds. The usual loyal toasts were proposed and drunk, and the toast of "Messrs. Sander & Co." was afterwards given by Mr. Morris, Senr., who sat in the chair. Feeling remarks were made in the speech to the death of the late Mr. Wm. Protheroe, who had always taken so hearty an interest in their annual gathering. Mr. Morris spoke in high praise of the world-renowned Orchid firm of St. Albans, of the career it had, the great transactions enacted by it, and of its sound business conduct. Mr. F. Sander, son of the elder Sander, in the unavoidable absence of his father, made a fitting reply. Mr. T. A. Morris proposed the health of "The Visitors," who represented the gardening professional press, the gardening trade press, officers of the city constabulary, and friends of other vocations. Mr. T. Deane, an Irish gentleman and particular friend of Mr. T. A. Morris, replied with a humorous yet sensible speech. Far rather would he be enjoying himself with them than be at the Derby Race that day, even though he had backed a horse—though the name of it he had forgotten! He admired such gatherings; they pointed to peace and good feeling. He hoped that a greater peace would soon be assured to us all—a peace in South Africa. After noting other incidental items, Mr. Deane concluded with the sly Irish remark, "This was the first time they had had the honour of his presence, but he hoped it wouldn't be the last!" At the finish of the game the company, about fifty in number, had tea together. Saving for a constant blow of the cold north wind, the day was ideal and thoroughly enjoyable. Among others present were Mrs. T. A. Morris, Mrs. H. G. Morris, Mrs. Slade, Mrs. Pappil, Mr. Bryan Wynne, and Mr. Godseff.

Gourds.—The collection of these plants which are yearly grown at Kew is now being planted.

Rose Exhibition.—An extensive exhibition of Roses will be held this year at Trier, Germany. It will include all the leading novelties. Some 30,000 standards and dwarfs have been planted in the open ground for this purpose. The German Rose society will meet at Trier about June 27th. The secretary is P. Lambert, Trier, Germany.

North Eastern Agricultural Association, Belfast.—On Wednesday, and Thursday July 25th and 26th, a Rose show will be held in the Association's premises, and its classes are open to competitors from all parts of the United Kingdom. Entries close on Tuesday, July 17th. Applications should be made to the secretary, Mr. Kenneth MacRae, the Ulster Bank Chambers, 37, Donegall Place, Belfast. Telegraphic address, "Society, Belfast."

Weather in London.—The past week has been a "boller." Thursday and Friday of last week were moderately warm; Saturday was a delightful day—sunny, breezy, and clear. Sunday became fiercely hot, and on Monday the shade temperature ranged between 87° and 90°. Thunderstorms early on Tuesday abolished the oppressiveness somewhat, and in the evening another very violent thunderstorm and downpour occurred. Wednesday was dull and cool.

The Winter Aconite.—The sweet little Winter Aconite (*Eranthis hyemalis*) charms our benumbed fancies when it spreads out its golden cups, and its green-fringed collars above the winding sheets of winter snow, but it suffers just a little when it awakens and stares out on a garden full of Pansies, Lilies, Rhododendrons, Irises, and Globe flowers. And in such company I saw a sturdy batch of it in Mr. Logan's garden at Lewisham, during the first week of this month. The rhizomes were late in being planted, yet seem very healthy. Having seen the summer queens, I fancy they'll try to flower in February next year.—D.

The Royal Society, Edinburgh.—At a meeting of the Royal Society of Edinburgh, held on Thursday, June 5th, in the Royal Institution, The Mound, Dr. R. Stewart MacDougall read a paper on the genus *Pissodes*. This is a genus of beetles extremely harmful to Pine trees in Scotland and England, destroying thousands of pounds worth of timber. The Dr. described the full life-history, and the important features of the genus, and discussed the remedial and preventive measures which should be taken against them. "Catch trees," that is, weak or decaying trees, should be carefully prepared every month from spring till September, as a breeding place for the *Pissodes*.

CAMPANULA PYRAMIDALIS.

THESE remarkably pretty plants are not grown as pot plants so generally as they ought to be. For the embellishment of the mansion house, cottage or conservatory nothing better can be found or more easily grown. When well grown they amply repay the labour expended on them. I saw a group of them last autumn arranged on the floor in the centre of a large conservatory among Palms and tall *Draena australis*.

The Campanulas ranged in height from five to seven feet, some of them carrying as many as twenty flower spikes covered with thousands of lovely white and blue flowers, calling forth the remark of many visitors who saw them, "What are these? how wonderfully pretty." Plants that will flower this autumn, are pushing up their flower spikes and should be liberally fed with liquid manure, and staked to prevent them getting broken. If not already done, seed should be sown for next year's supply. I prefer sowing about the end of March in pans placing these in a gentle heat. When large enough to handle, prick into boxes and gradually harden off; thus stronger plants are obtained. Some of the finest may be potted and the remainder planted in beds or borders. It will also be noticed that some plants from last year's sowing will not flower this year. When large specimens are wanted these should be kept for next year and potted on to eight or ten-inch pots. A compost such as is used for Chrysanthemums suits them well.—W. Grant.

WINTER FLOWERING PELARGONIUMS.

A SELECTION of the best flowering kinds of Pelargoniums for winter blooming, if properly managed, will help to fill up the gap after the Chrysanthemums are over, and will keep in good flowering condition at least six weeks. Their brilliant colours being very effective at that dull season of the year, will well repay anyone to grow a quantity. They should be propagated in May, or not later than the middle of June, when cuttings should be inserted in 3-in. pots, and plunged in bottom heat. They will be rooted in ten days or so; then give them a shift into 5-in. or 6-in. pots. As regards soil, they like a mixture of two parts turfy loam, one leaf mould, one old dried manure, and a little sand. Firm them pretty well and place in a cold frame, keeping it close for eight days, with a thin mat or spruce branch over it to shade them. In a month's time they will require another shift into 7-in. pots. Pinch them and set them out, clear of each other, on a bed of ashes. By September the pots will be full of roots, which will be materially assisted in their growth by an application twice a week of liquid manure. I prefer "Methven's Edin," but also give them a mixture of soot water occasionally. They must be put into a light airy house before frost sets in, the temperature from 55° to 60°.—J. C. Dick, Linlithgow.

RICHARDIA AFRICANA.

Two short notes on the culture of these, having recently appeared in your pages, both advocating the planting out system after flowering, I thought the all year round pot culture may interest your readers, claiming as I do two distinct advantages over the former, these being earlier flowering, and able to use a more suitable size pot for house decoration, as all who have planted them out know too well that a great manipulation of roots is necessary at lifting time to get the plants into pots much under 9 in. in diameter, which check must surely retard their flowering. Our plants are now standing under a north wall, and kept rather on the dry side for the next six weeks, when they will be shaken out and repotted into sizes varying from 5½ in. to 10 in. across, putting three plants into the latter, tying any fresh-looking foliage to a stake (I deprecate cutting down as advocated), placing them back in the same position, syringing two or three times daily, watering when necessary, and gradually shifting to a sunnier aspect as growth advances, giving them plenty of space, affording weak manure from the cow yard twice weekly from September, battling against greenfly, their one enemy, after housing time, which should be on the first approach of frost. Our compost consists of good loam, leaf soil, a little soot and coarse sand to keep it porous, as they require abundance of water, and rich feeding when established.—J. Mayne, Bilton.

ABOUT SHADING.

BLINDS are by far the best means of keeping the rays of the sun from scorching tender plants under glass. Unfortunately, however, we are not all placed in positions where such aids to successful gardening are allowed. It stands to reason, therefore, that a gardener eagerly looks round for the next best thing to suit his purpose. I have tried most of the advertised shadings, but have had serious faults to find with most of them. The green ones, except for ferneries, are too dark, and during a spell of dull weather, such as we have had of late, have a very bad effect on vegetation. Experience, therefore, shows that a white shading by allowing the maximum amount of light, is best. What therefore to aim at is the thinnest possible shade, which at the same time thoroughly protects the plants from injury. The best shading I ever saw, was prepared by a painter, from Rice flour, its one drawback being its inability to withstand heavy rains. It was therefore discarded, as it is usually very inconvenient to place shading inside. After trying many home-made plans, I have at length hit on one that gives me much satisfaction, and has the great advantage of always being at hand. Make up common whiting to the proper consistency, and add about half its bulk of well made paste, such as painters use for paper-hanging. This will last a whole season, and can easily be washed off when wanted.—Chas. Blair, Binny, Uphall, N.B.

JAPANESE MAPLES.

FEW things have been more admired at our horticultural shows of late years than the above, and they well deserve their popularity, not for the flowers, which are insignificant, but for their handsome foliage. *Acer palmatum* or *polymorphum* is the type of the very extensive group of Japanese Maples, amongst which are included many of our most beautiful hardy shrubs. A rich well-drained loam suits them best, and in very dry weather the plants will derive much benefit from a good soaking of water. Among the best varieties of *palmatum* are *sanguineum*, very bright red; *reticulatum*, pale green and yellow, with darker veins; *atropurpureum*, deep purple-crimson; *roseum-marginatum*, green, edged with rose; *crataegifolium*, very distinct; *japonicum aureum*, deep golden-yellow, one of the best; and *dissectum ornatum*, very finely divided leaves, giving the plant a beautiful Fern-like appearance. There are several varieties of *septom-lobum*, all very interesting and well worth growing. A great many more might be mentioned if space would permit. Some have an idea that Maples are not hardy, and cultivate them as pot plants for indoor decoration, but this is quite a mistake, as they have stood the severe winters here with perfect impunity. The *palmatum* varieties are all shrubby, but well-grown specimens, when between 4 ft. and 5 ft. high, are objects of much beauty, and deserve to be cultivated far more extensively than they are at the present time.—A. Thatcher, Elstree.

VIOLETS FOR FRAMES AND POTS.

FOR winter flowering lift the plants about the middle or end of September with as much earth as possible at the roots, and place them in frames or pits having a southerly aspect and a sharp angle. Prepare the frames by filling them with one part of stable manure, two parts decayed leaves, so that with the addition of 6 in. of good soil, only sufficient space is left between the soil and the glass for the plants. Plant the Violets just clear of each other, and give a good watering; then put on the lights, admitting very little air for about a week, but afterwards keeping the lights off in sunny and mild weather, replacing them when it is frosty or otherwise unfavourable. Should greenfly make its appearance, gentle fumigation may be resorted to. Avoid gathering the blooms too closely. One fully developed flower is worth two or three only half formed. Double Violets succeed well in pots, always provided they are not unduly coddled or subjected to much fire heat. Swing shelves in cool airy houses suit them best, or they may be kept near the glass in pits where plenty of light and air can reach them. The following are a few good varieties for frame culture:—Princess of Wales, Princess Beatrice, Amiral Avellan, Wellsiana, Lady Hume Campbell, Comte de Brazza, Mdme. Bertha Baron, Neapolitan and Mdme. Millet. The five last mentioned are double varieties, useful for pot culture.—W. Hogarth, The Gardens, Norton House, Ratho, Midlothian.

LIBONIA FLORIBUNDA.

THE Libonia is a very old plant, and not half enough seen nowadays. It is easily propagated from cuttings in the month of March. Insert the cuttings round the side of a small pot in a light compost, and they will root freely without the aid of a bell-glass. When rooted, pot off singly into small pots, using a light loam; 5-in. or 6-in. pots may be used, and good, strong, turfy loam for the next shift, which will be the final. Grow them on in a cool pit or frame on an ash bed, and give all the light and air possible.

Occasionally turn them to prevent their being one-sided. Never pinch them, as the plants have naturally a nice pyramidal habit. The old plants make very good specimens. Cut them back into pyramidal shape after they are out of flower; start them a little, turn them out of their pots, shake them well out, and pot them up, using a good strong turfy loam. When the pots become filled with roots gradually begin to use a stimulant, for they are heavy feeders. Never let them become too dry, for they soon loose all their bottom leaves, besides which greenfly and thrip will make their appearance on them. They commence to flower about the New Year, and continue to the end of March. The orange-red tubular flowers make the conservatory very gay during these dull months. The flowers

do not stand long when cut.—*J. Henry, Naemoor Gardens, Rumbling Bridge, by Stirling.*

STRAWBERRIES FOR FORCING.

As the time will soon be here for layering and potting Strawberries for forcing next season, a few words on the subject may be of use to readers of *THE GARDENING WORLD*. Where it is possible it is as well to keep a bed separate for this purpose, not allowing the plants to flower, so that all strength may be thrown into the runners. As soon as these show signs of making roots, they should be layered into small 60-sized pots, securing them with a small wooden or wire peg. Keep the plants well watered and syringed, as this will keep them free from spider, and also promote quick growth. It is a good plan to sink each pot into the soil to the rim, as this will help them to retain the water. When sufficient runners have been layered, cut the rest off with a sharp knife. As soon as the pots are filled with roots, sever the runners and place the plants in a cold frame for a week or two when they will be ready for potting into fruiting pots. Seven-inch pots are the size mostly used for this purpose, and as many as are required should be well washed and crocked, using a rough piece of turf over the crocks. A rough admixture of fibrous turf, old Mushroom bed manure and a few good bones will suit the plants very well. Pot firmly and place the plants on a bed of coal ashes, and water carefully till they are well rooted.—*R. Thatcher, Lockinge Gardens, Wantage, Berks.*

ANNUALS.

Not a few of our gardens are dependent upon this class of flower for much of their brightness from early spring to late in autumn; yet in very few instances do we see them in their full beauty. It is a common falling among amateurs and others to sow the seed too thickly and afterward to indifferently perform the process of thinning, with the result that the plants are drawn and weakly, the bloom inferior in quality and for home decoration hardly worth the trouble of gathering. Most annuals if given sufficient room will develop into stately plants (we might almost term them bushes), that will be a blaze of colour throughout the summer and on until cut down by frost. In order to have them at their best it is necessary to first prepare the ground liberally. The better this is done the better able will the plants be to stand the dry time that is sure to follow. Having done this sow thinly on the prepared ground and when the seedlings appear, thin severely until sufficient space is left between according to the variety. The sun, air and genial showers will do the rest; and I venture to say the result will be flowers that call forth the admiration of your neighbours and friends; and one of the rudiments of gardening will be indelibly fixed in your mind that may be of permanent benefit in the management of this beautiful class of plants.—*G. H. Andrews, West Hill Drive, Mansfield.*

OUR RESERVE GARDEN.

ALL gardens, where possible, should have a few plants for filling up; not only Conifers, but plants that will produce flower in abundance; not only for the use of the establishment you have to keep supplied, but also for your own purpose. There are very few places in country districts where the gardener has not a garden attached to the cottage, and it is more satisfactory for him to cut from it than from the gardens; and as good standard briars can be bought at one shilling per dozen I keep a good stock in reserve. A large quantity is also grown from cuttings, for of these you cannot grow too many for the ladies. All our cuttings are taken in September and October; and there are very few Conifers and evergreen shrubs, but will take root and grow when treated as advised; and also Roses and hardy flowering shrubs. The ground should have a north aspect, or east will answer better if sheltered by a wall or fence. The land should be dug over, and small trenches, about a foot apart, taken out with the spade, 6 in. deep. Beat the sides of the trenches firm. Lay a small quantity of sharp gritty sand or road scrapings in the trench. Take cuttings of *Cupressus lawsoniana*, *Thuja Lobbii*, *Thujopsis dolabrata*, Laurels, Aucubas, *Viburnum plicatum*, and

Lilac. Cuttings of the Conifers should be taken with a heel or joint; also the Lilac and Roses. See that the wood is well ripened. Place the cuttings in the trench so that they do not touch each other; then put the soil and tread firmly. The following autumn the young plants should be removed to the nursery bed, leaving plenty of room for them to grow.—*T. Wallace, King's Lynn.*

SUTTON'S APRIL CABBAGE.

IN April one expects to get something luscious in the vegetable line—the system craves for it; and he who can produce a Cabbage worthy of the name, and of the foregoing character, is entitled to all praise. We have it on the authority of the late M. Henri de Vilmorin that a properly grown and cooked Cabbage is one of "the most precious vegetables we have." Such a Cabbage—and I have it on the dictum of Mr. A. Wright, of Bucklebury Place Gardens, Berks.—is the one here noted.

It is an excellent variety; it is dwarf, compact, tender, and finely flavoured, and is in every way suitable for early work, or amateur cultivation.

Another good feature in its favour is its unwillingness to "bolt," as evidenced by the fact that out of a goodly batch of plants under Mr. Wright's care, not one evinced a desire to "run away."

The batch in question was sown on August 18th, and some of them came to perfection by April 21st. They were planted a foot apart each way, and thus were enabled to develop their solid, juicy heads in early spring. By the middle of May the ground was cleared, and is now occupied by another crop. Thus this variety is, in every respect, a valuable acquisition to the vegetable garden.—*C.B.G., Acton, W.*

HARDY FRUIT GARDEN.

APPLES.—Down the stems of standard and half-standard trees there frequently issues a number of strong shoots. As a rule, these are not wanted, though, on the other hand, some enthusiasts would like to make spurs of these and so secure fruits. But the best way to get rid of them is to cut them cleanly and closely to the stem. The system of pulling out these shoots with their swollen base, from the trunk, is not a good one. It leaves nasty holes, and these are just the places which I have found American Blight first to lodge in. Besides this, there is constantly the possibility of canker or other attack and disease following such eradication.

CHERRIES AND PLUMS must be gone over to be pinched and somewhat regulated. It is rather too early as yet, however, to do much in this respect. Fruit trees may be mulched. Young trees which were planted this year may be in need of a watering; the showers we are receiving go no depth.

PEACHES.—Trees in the open air are now so far advanced that steps must be taken to give the fruits all the exposure possible. Good colour and flavour are important points, and these are only obtainable when the trees are well nourished and the fruits are exposed to the sun. But be it noted that nourishment without the sun's effect, or the sun without the nourishment, are, singly, of little value. Careful experiments have proved these facts. Therefore while yet the fruits are in process of development be sure you nourish the roots well. Thin out and pinch back unneeded shoots. Tie in others that will be required; keep the trees well syringed for the sake of cleanliness, and when the fruits begin to ripen (which they will soon), place nets over the trees and fasten here and there so as to prevent the fruits from falling and being bruised.

But the careful gardener will take the trouble to look over his trees daily, and will gather those fruits which are fit and ready.

Peach and Nectarine trees, which are late with their crops, may be gone over to have the fruits thinned. Few operations are worthier of the time they require, for where heavy crops have set, and where all the fruits are left, the result is that not one fruit among all the host has any flavour, size, or appearance. Plums especially are worthless in this respect. The rule of one fruit per square ft. of surface should be adhered to; a crop so regulated is quite heavy enough.

STRAWBERRIES.—Cut off both runners and flower

trusses from newly planted Strawberries. Both these products only tend to exhaust the strength of the plants, whose energies should be directed toward the building up of strong crowns for fruit production another season. Young plants cultivated simply to yield runners for propagation, may have their flower trusses removed. The soil around them should be stirred and kept clean. The runners should be selected and only the best ones be allowed to remain. Those who grow their Strawberries as annuals, or who do a considerable amount of forcing, find it greatly to their advantage to grow plants specially for runner production.

Runners should never be taken from very gross-growing, barren plants. They never throw flower trusses. Whenever the Strawberry brakes begin to show ripened fruits, nets should be placed over the whole lot of plants. It is far more convenient, and better also for the nets, to place them over a made framework raised 4 ft. high.—*J. H. D.*

The Orchid Growers' Calendar.

SEEDLING ORCHIDS.—The difficulties of raising this interesting class of plants from seed have been practically overcome, so that most species may be raised in this country with as much certainty as florist flowers. It is after they are up and have reached a stage when the pricking off has to be done, that any real danger of losing them presents itself. We are, as a rule, I am afraid, over anxious, and start shifting them too early in the season before the weather is at all genial.

Now is a fine time to handle seedlings. A good plan we find with the tiny fellows is to take two or three heads of live sphagnum moss, place the seedling in the centre and tie a thin bit of raffia round it; make up your pan or pot with peat and then prick the moss with the seedlings into it at suitable distances apart, treated in this way they are not so liable to be washed away when the watering is done, which should be in the morning, and by the aid of a fine-rose can.

CATTLEYA SEEDLINGS get out of hand more quickly than do those of *Odontoglossums*, but the system adopted is the same for the first shift. With subsequent shifts we find it best to surface the whole of the top of the pots or pans with live sphagnum moss, using a thin layer of peat as a base for the strongest plants. There seems something in the moss that is more to their liking in the earlier stages than is peat. Another trait with them is that they do best when suspended, the reason being, perhaps, that they get a free circulation of air about them. Of course they dry up quicker, but that is an advantage as they are not so liable to damp off. Attend to the shading early in the morning of bright days, for they cannot stand the sun direct on to them like established plants at any time.

In watering use soft rain water if possible. We generally manage to keep sufficient back for this purpose during the dry weather, though we may have to use hard water from the company's main.—*S C.*

Gleanings from the World of Science.

THE subjects mentioned below were discussed by the Scientific Committee of the Royal Horticultural Society on the 5th inst.

Tulipa gesneriana diseased.—Some roots received from Mr. Mann, Penhill Close, Cardiff, were forwarded to Dr. Smith for examination and report.

Iris with diseased roots.—Mr. Wilks brought some plants showing premature decay in the foliage. He observed that he had received reports from all parts of England of a similar condition among Irises of all sorts. The roots appeared to rot close to the rhizome. They were also sent to Dr. Smith.

Odontoglossum, synanthic.—A flower from a spray on a plant of *O. triumphans* (?), sent by Mr. Pitt, illustrated the twin condition of two coherent flowers; the columns, however, were free from each other above the combined ovaries, as well as the two labellums.

Fendlera rupicola.—Mr. Gumbleton exhibited a flowering branch of this unique tree, there being but one species to the genus. It is a native of Texas and New Mexico, and a near ally of *Philadelphus* or *Syringa*, as popularly known; but while the ovary is inferior in the latter genus, it is superior in *Fendlera*.

HINTS FOR AMATEURS.

JUNE is an exceptionally busy month for the gardener. He must be up with the lark, and work till the close of evening. But the work is all very pleasant, and we are impelled to do the more, either for the sake of present gain to the garden, and because we know so much has to be done, if so much is expected.

Solanums.—These pretty berried plants, which everybody likes to see in autumn and winter when they are clad in their setting of berries, can either be grown in pots or planted out in a warm sandy border during the summer.

Old plants should have been cut back and started to fresh growth by this time. The spiny-leaved varieties, such as *Solanum pyracanthum*, are suitable and are much employed for sub-tropical bedding.

Brompton Stocks may be sown in pans, and these then placed in frames till the seedlings are large enough to handle. They may afterwards be planted out in the spots where they are to flower.

Hollyhocks for next year's flowering may be sown out of doors. Cuttings may also be struck and grown on. In any case, cultivate them as hardily as possible—it only tends to weaken them when they are coddled.

Pansies.—Though Pansies and Violas are in full bloom and growth, they can be lifted and planted without much risk of harm. The process must be done well and with due care, but no one need hesitate to buy and plant. If a little shade can be given to the plants after they are shifted, it will greatly help them.

Do not water them throughout the day, and this rule is especially binding if the day be sunny. Water them in the evening. One hundred fine Pansies can be got for six shillings.

Primulas.—Now that the little native Primroses are almost out of flower, or are overshadowed by so many other subjects, one is apt to be unmindful of them. If a succession supply of their pretty flowers is desired for the season next year, a sowing, in addition to the sowing in May, may be made now, and another can be made at a later date. When they are fit for transplanting shift them to a good loamy soil in a rather shaded position.

Gladioli and other tall growing subjects, or plants with long spikes, should not be allowed to go any longer without a support of some sort. The neater the stake can be made, while compatible with strength, the better for the appearance of the plants and the garden.

Verbenas, Petunias, and Phlox Drummondii should be pegged down according to their growth. There will not be much need for this attention, however, for yet awhile. The surface of beds and borders should be kept hoed and broken up. With the frequent showers which we receive at this time, the surface soon becomes hardened. Weeds grow apace, too, so that it pays to go over the ground once a week if possible.

Balsams, Tobacco plants, Calceolarias, Cannas, and Celosias, which one has not cared to plant out before now, ought to be set in their summer quarters, for cold winds or no winds, it will not do to wait longer.

Centranthus ruber.—This hardy herbaceous plant only need be seen once to have itself recommended for a place in all collections. It is one of those plants which thrive and look happy exposed to the sun on a comparatively dry soil, or half shaded in a moist corner. I have seen it in all positions, and doing well everywhere. A rich soil and a sunny position suit it better than any other location. It naturalises with freedom. Strong plants attain a height of about 2 ft., and bear close-set, slightly branching racemes of pink or red flowers. The leaves are glaucous, broad at the base and taper toward the apex. There is a white variety, but it is not so handsome or cheerful.

Linum arboreum.—The genus *Linum*, which includes the Flax, is a very varied one. It furnishes us, as we see, with valuable economic plants, and one of our most beautiful annuals is a *Linum*, viz., *Linum grandiflorum*, which no gardener omits to have. There is also the pretty blue *Linum alpinum*; and all of them are remarkable for the wonderful depth, distinctness and brilliancy of their colours.

Linum arboreum is a dwarf, rather tender, spreading shrub. It does well on sunny sheltered borders, and during winter it should have the protection afforded by a few branchlets. The beautiful bright yellow flowers, shaped like a flask-filler, are borne thickly on the young shoots of the current year.

Clematises.—This glorious genus of climbing plants is divided into sections, the primary division bearing on whether they flower on the young wood or on the wood of the year previous. *C. montana* represents one of the types of the latter section, that is, those which flower from the old wood. The *Clematis Viticella*, *C. Jackmanni* and *C. lanuginosa* are species which typify those which flower on the young wood of the current season. But that is all I mean to say about their classification. For garden decoration the whole tribe of Clematises are exceedingly worthy of culture. The difficulty chiefly is, not that we do not wish to favour all of them, but that neither space nor means permit us to gratify our whole desires.

I wish to draw attention to four varieties of the *Jackmanni* type. And these are *C. Mrs. Quilter*, pure white with purplish stamens and carpels; *Miss Bateman*, also pure white and very much like *Mrs. Quilter* in all respects. The perianth segments are, however, slightly more rounded. *Clematis The Queen* is a pale clear-lavender variety of much sweetness and beauty; and lastly, *Sir Garnet Wolseley*, a deep violet-blue variety.

All of these flower in clusters of large, more or less star like flowers, at the present time of year. They may be trained over pergolas, over rustic houses, the ends of bridges, or when planted in beds out in the open grounds they may effectively be trained upon rugged branches. They enjoy a deep, firm, sandy soil, having a good proportion of lime in it. The two white varieties are largely used as pot plants, and can be had in flower by April or earlier.

Anemone sylvestris.—This is a distinct and very beautiful *Anemone*. It grows 1½ ft. high, and bears clusters of large white flowers. For an open part of the herbaceous border it is very suitable and should be found in all gardens.

Polygonum Bistorta is a common garden plant, and one which is handsome, vigorous and worthy of all the attention it receives. It grows tall, that is, it sends up long flower stalks which terminate in pink spikes. The plant does well by the sides of streams or in shady corners in any out-of-the-way place. The *Polygonums* are a varied genus. Some are large, upward growing climbers, as, for instance *P. baldschuanicum*; others are prostrate, half-shrubby subjects, as *P. affine* and *P. vacciniæfolium*, but they all bear a striking general likeness.

Matricaria Tchihatchewi.—Though rather a humble member of our herbaceous plant list, the above is at the same time a very bright and floriferous plant. It does amazingly well on dry banks, whereon it spreads its close set carpet of green dissected leaves, and sends up an exuberance of Daisy flowers on moderately long stalks.

Present Work.—Operations in the flower garden claim attention. Amateur gardeners with little bedding to do, may have completed the work. But where the operations are at all extensive, the bedding out business lasts longer than we gardeners usually care for. Agaves may be placed out in prominent positions and Myrtles, Bays, &c., should also be got out. Unless the season is fine in the autumn, it will not be long before we have again to shift in these tender specimen plants. Where larger bedding is done, Palms of the genus *Chamaerops*, *Latania*, and *Phoenix*, &c., may be used, at least in the south. *Daturas* (*Brugmansias*) are also specially handsome. There are annual species which are more adaptable for those with only small gardens. To protect Roses from attack by mildew, spray them with a sulphur solution, or soapy water used alone has a wonderful preventive effect. Weeding, mowing, edging, raking, sweeping and watering, either by the hose or by can, must be constantly attended to.

In the fruit-houses, the work is ever constant. The syringing of Peach trees may be discontinued when the fruits begin to ripen, and freer ventilation may then be accorded. Vines follow the same rules. The notes made in the calendar of last week, should be looked over.—*Beacon*.

In France it is now proposed to insure growing crops.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Campanula isophylla alba.—*J. T.*: Yes, this beautiful white *Campanula* can be grown out of doors from now till autumn. It does well on window sills or suspended from verandahs.

Coloured leaved Stove Plants.—*Beginner*: The following may suit you to start with:—*Phyllanthus nivosus*, *P. roseo-pictus*, *Sonerillas*, *Bertolonias*, *Anthurium crystallinum*, *Alocasia Lowii*, *A. metallica*, *Maranta zebrina*, *Fittonia argyroneura*, *F. Pearcei*, *Dieffenbachia magnifica*, *Xanthosoma Lindenii*, *Crotons*, *Dracaenas*, *Coleuses*, and *Caladiums*.

Plants for Peat Garden.—*W. Raines*: Choose *Juncus effusus*, *J. maritimus*, *Lathyrus maritimum*, *Equisetum hyemale*, *E. arvense*, *E. maximum*, *Listera ovata*, *Corydalis capensis*, *Polygonum roseum*, *Helonias bullata*, *Cardamine bulbifera*, *Epipactis palustris*, *Acorus Calamus*, *Lilium pardalinum californicum*, *Cornus canadensis*, *Zephyranthes candida*, *Barbarea vulgaris variegata*, *Erythroniums*, *Trillium recurvum*, *T. stylosum*, *T. grandiflorum*, *Osmunda regalis*, and *Gaulophyllum thalictroides*, &c. A deep moist soil is really all that these require.

Eradicating Cockroaches from Plant Stove.—*J. C.*: The means we know of, together with a special not often a correspondent who found Vermite Insect Powder entirely efficacious, was given so recently as March 31st, p. 385, and April 28th, p. 553. Place about on the stages, jars containing some treacle, and set a broad stake against these jars to allow the cockroaches to pass up. Or use boxes with V-shaped glass lid having space in the centre to let the vermin pass inward. Poisoned pieces of bread may be placed about, but must be done with care.

Propagating Araucaria excelsa.—*W. T.*: We not often hear of this species of *Araucaria* having been raised from seeds. It is usually cut down and struck from cuttings. Or a notch can be made at an internode just where it is wished to cut the plant through at, and around the notch moss may be bound and kept damp till roots appear. From the axils of the lower whorls of leaves other shoots will soon grow up. Pot the young rooted cutting in a compost of two parts good loam, to one of leaf mould and some sand. Grow the plants in an intermediate house till established.

Typha latifolia.—*Easton*: The Reed-Mace, referred to by us in last week's issue, is the common Bulrush, which bears cylindrical brown flower spikes and these are prized for their decorative value. When associated with plume-like inflorescences such as the Pampas grass yields, they both enhance their own beauty and that of the material they are associated with. The Bulrush forms a creeping rhizome from which the leaves grow, these being 1 in. broad, and sometimes as much as 6 ft. long. To establish it, you only require to plant the rhizomes in marshy ground or in a pond, and leave them alone. But it is well to keep the plants from gaining too firm a hold; otherwise considerable expense and trouble will be required to limit their dimensions.

Pinching Apple Shoots.—*M. H.*: In the meantime you need do no more than regulate and thin out the shoots. By the end of this month, or now, if your shoots are very long, you may pinch back the points a little. This will allow what remains of the shoots to plump-up and thicken. In August you may further pinch them, but if they show great vigour at that time it will be wiser to delay the extra pinching till growth becomes quiescent, otherwise the basal buds for next year will start away, and be of no good. Yes, you may mulch the trees with benefit to them.

Trollius or Globe Flowers.—*R. L. M.*: There are a number of species and numerous varieties of the genus *Trollius*. Most of them are very handsome, and a delight and attraction in any garden. T.

asiaticus, the Orange Globe flower, holds the palm for beauty in our estimation, but there are different types of this species. The proper one has a very deep, shining orange or bright apricot coloured flowers. *T. europaeus* is the common European Globe flower, which has clear canary-yellow flowers of great beauty. All the *Trolliuses* enjoy a deep moist soil, and a sunny position. You will do well to place your order in the hands of a nurseryman, and ask him to send you roots at the proper season, *i.e.*, about April.

Planting Daffodils.—*New*: If you mean to plant them in the open border you may do so from the beginning of August on to October, but, as a rule, the earlier the better. It is necessary to lift the bulbs which have been in heds during last winter, otherwise they are likely to start prematurely into fresh growth. With bulbs planted out in the grass the case is different. They do not die down so speedily, and before they become thoroughly quiescent the weather conditions have ceased to be incentive to growth.

Sparrows Pecking Gooseberries.—*Puzzled*: If the birds are already paying attention to your green Gooseberries, what will they do when the

House is the proper place in which to grow it. Repotting should be effected soon after the fall of the flowers, in the usual compost of peat and chopped sphagnum. The pots used should be three-fourths filled with clean crocks. During the growing season an abundant supply of water at the roots should be given, and the atmosphere well charged with moisture. During the dull winter months only sufficient water should be given to keep the compost moist.

GRAFTING.

WERE I to advocate this to be done toward the middle of June, most practical men would, I fear, laugh at the idea; but nevertheless such is practised around here up to the midsummer, and with success too. On Whit-Monday I saw an old man, who does a deal of grafting for the farmers around here, on his way home with a bundle of grafts under his arm. "Well, Mark, been grafting?" "Yes, sir." "A bit late for such work isn't it?" "Not a bit of it, sir, graft up to midsummer if the scions have been cut at the proper time."

And he is not at all particular as to stock. I know where two Pears are grafted on to the common Thorn in a hedge that surrounds a farmer's garden.

The first thing I did when I saw the plants was to ask Mr. Pince to show me the peat in which they were growing. He at once had a turf placed on the bench, and with a bent stick broke it all up. He then put it through a 1-in. sieve, and what the sieve retained was placed over the crocks in pots, to act as sub-drainage. In the Exeter peat there is no sand, but plenty of Fern roots, which were also used as a sub-drainage. Then a good sprinkling of clean, broken flints was placed in the pots (flints are superior to stones, as the roots cling round them in summer, and they do not absorb moisture in winter).

The most suitable house for Heaths is a half-span, about 14 ft. in width with a 4 ft. path, and nice stone or slate platform 3 ft. from the ground. The house must also have "port lights," as the Heaths must have abundance of air and water.

I always made it a point to stake down the shoots of plants I obtained from the nurseries, to make them form good plants. When the plant is formed, no more stakes are required. Many growers spoil their plants by too much tying and staking. The foregoing remarks apply to the hard-wooded section. The winter flowering sorts are largely grown by many of the London and district nurserymen.

The following is a list of the choicest sorts of



PLATYCLINIS GLUMACEA.

berries are ripe? If you cannot afford herring-nets (though they are not very expensive) you have about three other means of protection. One is to thread the bushes, and this is neither very satisfactory or recommendable at this time of year. You might use scarers. Then revolving paper rosettes might be of use for a while, or by the use of a crow-scarer, those noisy rattles used by crow-boys, you may be able to keep them off. Try to get a cat to watch them.

PLATYCLINIS GLUMACEA.

THOUGH the flowers of this species are small and sober in appearance compared with such gorgeous subjects as *Cattleyas* and *Laelias*, they are produced in great quantity, and give out a grateful, pleasing fragrance, which some have compared to new-made hay. The sepals and petals are small and straw-coloured, while the lip is of a more decided yellow. The leaves have no very distant resemblance to those of *Lily of the Valley*; but the flowers are entirely different in form, while the flower scapes, instead of being erect as in that popular subject, assume a gracefully arching contour (see illustration). The species is a native of the Philippine Islands, the climate of which is warm, so that the East Indian

"Mark" merely trims up the stock from the base, and cuts out head room enough from the Thorn hedge to give the grafts a little light.

Another instance is that of a cottager near here who had intended heading down an Apple tree early in the year to graft, but seeing it was bristling with fruit buds decided to try it another year, but found that the majority of the fruit after being set dropped off. He then headed it down while in leaf, grafted it afresh, and the operation though done when well into June, was a complete success.—*J. Mayne, Bickton, Devon.*

CULTURE OF CAPE HEATHS.

THE Cape Heaths are lovely hard-wooded flowering plants, and some of them can be had in flower at all times of the year.

I had the great privilege of being with the late Mr. William McNah, of Edinburgh, who was generally recognised as the "Father of Heath growing." The late Mr. Pince, of Exeter, was another very successful cultivator. The first time I visited the Exeter nursery I was struck with the health of the plants; Mr. Pince beat Mr. McNah in this, that he pinched back the flower shoots when the blooms had withered, and so obtained dwarf and better furnished plants.

Heaths (*Ericas*):—*Tricolor elegans*, *ovata* (fine), *elegans*, *jasminiflorum*, *marnockianum*, *Cavendishii*, *carnea*, *ventricosa*, and *aitoniana*. — *William Carmichael, 14, Pitt Street, Edinburgh.*

XANTHOSOMA LINDENI.

THIS plant, also known as *Phyllotaenium Lindenii*, belongs to the *Caladium* family, and should be employed for decorative purposes more than is the case at present; not only because the foliage differs from the small number of kinds of plants used for decorative work, but mainly for the reason that it will stand the rough treatment given to those plants more so than one would expect. It is a stove plant and one of the most ornamental. After a goodly number of leaves have been developed in a warm, moist atmosphere, the plants will continue to keep up a presentable appearance with ordinary greenhouse temperature, and they may even be used as house plants. The leaves are shaped somewhat like those of the fancy-leaved *Caladiums*; the texture is much firmer, the colour is green with white markings along the principal veins. Propagation is by division. Before re-potting put the pieces in a warm sand bed to encourage fresh roots.

The *Xanthosomas* are all increased by a simple

method of cutting the rhizome into small pieces in the same way as *Dracaena* roots are treated. Some of the species are useful for sub-tropical bedding. The plants bear monoecious flowers, imperfect and perfect males being distinct from the females.—*T. F. E.*

THE ESSENCE OF THE SHOW.

(Continued from p. 621.)

As the show reports prove, hardy plants were very abundant. Nearly every exhibitor of alpine plants has now followed the lead which Messrs. Backhouse, of York, gave a few years ago, viz., erected artificial rockeries with plants thereon. And really this is the very best manner by which to demonstrate their beauty. A larger collection of plants can be shown, with less harm to them, and in the most natural method possible by adopting the artificial rockery method of exhibiting. special efforts of this sort need not be confined to the Temple show; why not carry the idea to all the local societies? It would teach the people what is beautiful and worthy of admiration in hardy plant culture—and this would have great influence. Messrs. Barr & Sons had a very large collection of choice alpine. One of their plants, not truly an alpine, nor valuable for its flowers, but meritorious because of its dark chocolate marked foliage, was *Trifolium repens pentaphylla*. Grown in tufts it is a subject of great interest. *Viola pedata bicolor* should be absent from no hardy plant collection. And among the numerous class of dwarf flowering shrubs, *Genista hispanica pumila* ranks well at the front. *Wahlenbergia serpyllifolia*, with bell-shaped flowers of a violet-blue colour, is not at all a common alpine, but it's a darling for sweetness.

The following Narcissi were also shown in this stand, and the list gives a good idea of what varieties to select for late use. Of course, they had been retarded, for some of them are really early-flowering members, but it shows that they are amenable to varied treatment. All are beautiful—*Narcissus Leedsii* Dorothy E. Wemyss, N. L. Mrs. Langtry, N. Barrii Crown Prince, N. incomparabilis Mabel Cowan, N. i. Mrs. J. B. M. Camm, N. i. Goliath, N. i. Duchess of Westminster, N. bicolor Ada Brook, and N. gracilis.

Mr. H. B. May had a splendid assortment of various kinds of plants. Here is a list of *Coleuses* which were specially selected for any who may be on the look-out for a recommendable half-dozen. *Coleus*:—Mrs. Tolworthy, with a creamy ground heavily speckled with bright magenta; C. Victor has a deep red ground, with streaks of yellow over it; Golden Gem, one of the very finest, is a deliciously soft, rich cream-coloured variety; Crimson Gem, deep rich crimson; Decorator has a yellow ground maculated with red; and Mrs. R. H. May, with bright yellow and red combinations.

Mr. May also showed that exquisitely beautiful *Clematis*, Nellie Moser, having a broad beam of lavender-pink in the centre of each petal, this being edged with faint lilac. Mr. John Russell, Richmond, besides having *Azaleas* under tent, had a magnificent outdoor group of Japanese Maples, Ives, and flowering shrubs.

Among flowering *Azalea mollis* there is no finer orange-yellow than the variety Mrs. A. Endtz, which Messrs. Cuthbert, of Southgate, exhibited, and for which they recently received an Award of Merit. It is worthy of the notice of all who do forcing or who favour this class of plants.

Posoqueria longiflora is a magnificent stove plant, but one which requires experience to be able to manage well. But no one who is worthy of the name of gardener would confess himself baffled to grow and flower it well. It bears long corymbs of pure white, *Bouvardia*-like flowers, only that they are much longer in the tube. It also resembles the well-known *Toxicophlaea spectabilis*, and is equally as fragrant.

A flowering shoot was shown by Messrs. H. J. Jones, Lewisham. The ordinary conditions prevailing in a stove suit it, and a small pot is at all times preferable to a large one. Nourishment can be supplied by manurial waterings. Prune back the flower shoots when the blossoms wither. It may be flowered in March, or held over till the end of May, according to treatment.

The Messrs. Veitch, Ltd., of Chelsea, showed several new or rare herbaceous plants in their group

in tent 5. One of the most remarkable of these, and one which everybody admired, was a Composite—*Celmisia Munroi*. It has large heads, with broad white ray petals and a large yellow disc. It attains to 1½ ft. in height, and has broadly spreading foliage. We hope it is destined to become a universally grown border plant. *Embothrium coccineum*, with its Honeysuckle-like crimson-scarlet flowers, arranged closely on a tall, stout spike, also enjoyed more than ordinary notice. Their *Deutzia crenata* is also worthy of attention.

Here is a selection of *Violas* which will be found to represent as many beautiful colours and shades as need be desired:—J. B. Riding, violet-purple; Sydney, clear, bright blue; H. W. Stuart, magenta-purple ground, flaked with lighter red and having a bright yellow eye. Banterer comes near H. W. Stuart; it is a lovely variety, having perhaps more white in its composition, but is flaked in the same way as H. W. Stuart. A. J. Rowberry is also good.

It is not large, but literally glows with a depth of bright golden yellow. John Quarton is a brilliant lavender *Viola*; and, lastly, we have Amy Barr, a pretty light magenta-coloured member.

For edgings to long borders nothing is sweeter, more floriferous, or easy to deal with than *Violas*. Mixed beds of selected colours, that is, colours which harmonise, such as the blues, the yellows, the browns, or the purples, are also most admirable and commendable.

The *Begonias* shown by Messrs. Thomas Ware, Ltd., brings to mind the fact that the present is the time for planting these out of doors in the flower garden beds. Started tubers can be obtained from the firms which make a speciality of them, and to those who have not grown *Begonias* liberally in previous years, we would say, do so now.

VISITS TO NURSERIES.

MESSRS. STUART AND MEIN, KELSO, N.B.

As florists and general nurserymen, the old established firm of Messrs. Stuart & Mein, Kelso, Scotland, enjoy an honourable name. Their newly-planned nursery is neat and compact, situated in a bright and airy spot on the west side of the town. The numerous houses are filled with a miscellaneous stock of plants, Ferns being largely represented, as well as greenhouse plants and florists' flowers.

In nurseries such as this Kelso one, the firms aim at having something of everything. They must have a sample of all manner of plants so that though the ranges of glass houses may not be great, one finds quite a varied stock of plants. In the south, the nurserymen chiefly devote their space and their energy to the cultivation of a certain selected class of plants. Therefore when it is said that Ferns are largely represented, the words infer that there are many kinds grown, though not necessarily in quantity individually. Maidenhair Ferns in such popular varieties as *A. cuneatum*, *A. gracillimum*, *A. Capillus-Veneris*, *A. pedatum*, *A. tenerum* and so on, are grown in large batches, and so with the more popular *Pterises*, *Davallias*, *Nephrolepis*, and *Polypodiums*. *Simlax* in pots is strong and ready at any time for planting into small stove borders. The usual popular collection of decorative palms which includes *Phoenix tenuis*, *P. rupicola*, *Kentias*, *Seaforthia elegans*, *Latania borbonica*, *Cocos plumosa*, *C. weddelliana*, *Chamaerops*, *Arecas*, and others are all well-grown, and include plants in small pots and specimens in tubs.

Some of the houses were entirely filled with a bright assortment of forced bulbs, the blooms of which would no doubt be disposed of in the town. And pit after pit contained thousands of bedding plants, all of them capital stuff, and whose presence will by this time be brightening and enlivening many of the villa-homes situated near by. There is no lack of that class of plants which have been long proved to be useful and reliable for flower-yielding or for greenhouse furnishing, having the necessary attributes of grace and cheerfulness. Such plants as *Clivias* come to mind, also the *Castor-oil* plant, *Fatsia* (*Aralia*) *Sieboldi*; and *Abutilons*, which are exceedingly fine, if not indeed a speciality of this firm. *Euonymus latifolia*, *Euryas*, *Ophiopogon Jaburan variegatus* which is such a pretty greenhouse plant when properly treated; *Clematis* are specially

cared for, and *Cytisuses* in a few chosen kinds. These have been mentioned simply to show the character of the stock.

Primulas of many kinds, made a splendid show in their turn, and *Richardias* throwing up a galaxy of flower spikes, neighboured them. Sweet Peas in pots are being tried, partly for the proving of the sorts, partly for bloom and partly to demonstrate the usefulness of this annual for early flowering as a pot plant for greenhouse decoration. The *Stephanotis* in pots are worthy of notice from the fact that the plants as seen at Stuart & Mein's will form fine decorative specimens bearing flowers, even though they are only in 6-in. or 7-in. pots and trained to stakes or other supports.

Dahlias are a never-failing pet for our florists, and here they were in their legions. Early *Chrysanthemums*, which lately have become so prominent and so fashionable, are afforded in wide selection by the Kelso folks. Marigolds, as true florist's flowers, are taken in hand, and are seen in greater perfection at S. and M.'s than almost any other where. Carnations used to be one of the great specialities of Messrs. Stuart and Mein. At present their stock is not so numerous as one might have expected, but this probably resolves itself into a thinning out of all except those most in demand. But in the fruit department, the question may be asked, who grows a finer lot of Gooseberries? At the July and August shows, both in the south of Scotland and the north of England, the contests in the Gooseberry classes are keen in all respects. Messrs. Stuart and Mein have done a good deal to encourage this, and they have applied themselves to the raising and growing of first-rate varieties. Their collection is represented by vigorous young bushes, whose needs are strictly attended to, and the merits of new ones are fully tried before being announced. Quantities of the "jam" Gooseberries, viz., Alma, Stockwell, Jumbo, and Mark's Monarch, are planted yearly. Plums from the graft a year ago are now in a fit state for use as espaliers, and good standard Apples for autumn planting are as ready as the Plums are, for transplanting. Thousands of Larch trees, and a general collection of ornamental Conifers, cover acres of the land in the nursery. Mr. Evans, the foreman in charge, deserves encouragement and congratulations for the work he so well performs, and we hope Mr. Thompson, the manager, will continue to uphold the good name and success of this old-time firm.

CRICKET.

HURST & SON'S v. MR. MILLBANK'S XI.—Played at Walthamstow, on 4th June, and won by Mr. Millbank's team on first innings by 15 runs.

1st innings.	2nd innings.
Gillispie, b Sampson 12	b Meldrum.... 1
Robbins, b Sampson 4	b Meldrum.... 0
Buckley, b Sampson 9	lbw Meldrum... 10
Millbank, jun., b Sampson .. 30	not out 49
Earl, c Hake, b Portch 6	b Portch 0
Herbert, b Meldrum 13	run out 4
Darken, b Payne..... 0	b Sampson.... 0
Wilson, b Sampson..... 14	b Sampson.... 7
Blackley, b Sampson 0	not out 7
Leighton, not out 3	} did not bat
Millbank, sen., b Sampson .. 0	
Byes 3	Byes 3
Leg Byes 1	
	95
	81

HURST & SON.

1st innings.

Portch, lbw Millbank..... 13
Purdy, b Robbins 16
Meldrum, b Wilson..... 0
Sampson, c Blackley, b Wilson 3
Roberts, run out 2
Dugleby, c Blackley, b Millbank 4
Jerry, not out 26
F. Locke, b Wilson..... 0
Sheldon, b Robbins..... 0
Hake, b Robbins 0
Byes 6
80

HURST & SON v. BEAUMONT.

This match was played at Hornsey, June 9th, and won by Hurst & Son by six runs. Scores: Hurst & Son, 86; Beaumont, 80; Portch and Squire batted well for the winners.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

OSWALD HOUSE, EDINBURGH, the residence of James Buchanan, Esq., has a just fame for its Orchid collection. Mr. Geo. Wood, the gardener in charge, manages his subjects well. The remarks do not solely apply to Orchids, but also the Ferns, stove plants, fruits under glass and fruits in the open air, Roses, hardy plants and vegetables. In the beginning of April we had a run through the garden, and want of space or leisure has forced our few notes to be held over till the present. At that time the *Masdevallias* were exceedingly fine, *M. amabilis* being specially conspicuous. Another member which Mr. Wood succeeds admirably with is *Ada aurantiaca*. He has some plants in 6-in. pots, and these he grows in an intermediate temperature. *Dendrochilum* or *Platyclinis glumacea* was seen bearing seven dozen of its beautiful feathery spikes. *Dendrobium Cassiope* and *D. Purdii* were crowded with blooms. The handsome *Cypripedium villosum* was represented by healthy young plants each bearing eight or nine large well formed flowers.

Coeloglyne cristata alba, the pure white variety, and the even prettier *C. c. lemoniana* were in flower, while the specific form *C. cristata*, of which there are plants a yard in width, had just gone out of bloom. *C. massangeanum* is a perennial bloomer at Oswald House.

Besides the numerous Orchids, *Anthuriums* occupy considerable space. The best of these is *A. Knightii* and *A. Wardii*. The older species are still retained. We had almost omitted to mention the *Odontoglossums*, of which *O. Edwardsii* and *O. wilckeanum pallens* were both splendid specimens.

A Fine *Cattleya Warneri*.—A splendid bloom of this summer-flowering *Cattleya* has reached us from Mr. Alexander Grigor, gardener to A. O. Gill, Esq., Fairfield, Aberdeen. The petals were somewhat over 3 in. in width and $4\frac{3}{4}$ in. in length. Theoretically, this would mean that the flower was $9\frac{1}{2}$ in. across the petals, but if the latter were to be spread out flat and straight, the bloom could not have been much under 10 in. in diameter. *C. Warneri* is usually a large flower, but we have seldom seen so fine a flower, and certainly not a larger one. The sepals and petals were of a uniform, warm, rich rose. The lip was equally proportioned, and handsome in its way. The dark violet-purple of the lamina was confined to the upper half of the same, while on each side of the throat were large areas of white. Lower down, the tube was beautifully lined with orange on a pale or nearly white ground. Summer-flowering *Cattleyas* are not too numerous, but what there are serve to prolong the display which reaches its maximum in April and May. Mr. Grigor is an enthusiastic Orchid grower, though the space at his command has to accommodate a great variety of subjects, thus limiting the houseroom to be devoted to this showy class of plants. He may well be proud of this *Cattleya*, however.

SOME GOOD LILACS.

THE Lilac of England and the Lilloak of Scotland, —would our gardens be gardens wanting them? They would miss much of their old-fashioned charm and homeliness. Of first-rate varieties we have Marie Lagraye, a beautiful single white, bearing very large trusses of splendidly fragrant flowers. The habit is sturdy, and the leaves are large and bright green. La Tour d'Auvergne, a semi-double, lilac-mauve variety, with equally large flower heads, borne in profusion on stout, young stems. Very much like it in all respects except that it is not so double, is Mdme. Kreuter. The colour here, too, is slightly paler, having more of the pink in it. Another splendid Lilac and which is strongly to be recommended is Souvenir de Louis Spath. It is much deeper coloured than either of the two last named, and the thyrsoid inflorescences are heavier. It is a single variety and very fragrant.

As a double variety for forcing what is there to beat the spotless purity of Mdme. Lemoine? It also succeeds well as a bush out in the open. At the same time, it does not seem to flower so freely as Marie Lagraye. The common old *Syringa persica* with long, graceful and slender shoots, seen beside some of these newer forms can scarcely bear comparison. At the same time it is a very free flowering

old shrub and one we would be very sorry to eradicate. The flowers and flower heads are small and possess a pinky-lilac shade of colour though white sometimes predominates. As an additional double variety, but one which is devoid of beauty, is Leon Simons. He or she who could fancy such a variety have little perception of what is beautiful. *Syringa vulgaris grandiflora*, a stout growing, single lilac-red member, is worthy of notice. And for a true lilac coloured variety, and one which is semi-double, to boot, President Carnot, may be accepted. It is very fragrant and has very "smart" foliage. Mdme. Abel Chanter seems to rival Mdme. Lemoine. The inflorescences, however, are rather shorter and certainly not so even.

Alphonse Lavallée runs President Carnot very hard, bearing, as it does, large heavy trusses (generally two from the apex of a shoot), but it is slightly darker coloured. There is very little to draw between the two, and only by trying them on different positions could their merits or greater excellency be proved. Philomel differs from most of the "reds" in having rounded and spreading flower heads. Duc d'Orleans is a very free flowering Lilac, having long, lax, pale coloured inflorescences. Pres. Grevy is a noble, semi-double, pale coloured variety, very worthy of a place; but the foregoing must comprise our list. If we were confined to a list of half a dozen sorts, the following are what we would choose:—*Syringa persica*, Souvenir de Louis Spath, Marie Lagraye, Mdme. Lemoine, President Grevy and La Tour d'Auvergne.

In nearly every case it will be found that the whites are the most popular, Marie Lagraye exceedingly so. Once more we would like to emphasise the great worth of the Lilacs, and in planting, arrange them as collections in huge lawn beds.

Lilacs may be increased by suckers or from seeds or by budding and grafting. Any free warm soil suits them, and a mulch during the height of summer should be given to them. Suckers should be rigorously removed from young, developing plants. Pruning should be done immediately after flowering, cutting back the shoots that are too strong. Young growths may be relied on to take the place of those removed.—Harrison, D.

BUCKLEBURY COMMON AND THE BLOOMING OF THE FURZE.

MY second visit to Bucklebury Common, in respect to the blooming of the Furze, was more than confirmatory of the first—it was emphatically a sight to be remembered, and a revelation in many ways. As might be expected the common presented a far more glorious aspect on May 27th than it did on November 26th. Nevertheless, my friend, Mr. A. Wright, affirms that the Furze, or Gorse, or Whin, "Whun," "Funn," or by whatever name it may be known, has never ceased during that period to exhibit its papilionaceous flowers in more or less abundance.

If then, my previous references to its powers of producing "pyramids of bloom," and "lanterns of light," were correct—as practically they were—at that time, what may not be said about it in the merry month of May? "Pyramids" and "lanterns" could, of course, be found by blotting out the surrounding sea of colour—a difficult thing to do as whole acres of it were ablaze with sweetness and light. *Ulex*, the botanical term for the genus, is indicative of *all prickles*, but in this species, at the present time, a better rendering would be *all flowers*, for these were so numerous, so rich in colour, and so lavish in profusion, as to give us both the same idea of an illimitable "sea of gold." Personally I can carry the imagery still further, and liken this delectable display to a vast concourse of yellow butterflies.

Moreover, Furze blossoms appear to be very susceptible to our great luminary, for when his rays are most ardent and at their brightest, the wings of this pretty legume are at their fullest spread, and one might then do worse than spend a day from early morn to dewy eve observing this. There is also a great variety of shades of yellow in the flowers, and a wholesome difference in the emerald green of the narrow leaves; while the shrub itself is marked by much variation in individual plants. To those who are well acquainted with our English heathlands no description is necessary; but those who, like the great Linnaeus, see such a glorious display of colours, for the first time may well kneel down and give

themselves up to rapturous delight as he is reported to have done. It is said that the great botanist—

"He who had scanned wide Nature's page
With loving eyes and keen,
Had yet attained to middle age
Before that sight was seen!"

If "that sight" was witnessed on Bucklebury Common I can appreciate his emotions, because it is a sight I would travel a long way to see.—C. B. G., Acton, W.

NOTES ON ONIONS.

THERE is no vegetable which is more valued than the Onion. To have good supplies of fine quality all the year round necessitates care in the selection of varieties to suit the soil and locality. Like most other plants Onions do not succeed in every soil—and some varieties do much better in certain soils than others. This we have often experienced. Good keepers are of great value, as some cooks are not content if they do not have bulbs fit for use throughout the greater part of the year. This we have not often found a difficult task, but it is seldom that the very large bulbs keep well; and *show* Onions soon become soft and liable to decay. Thorough ripening is of great moment. This is not accomplished on land heavily charged with rank manure. Crowding the ground to the extent of excluding sun and air is an obstacle in the way of keeping. Coddling the bulbs after they are housed is a very common evil. Onions being hardy they do not hurt by being frozen—always provided that damp is excluded from them. At the present time, May 26th, we have Onions bunched and tied to sticks which have been exposed to all weathers, but kept quite dry, since they were housed. They are in capital order. Dobbie's Golden Globe and their Selected Red, are the best keepers this year. For profit and general excellence, Veitch's Main Crop and Cranston's are unsurpassed. To give plenty of mild flavoured Onions, during *spring* and *early summer*, we plant out quantities of small bulbs, and such as are not otherwise required, during February and March. They are milder than autumn sown Onions. Underground Onions are much valued by many for early supplies.—M. Temple, Carron, Stirlingshire.

MR. PETER BARR IN NEW ZEALAND.

AT DUNEDIN.

MR. PETER BARR, V.M.H., of London, who is making a tour of the world, was lately staying at Dunedin, New Zealand. As is natural, he soon makes himself known and becomes friendly with the personalities of influence in horticulture or its connections wherever he visits. At Dunedin he made a tour of inspection around the chief parks under the escort of Mr. Alex Bathgate, president of the Preserves Conservation Society, together with the Worshipful Mayor of Dunedin. He manifested a great deal of interest in the parks and made a number of suggestions for their improvement. The alterations which Mr. Barr pointed out affect the dispositions of walks, fences, trees and belts of shrubs, glass houses and such other details, which of course are only of local interest.

AT CHRISTCHURCH.

At Christchurch Mr. Barr was interviewed by a Press representative. He there detailed some of his Daffodil history, saying that he had worked for twenty years with these bulbous plants before he could get the public to take an interest in them, beginning in the early sixties. Since 1884 when Mr. Oscar Wilde lectured in London on æsthetic colours, showing the beauty and value of yellow as a fundamental colour, the finest of all colours, the Daffodil has been the most popular spring flower. It is singular that New Zealand amateurs have taken up their culture just as at home.

Mr. Barr first began to work upon the Daffodils known to Haworth, Parkinson, and Salisbury—all old authorities—but what made the Daffodils first really appreciated were the seedling collections raised by Mr. William Backhouse of Darlington, and Mr. Edward Leeds, a Manchester stockbroker.

They introduced the fundamental types and varieties of what are now among the most beautiful of Narcissi. They were really the first hybridisers, and since their time (1884) many other interested persons have entered the field. When Mr. Barr finished his work of arranging and adding to his own

collection, the latter had representatives of 500 species and varieties.

The bunch-Narcissi are obtained from the southwestern parts of Europe and along the Mediterranean coast, while along the Atlantic side of Spain the trumpet Daffodils are obtained. To get the *N. poeticus* types, the Pyrenean mountains, those of Italy, and some parts of the Austrian Tyrol, are searched. Mr. Barr mentioned that he had travelled nearly all over Europe hunting specially for Daffodils, and he has also visited the United States and California.

He lately spent six months in Japan, seeing a large number of nurseries. Mr. Barr has little faith in the commercial morality of the Japs. They are smart, but they are unreliable. The Chinese on the other hand are, according to the Daffodil King, dependable. Speaking of the dwarf Japanese trees, he detailed how, by periodical cutting away of the roots, nipping off the foliage buds and methods of tying-in, they obtain their remarkable monstrosities. It is rather disappointing to read Mr. Barr's expressions on the outcome of the Japanese reforms, which we lately heard so much of. They did a great deal for a while, but we learn that they are not maintaining the colleges and experimental institutions which they so enthusiastically inaugurated. He instanced the case of an exceedingly clever professor in charge of a botanical garden in the northern island. He is a man who has studied all over the world, and is capable of doing good work, but he is not called upon to do any, and so things are drifting. Mr. Barr does not think there is capital in the country to maintain it, and cannot see where Japan's resources are to come from.

At Hong Kong the Japs are starting an industry for growing Camphor. Twenty miles of the English hinterland has been planted with Camphor trees, and the monopoly being in the hands of the Japs, prices are high. They expressed surprise that the Australians do not take up this industry, Camphor being in strong demand. Mr. Charles Ford, Public Gardens, Hong Kong, promised to supply all necessary information to those who may desire particulars of the industry.

Speaking of Sydney, the veteran refers to good work being done there. At Rotorua in Auckland, the Government is doing splendid work in raising forest trees with a view to afforesting and reforesting in that district. The richest evergreens in the world are at Tokaanu and Pipiriki—far richer than anything in the Buller or Otira Gorges.

PLANTS RECENTLY CERTIFICATED.

AWARDS made by the Royal Horticultural Society, at its meeting in the Drill Hall, on June 5th.

Orchid Committee.

DENDROBIUM DALHOUSIANUM.—The flowers of this remarkable hybrid are large and showy, and are borne in huge inflorescences after the form of a raceme. The plant comes truly between the forms of both parents (*D. dalhousianum* × *D. nobile*), though in colour it mostly favours *D. nobile*. The sepals are white at the base, tinged at the edge with rosy-mauve. The lip has a white block and a crimson disc in the throat, with a white front and rose-edge. The cross was raised by R. Brooman-White, Esq. (Award of Merit.) Exhibited by Sir Trevor Lawrence, Bart. (gardener, Mr. W. H. White), Burford Lodge.

CYPRIPEDIUM GODEFROYAE, WIGAN'S VAR.—A handsome variety, of large size and good form, pure white, slightly speckled on sepals and petals with purplish spots. (Award of Merit.) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

DENDROBIUM STUPOSUM, with white flowers and slender stalks. (Botanical Certificate.) Sir F. Wigan, Bart.

ONCIDIUM NANUM.—A species with brownish flowers, variously margined with yellow. (Botanical Certificate.) Mr. E. Kromer, West Croydon.

PHALAENOPSIS MANNI.—A beautiful and peculiar variety; flowers yellow, profusely marked with cinnamon or chestnut-brown. (Botanical Certificate.) Sir F. Wigan, Bart.

BRASSIA MACULATA.—This has white and chocolate-marked flowers. (Botanical Certificate.) Sir F. Wigan, Bart.

Floral Committee.

RHODODENDRON PINK PEARL.—This beautiful hardy variety had received an Award of Merit on a previous occasion when sent by Messrs. Jno. Waterer & Sons, Bagshot. It bears very long trusses of large, wide open, deep pink blooms having a wavy edge. It is altogether massive and lovely. (First-class Certificate.) Sir T. Lawrence, Bart. (gardener, Mr. Bain).

BEGONIA GLADYS HEMSLEY.—A double tuberous Begonia, having Lilac-pink flowers, with deeper coloured outer petals and fine form. It is strong, well held up, and altogether pleasing. (Award of Merit.) Mr. H. J. Jones, Ryecroft, Lewisham, S.E.

STREPTOCARPUS ACHIMENIFLORUS.—These were exhibited "for the strain," a new and decidedly valuable type secured by Messrs. J. Veitch & Sons, Ltd., from a cross between one of the hybrid *Streptocarpi* and *S. polyanthus*. Nothing more beautiful could be imagined than this new intermediate strain. The flowers are borne in branching cymes, and some are violet-blue, others are white. (Award of Merit.) Messrs. Jas. Veitch & Sons, Ltd., Chelsea, S.W.

TREE PAEONY CREAM PERFECTION.—This has large, strong, single flowers with a fimbriated edge. They are pale cream or straw coloured, the base of the petals being magenta. (Award of Merit.) Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester.

PAEONY LADY CURZON.—A large, full, "fluffy" flowered form, white with a tint of blush in the petals, the basal or outer petals being broad and strong. (Award of Merit.) Messrs. Jas. Kelway & Son, Langport, Somerset.

LILAC MDME. ABEL CHATENEY.—A splendid double-flowered white variety. (Award of Merit.) W. Marshall, Esq., Auchinraith, Bexley.

PAEONY LORD ROBERTS.—A large single white variety with a blush centre. (Award of Merit.) Messrs. Jas. Kelway & Son.

ROSE PINK ROAMER.—A climbing, single-flowered, rich rosy variety. (Award of Merit.) Messrs. W. Paul & Son, Waltham Cross.

ROSA TENNYSON.—A splendid new hybrid Tea, with large, full, blush-pink blooms, and a capital habit of growth. (Award of Merit.) Messrs. W. Paul & Son.

ROSA SINICA ANEMONE.—A large, single, deep red-flowered form, with habit of growth like the species. (Award of Merit.) Messrs. Paul & Son, The Old Nurseries, Cheshunt.

Fruit and Vegetable Committee.

STRAWBERRY TRAFALGAR.—In this new variety we have one of the finest flavoured Strawberries in existence. The fruits are of good size, wedge-shaped with nicely rounded shoulders. The colour is rather light, and the texture is soft, but as a first-rate late-fruited Strawberry it is to be recommended. It is a cross between Latest of All and Frogmore Late Pine. (Award of Merit.) Messrs. Laxton Bros., Bedford.

MAPLES (ACER).

WRITING to the *Irish Farming World*, the undersigned says:—These rank amongst the finest of hardy trees. Words fail to give an idea of the beauty of these lovely plants; the young leaves of some are gorgeous, in others the brilliancy of colour in autumn is grand; the beauty in others lying in the delicacy of the lacinated leaves. They are invaluable for shrubberies, and as dot plants in a lawn lend colour and variety which always attract admiration. Some days ago in driving through Scotland's longest glen—Glenlyon—I noticed a fine collection of Acers, planted along the roadside at twenty feet apart. These extended a long distance, and were in the full beauty of young leafage. Most of them were about 10 feet high, and in course of years will make a feature of interest that passers by cannot fail to admire. They are worthy of more extensive planting than one generally sees, and there need be no question of their hardiness as those I refer to were growing quite healthily on a mountain side, in soil anything but rich, and exposed to every wind and frost incidental to the Scotch Highlands.—J. H. Cumming.

T. V. Munson gave a complete survey of American Grapes in recent numbers of *American Gardening*.

FLORAL DEMONSTRATION.

AT the Royal Horticultural Society's meeting of June 5th, at the Drill Hall, Westminster, the Rev. Prof. Geo. Henslow gave another of his floral demonstrations. The method of Orchid fertilisation was reviewed, the adaptation of all the parts—the pollina, their elasticity, &c., and the stigmatic surface—explained. The fact of the Orchid seeds having no real embryo was remarked, and its absence was explained for by the presence of a nuclear mass, "a mere blob of cells," having concentrated protoplasmic contents. From this fact arose the difficulty often experienced in raising Orchids from seeds. Recent discoveries by fungologists have gone far to prove that all Orchids, and probably plants of all orders, are peculiarly invested with a fungus, whose purpose is to aid the special plant from which it obtains its own nourishment. This mutual give and take partnership, or "joint life," is termed symbiosis. According to Prof. Henslow "it is now known that all plants are more or less dependent on fungi." Heaths have the tips of their roots sheathed with a fungoid element, whose purpose, presumably, is to absorb free nitrogen, the best known examples of this process being shown by leguminous plants. As the old Orchid plants are already invested with the species of fungi peculiar to them, it was always advisable to sow the seeds in the pots of the parent plant, and thus truly assure germination.

Ornithogalum arabicum, which one sometimes finds so troublesome to grow in our British gardens, had been gathered in chalky stretches of Malta by the lecturer in years gone past. So common is it in that Mediterranean island that some nurserymen in this country try to secure the bulbs at 2s. per hundred.

Campanula Mariesii was shown for the sake of referring to the collector named Maries, who is at present in India. He sat as a scholar under Rev. Prof. Henslow, when the latter was a curate in Warwickshire, and in the botany class he all along proved himself remarkably clever with the subject. His name is now well known. We believe he is in the employ of Messrs. Veitch. The yellow *Helianthemum*, with its sensitive stamens, received a notice.

In reference to *Paeonia corallina* Prof. Henslow remarked that Sheppy Island was the only part in which it had been found growing wild, and he brought in the theory of its having belonged to the ancient South European range of plants, of which a small group of about twenty species are now found in various parts of the country on this side of the Channel.

Anemone Pulsatilla, with its "heads" of silky hairs, was stated to be found in quantity in chalk hills down about Oxford.

A passing word was given to the Javanico-Jasminiflorum *Rhododendrons* in relation to their propagation. The original varieties with distinct, yet related colours, or combination of colours, used to be grafted together, one say an orange variety, being used as a stock, and another, a red, being taken for the scion. But it was found that when two varieties with colours so nearly related were thus grafted the pink variety in crossing with this variety reduced the orange colouring, and infused its own pink shade in place thereof, so that this process is not now practised. A concluding notice was given to the Californian Tulips (*Calochorti*), and a type of the original yellow *Calochortus* sent home by Douglas, and now bearing his name, was shown.

GARDENING MISCELLANY.

TIMELY HINTS.

GARDENIAS in flower may be removed to the conservatory; Gesneras, Achimenes, and Gloxinias which are being grown on for next season's flowering, must be potted on as they require it. Train out Achimenes to neat stakes, and do this so as the stakes are hidden. Attention must be given to the tying out and training of Stephanotis, Mandevilla, Passiflora, Ipomaea, and Allamandas. Azaleas and Camellias out of flower, ought to be cleaned, pruned back if they need pruning, and be placed in a warm house with a moist temperature to make their growth. When they have set their buds they should be exposed to full light and air.

STREPTOSOLEN JAMESONII.

AMONG the varied host of greenhouse plants in flower at the present time, scarcely any one of them is more sweetly pretty than well flowered *Streptosolen*. Most cultivators can get supply enough of wood-growth from this plant, and many others have sometimes found it difficult to succeed in flowering it. At Kew, where they are successful with nearly everything, there are at the present time some lovely flower-wreathed specimens. One grows upward around a pillar in the greenhouse, its roots wandering in a bed of soil. Others are in pots but all seem equally contented and floriferous.—D.

DENDROMECON RIGIDUM.

IN very favoured parts of the south of England, this little Californian shrub may be expected to succeed. A pretty specimen is in flower on a south wall on a warm border outside the Orchid houses at Kew. The flowers are borne laterally from the slender young shoots. The flower consists of four obovate, smooth, and entire, and bright yellow petals. The foliage is glaucous and elliptical.

MARANTA ALBO-LINEATA.

It cannot be said justifiably that we lack handsome or bright coloured stove foliage plants of the type of this *Maranta*. Still, for exceedingly good plants, there is always a place. It will be long before this particular species can be ousted or even surpassed in favour by either *Calatheas*, *Hedychiums*, *Heliconias* or members of its own genus. The qualities which recommend it are, fine graceful bushy habit, brightly lined leaves which have clean cut edges and are strongly held up, and also the fact that these leaves are numerous so that a fine furnished plant is easily developed. It does well both as a pot subject or planted out in a warm indoor border.

RHODODENDRON GRIFFITHIANUM.

THIS popular greenhouse *Rhododendron* is fine when in flower at any size, but when a full specimen plant some 9 ft. or 10 ft. high is seen, and this loaded down with large and well formed bell-shaped blooms, the treat becomes a gorgeous feast. Such a special sight is to be viewed at Kew, where, in that fine new temperate block, so many massive *Rhododendron* specimens are planted. The plant in question is both broad and high, and bears some hundreds of flowers. These are large, smooth, bell-shaped, white and of large size and good strength of corolla. It is the large clusters of such fine-shaped, smooth blooms, which gives such value to this variety.

PHYLLANTHUS LATIFOLIUS.

THE *Phyllanthus* number among them some of the finest of stove ornamental plants. The species under notice here is most beautiful when in flower. The leaves themselves are not to be compared with such as *P. atropurpureus* or *P. nivosus*, but they are lovely when decked with their very small pink flowers which fasten and stud themselves all along the edges. So numerous are some of these that the leaves are scarcely seen. They give the plant an interesting and sprightly appearance. The *Phyllanthus* enjoy a warm and moist temperature. They can be propagated from cuttings taken and struck in a close case of a warm pit.

LOTUS PELIORYNCHUS.

A PRETTY plant, whose silvery, narrow, and short acerose leaves contrast splendidly with the bright orange-crimson, parrot's beak flowers. The stems are either creeping or drooping, and studded closely with these silvery little leaves. The flowers, which are of goodly size and brilliant colour, spring from about the apex of the stems or short stalks. It is said to sometimes grow to 2 ft. in height. It certainly is a strikingly beautiful greenhouse shrubby plant.

CLIVIA MINIATA CITRINA.

At Kew, in the Begonia House, there is a plant of the above bearing an uncommonly fine flower spike, and the corymb of flowers is not of the orthodox orange red or such-like colour, but is clear creamy-yellow. The centre of the flowers is of a deeper colour. In all respects the plant resembles *C. miniata*, except the colour of flowers. It came from Zululand, and should be a useful variety for crossing to get a yellow.

PHALAENOPSIS PLANTS FROM ROOTS.

IN looking over THE GARDENING WORLD for March 7th, 1885, I find an article on the propagating of *Phalaenopsis* by the roots. The correspondent writing of the occurrence stated that a young plantlet developed from old, overhanging roots of *Phalaenopsis stuartiana*, a plant then in fair vigour. The plants originated as mere points on each side of the old root, in one month's time sending out leaves and roots of their own. Have any Orchid growing readers had a similar experience or known of another such case?—*Argus*.

SYMPHANDRA WANNERI.

At first sight this plant may be taken for a slender Canterbury Bell, or form of it. The stems are erect, branching, and slightly ribbed. The leaves are borne alternately, are narrow, serrate, and about 2½ in. or 3 in. in length. The pretty lavender-blue flowers are borne on lateral shoots. They are funnel-shaped, smooth, even, five-lobed, and about 1 in. long. The habit of the plant is bushy, yet graceful, and as it flowers freely it is worthy of notice, either for pot work or for the plant border and rockery, by those who may not have seen it.

GERMAN IRISES FORCED.

THE beauty of these handsome flowered Irises is remarkable even when our gardens are everywhere loaded with brightness and wreathed in colour. But how amazingly welcome they are in early spring, when only dwarf-stemmed Irises, like *I. reticulata*, *I. stylosa*, and others, are in bloom. By the simple means of lifting and potting up a few rhizomes having good bud-shoots, Mr. F. Mearns, of Chiswick Mall, was able to exhibit noble spikes at the Drill Hall some weeks ago. Gentle forcing is all that these Irises require. Try a batch.

BRODIAEA UNIFLORA.

FOR massing in beds or openly situated ground few spring flowering, few dwarf plants are more cheerful or brighter than the above. The limbs of the corolla lie horizontally at right angles to the erect tube. The flowers are pure white save for a slight tinge of lilac here and there. There is a blue variety, however. It lasts for a long time in bloom, and is free and vigorous enough to be recommended for more general use. It used to be called *Triteleia uniflora*.

SCHIZOCODON SOLDANELLOIDES.

IN the rockery at Kew there is at present in flower a little specimen of the above. The leaves are small, rotund, obtuse, cleft at the base, unicostate and crinkled, it having numerous strong lateral veins. The edge is entire and otherwise the leaves are smooth. The pretty little pink flowers are drooping, borne on short stalks, and the petals are deeply fringed. It is an interesting plant, native of Japan.

MAGNOLIA STELLATA.

As an early pot plant this sparkling bloomer fills a place unchallenged at this time by any other shrubby plant. It demands no exacting care from cultivators, yet it yields a fine display of pure white, starry flowers, which, seen in mass, portray a picture which presents a sparkling pleasantness of form and brightness of colour.

STREPTOSOLEN JAMESONI

Is one of our most easily grown greenhouse plants, and withall one of the most beautiful, flourishing where little else would, yet well repaying for any extra labour bestowed upon it. It forms most admirable standards and for large conservatories it is one of the very best things in that way of which I know. When trained to a single stem from five to six feet and then allowed to develop a good head, they are something worth looking at when in flower. I know of one in a large tub destined to stand out by itself, the surface of the soil being planted with small plants. The intention is to cover both surface and sides of the tub with the *Streptosolen*. I think this a happy idea well worth imitating.—W.B.G.

POLYGONUM BALDSCHUANICUM.

At present this is, I believe, a rather scarce plant, destined it may be to become both popular and common. The members of this family (*Polygonum*) differ very widely in their general appearance. Con-

trast, for instance, the Buckwheat (*P. Fagopyrum*), an annual, some two feet in height, and *P. cuspidatum*, a hardy herbaceous plant sending up robust stems eight feet in height in one season; and again the subject of the present notice, a hardy climbing plant suitable for rambling over an old tree. The leaves are cordate. The flowers are produced in great profusion in long racemes of white blossom. All lovers of beautiful and new plants should secure this, which is a real gem.—W.B.G.

FLOWERS IN SEASON.

THE following are some of the more ornamental, or conspicuous herbaceous plants flowering in the last week of May, at Kew:—*Asphodelus albus*,* *Hedysarum microcalyx*,* *H. obscurum*, *H. neglectum*, *H. esculentum*, *Pentstemon confertus*,* *P. Menziesii*,* *P.M. var. Lewesii*,* *Valeriana pyrenaica*,* *Lathyrus undulatus*,* *L. pannonicus*, *L. variegatus*, and *L. macrorrhizus*; also *Trollius caucasicus*,* *T. aslaticus*,* *Potentilla aurea*,* *Oenothera Nuttallii*, *Isatis Villarsii*,* *Iberis correaefolia** (half shrubby), *Sisymbrium austriacum*, *Aquilegia glandulosa*,* *A. flavescens*,* *A. canadensis*,* *A. olympica*, *A. atrata*, *A. sibirica*, *A. vulgaris*, *A. v. multiflora*,* and *A. buergeriana*. The Lupines also are seen in *Lupinus polyphyllus*,* and *p. nootkatensis*.* There are also *Thermopsis montana*,* *Symphytum officinale*, *S. bulbosum*, *S. tuberosum*, *S. asperum*, *S. canescens*, *Pulmonaria mollis*,* *Polemonium caeruleum*,* and *Anchusa Barrelieri*.* The above by no means embrace all that are in flower, and do not touch the plants in the rockery. Those marked with an asterisk (*) are the most showy and valuable for general effect.

MERTENSIA VIRGINIANA.

BOTH in foliage and flower we have here a pretty subject. It is fairly well known, but might be better. The foliage is somewhat pale green or glaucous, smooth spatulate with broad stalks. The flowers are drooping, red and blue, on the same thyrsus, Borage-shaped, fairly tall, last well when cut, and form a pretty subject for the rockery or border. A deep, free soil is what suits it best.

SOCIETIES.**ROYAL NATIONAL TULIP SOCIETY, MIDDLETON.—June 2nd.**

THE northern section of this society was held in the Free Library under the most favourable auspices. The entries in the thirteen classes were satisfactory and the new class for the most tasteful arrangement should be valuable, but the battalions of bottles in straight lines mar the effect of the beautiful flowers.

For five stands of twelve dissimilar Tulips, two feathered, and two flamed in each class, Mr. Needham, Altrincham, gained the coveted position with Mabel, Annie McGregor, Sir J. Paxton, Dr. Hardy, and Talisman; the premier flamed bloom was Mabel in this stand. Mr. J. W. Bentley was second; Mr. A. Moorhouse third; Mr. W. Millar fourth, and Mr. J. W. Wood fifth.

Eight stands of six ditto but only one feathered and one flamed, in each class, Mr. Needham was again to the fore, with good blooms as mentioned above, having in addition Heroine. The other prizes went as named to Messrs. J. W. Bentley, W. Mellor, Moorhead, and J. W. Wood.

For six dissimilar, one each of feathered and flamed, Mr. G. Eyre, Ripley, gained the leading award.

For six stands of three feathered, one of each class, Mr. J. W. Bentley led with Adonis, Rifleman, &c. the other winners being Messrs. C. W. Needham, Moorhouse, W. Mellor, G. Eyre, and Wood.

Six stands of three flamed Tulips, one of each class, was sent by Mr. C. W. Needham, who scored with fine blooms of Mabel, Sir J. Paxton, and Talisman. Other prizes were awarded respectively to Messrs. J. W. Bentley, A. Moorhouse, G. Eyre, W. Mellor, and J. W. Wood.

For six stands of two Tulips, one feathered, and one flamed, Mr. J. W. Bentley won with Cyril and Elizabeth Pegg. Other awards went to Messrs. A. Needham, A. Moorhouse, G. Eyre, W. Mellor, and J. W. Wood.

For a single bloom in each class, prizes awarded in the order named: Feathered-rose, first and second, Mr. Needham for Modesty; fourth and fifth, Mr.

Bentley, for Mrs. Atkins, and Annie McGregor; sixth, Mr. Needham; seventh and eight, Mr. Bentley; ninth, Mr. Moorhouse; tenth, Mr. Eyre,

BIZARRE FEATHERED.—First and second, Mr. Needham, with Masterpiece and Attraction; third, Mr. Bentley; fourth, Mr. Moorhouse; fifth to tenth, Mr. Needham.

FEATHERED BYBLOEMEN.—First, second, and third, Mr. Bentley, with Elizabeth Pegg, Talisman, and Adonis; fourth, Mr. Needham; fifth to ninth, Mr. Bentley; tenth, Mr. Moorhouse.

FLAMED ROSE.—First, second, and fourth, Mr. Needham, with Aglaia, Mabel, &c.; fifth, Mr. Bentley, with Olivia; sixth, Mr. Eyre, with Clio; seventh, Mr. Bentley; eighth, Mr. Mellor; ninth and tenth, Mr. Wood.

FLAMED BIZARRE.—First to fifth, Mr. Needham, the best being Samuel Barlow and Masterpiece; sixth, Mr. Bentley; seventh, Mr. Eyre; eighth, Mr. Bentley; ninth and tenth, Mr. Needham.

FLAMED BYBLOEMENS.—First, second, and third, Mr. Bentley, with Talisman (fine); Trip to Stockport; fourth, Mr. Needham, with Geo. Edwards; fifth to tenth, Mr. Bentley.

BREEDER TULIPS.—For six stands of six dissimilar, Mr. Bentley was well to the fore with Beauty of Litchurch, Sir. J. Paxton, Annie McGregor, Lloyds 47, Rose Hill, and Eliza Pegg; second, Mr. Needham, whose stand had the premier bloom, Rose Hill.

For eight stands of three, one of each class, Mr. Needham improved his position, winning with Mabel, Sir J. Paxton, and Bridesmaid. Messrs. Bentley, Eyre, and Moorhouse came next in the order named.

SINGLE BLOOMS OF BIZARRES.—Mr. Bentley, first to third and fifth to eighth, the best blooms being E. Pegg and Talisman; fourth and fifth, Mr. Needham.

SPECIMEN ROSES.—First to third and fifth and sixth, Mr. Bentley, his best blooms being Goldfinder, Lloyds 47, and Dr. Hardy; fourth, seventh, and eighth, Mr. Needham.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. G. Robins, The Gardens, Dudley House, Springrove, Isleworth, for his article on "Richardia africana," p. 645.

QUESTIONS AND ANSWERS.

. Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargonium, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Vine Leaves with Black Spots.—W.B.G.: The Vine leaves you sent us were badly affected with what are termed warts. They were brown, rather than black, but at an earlier stage were green. These warts are simply formed by an abnormal growth of the epidermal and subepidermal cells of the leaves. They are generally considered to be the result of too close and damp an atmosphere during the growing period of the leaves. The long continued and sunless weather no doubt induced the grower to keep the house close, in order to keep up the temperature and save the coal or fuel bill. This, however, is a mistake as it renders the leaves of the Vines thin and flabby; while the atmosphere being continually moist causes an unnatural growth of the cells mentioned. It is no rust in any sense of

the term, and does not seriously affect the health of the Vines, unless the leaves are very badly affected, which would mean a greatly reduced area of leaf surface capable of performing the proper function of the same. You cannot remedy the matter now; but you can guard against it next season by ventilating more freely during the middle of the day at least, so as to dry the atmosphere, and encourage a firmer growth of leaf tissue. This should be done even if it is necessary to give increased fire heat. This explains why the leaves may be affected one year and not the next if proper methods of cultivation are maintained during the growing period of the leaves.

Is *Paeonia corallina* wild anywhere?—*Sigma*: This species is wild in South Europe, but not truly wild or aboriginal in this country. Some books say it is a native of England; and others state that it grows on islands in the Severn; while Babington states more precisely that it grows on the Steep Holmes Island in the Severn. It is figured as a British plant in *English Botany*, Vol. XXII, pl. 1513 and *English Flora*, Vol. III, p. 29. All are agreed, however, that it is not truly wild, but was originally planted there. We fear, however, that it has been eradicated from this station owing to the building of a fortification on the Steep Holmes Island. Someone recently stated that he had a plant in his garden that came from the Steep Holmes Island station. In 1650 it was recorded at Sunningwell, Berkshire, of above fifty years standing, and this was repeated in 1666. Quite recently it was recorded on the site of an old garden in Bagley Wood. Gerard recorded it as growing upon a farm sometime belonging to a farmer named John Bradley, about two miles below Gravesend. To this Johnson says: "I have been told that our author himself planted that Peonie there, and afterwards seemed to find it there by accident; and I do believe it was so, because none before or since have ever seen or heard of it growing wild in any part of this Kingdom." Phyt. I., 683. On the whole then the evidence is very slender that *Paeonia corallina* either is or ever was truly a native of this country.

Soft Soap for Green Fly.—*Omega*: Green fly varies in hardness and the strength of soft soap or other insecticides which it takes to kill the same. You do not say what plants they are on; but we think there would be little use in a weaker solution than 4 oz. of soft soap to a gallon of water. If you add one or two pints of strong tobacco water to the solution it would have much greater killing effect. Some of the insects are almost sure to escape the first application, so that you could apply the first in the evening and give another syringing the next morning while the green fly is still sick. You might give particulars as to the plants infested and we could help you more precisely.

Species of *Erodium* in Cultivation.—*E.C.H.D.*: At least 33 species have been introduced to cultivation at one time or another, but the bulk of them seldom appears outside botanic gardens. Many of them, however, make very pretty rockery plants, both on account of the foliage, which is usually finely cut and green or gray, particularly the perennial species, which are gems of the first water for the rockery. Many of the larger flowering forms imitate Pelargoniums by having large, dark, or light coloured blotches at the base of the two upper petals. The latter are also irregular in size like those of Pelargonium. About 101 species are recorded in the *Index Kewensis*, but probably these have been augmented since that work was published in 1885. The synonyms are also very numerous.

Names of Plants.—*A. H.*: Poterium Sanguisorba, or Herb Burnet, or Salad Burnet.—*R. J. G.*: Read: Calandrinia speciosa, a garden annual from North California.—*W. B.*: 1, Oncidium flexuosum; 2, Oncidium sphacelatum; 3, Maxillaria tenuifolia; 4, Lycaste plana; 5, Odontoglossum cordatum.—*G. H.*: 1, Geranium argenteum; 2, Corydalis nobilis; 3, Asperula odorata; 4, Astrantia major; 5, Cytisus scoparius andreanus; 6, Sedum acre elegans.—*Sigma*: Lonicera Xylosteum.—*E. C. H. D.*: 1, Sagina procumbens; 2, Lathyrus macrorrhizus; 3, Camelina sativa; 4, Aira caryophylla; 5, Poa trivialis; 6, Glaucium luteum.—*McK*: 1, Prunus Padus; 2, Prunus virginiana.—*Thos. Rixon*: Scilla peruviana.—*Omega*: 1, Chaerophyllum sylvestre or Wild Chervil; 2, Conopodium denudatum, the Earthnut or Pignut. It is by no means the Wild Carrot, nor very much like it.—*J. W., M.*: 1, Hieracium Pilosella; 2, Potentilla reptans; 3, Lotus corniculatus; 4, Trifolium minus; 5, Chaerophyllum sylvestre; 6, Olearia macrodonta.

Communications Received.—Messrs. W. and J. Birkenhead—Messrs. Sutton & Sons—Edwin C. H. Davies—J. Troup—J. Easter—J. Wallace—W. E. Groves—Messrs. Little and Ballantyne—A. Hutton—R. G.—A. Hope—A. McK.—G. J. Ingram—A. Grigor—A. F. Barron—J. Veitch & Sons—T. A. Morris—R. A. D.—M. L.—H. J.—A. C.—G. W., R.—S. M.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 23rd, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 26th.—Paris Universal Exhibition (temporary show).

WEDNESDAY, June 27th.—Richmond Horticultural Society's Show, in conjunction with R.H.S.'s Committees, at Richmond; National Rose Society's Show, at Salishury; Wilts Horticultural Society, also at Salishury; Southampton Horticultural Society.

THURSDAY, June 28th.—Colchester Rose Show; Canterbury Rose Show.

SATURDAY, June 30th.—Windsor, Eton and District Rose Society's Show.

VINES AND VINE CULTURE*.—That a book should go into a fourth edition is pretty certain proof that it has been accepted by the British public as the most reliable authority on all matters pertaining to Vines and Vine culture so tersely expressed in the name. The first edition was published in February, 1883, and ran to 240 pages, but the letterpress was in large type, so that although subsequent editions were less bulky they really contained more matter, and yet easily readable though in smaller type. The second edition appeared in 1887 and extended to 189 pages. The third edition followed in 1892; and the fourth (the present) one just now to hand runs to 202 pages, so that in this respect it is again creeping up upon the first edition as to pages, yet the increase in bulk over the second edition is hardly perceptible. The book has been revised, the chief alterations, perhaps, being in the chapter on "Commercial Grape Culture." In the way of additions there is a short account of the Black Rot in Grapes—an additional disease to European Vines for which we are indebted to America, by way of return for the donations of European insects, &c., sent from this side of the herring pond. There is also a chapter on the "Vine as an Ornamental Plant," which may tickle the fancy of those who are always on the outlook for novelty in the matter of decoration for their employer's table. The discovery is not a new one, but does not appear to be generally known, while it is less frequently employed than one would expect for such a handsome ornament as a small fruiting Vine for table decoration. The plan for producing them is very simple, and so clearly explained here that no gardener who can grow plants should fail to succeed in producing small specimens of various size or form, according as his fancy may devise.

The book commences with a historical sketch of the Vine, recording the fact that *Vitis vinifera* has now escaped from culture and runs wild in various countries as in the

*VINES AND VINE CULTURE, by Archibald F. Barron, V.M.H., late Superintendent of the Gardens of the Royal Horticultural Society, author of "British Apples, Pears, &c." Fourth edition. Revised and enlarged. London: "Journal of Horticulture" Office, 12, Mitre Court, Fleet Street, E.C. To be had also of A. F. Barron, 13, Sutton Court Road, Chiswick, and all Bookellers. 1900. Price 5/-; by post 5/6.

case of various other subjects taken in hand by man; but that the aboriginal home of the Vine is in Armenia to the south of the Caucasus where it climbs upon tall trees, and fruits in great abundance and variety. That it should do so in a wild state explains how growers have been able to increase the varieties of the Vine almost indefinitely so to speak, for has not M. André Leroy, of Angers, catalogued some 417 varieties, or, at least, names, for it must be somewhat difficult to discriminate between many of them, the distinctions of which must be infinitesimal. In the record of famous Vines, ancient and modern, we fail to note the Kinnell Vine, mentioned in our last issue, a Vine that can ripen 1,300 lb. of Grapes as a single crop is no common one. The "land of the mountain and flood" may not be celebrated for large Vines generally, but it still wears the blue ribbon for big bunches, for which growers in the land of cakes are justly proud. Trebbiano and Black Hamburg seem to be the most notable for the production of big bunches amongst modern varieties. Amongst ancient varieties Syrian gives large bunches, though the finest produced by Speechly, of Welbeck, which weighed over 19 lbs., does not seem to have been surpassed in this country, whatever the bunch may have weighed which was gathered at the brook Eshcol by the twelve spies sent by Moses to spy out the land of promise. By the way, the modern belief is that this was the variety Syrian, known also as *Raisin de la Terre Promise* and other names. Carrying the bunch on a staff between two men may have been an expedient to prevent injury to the berries, and not by reason of weight.

Several chapters detail the process of Vine culture, commencing with the methods of propagation, which every son of the profession should thoroughly understand. The raising of new varieties, the making of Vine borders, houses for Vine growing, heating, planting, the general management, pruning and training, the setting, thinning, and keeping of fruit, as well as the packing of Grapes, all form themes for chapters, which, in the aggregate, form a compendium of everything it is necessary that a gardener or Vine grower should know concerning the theory and practice of the subject. Other chapters deal with Vines under a multiplicity of conditions, the chapter on "Commercial Grape Culture" being of great importance at the present day, in view of the great and growing importance of Grape growing for market. Grapes for dessert purposes are still more or less extensively introduced, but they are annually of decreasing importance except as a cheap supply of the commodity. British grown Grapes yield to none on the points of size, quality, finish, and the prices they command, so that so long as a good article is in demand, as opposed to a cheap one, home growers need not fear competition. It is strange that Grape culture (we refer to under-glass culture) should have been carried to greater perfection in this northern land than in any other country, the native country of the Vine not excepted. This is no doubt due in part to the intrinsic merit of the varieties, but also to superior cultivation, as well as to the cultivation of sorts physically adapted for hothouse culture in a northern climate. At the same time we must not forget that our largest, most juicy, and finest looking varieties are not in all cases synonymous with the best flavour. That is a point that has been greatly neglected in Grapes of recent or modern times in Britain. Many of the foreign favourites are really of superior flavour though lacking in flesh, juice, and size. We do not overlook the fact that many small berried varieties are grown in this country, but they lack popu-

larity or admirers, and the growers are few and far between. One of the most valuable chapters in the book is that devoted to "The Varieties of European Grapes"; for here we have a description of the first, second, and third-rate varieties grown, together with their history, including origin, the special peculiarities of each variety, and the particular mode of treatment (if any) which certain varieties require. All these recorded facts are of the utmost importance to gardeners and growers in every branch of the profession, and render the book a handy manual or even an encyclopaedia for reference when one is in quest of some or other particular or piece of information that has escaped the memory. In the compilation of up-to-date manuals upon the subject of Grape-growing in the future, this chapter will have to be frequently consulted, for apart from cultivation and general management it is the most comprehensive and most closely packed with information of a useful and instructive kind.

Most of the old illustrations are again utilised, to which some new ones have been added, so that the book is well illustrated throughout. The figures are for the most part of a utilitarian character, meant to elucidate the text, and not merely for ornamenting the pages. There are 88 of these illustrations, including 30 figures of Grapes. Printing and binding leave nothing to be desired, so that the book is well worth the money. No gardener's library should be without a copy of this standard work on "Vines and Vine Culture."

Lectures at Chiswick.—In order not to clash with the Richmond Show, Professor Henslow's lecture announced for Wednesday, June 27th, will be given on Tuesday, June 26th, instead.—*W. Wilks, Sec.*

Royal Horticultural Society.—The R. H. S. Committees meet at 11.30 a.m. at the Richmond show on Wednesday next, 27th inst.; and members will have to sign their names in the attendance books at the entrance.

Orchis maculata, Scillas, Primroses, Anemone nemorosa and other pretty "spring" flowers are blooming in profusion in some of the Scotch Highland glens at present. The cold weather in spring had kept the Primroses back, and on the advent of fine weather, all the above were flowering together, though the Primroses were the first to reach the flowering stage. The blue and purple *Viola lutea amoena* is simply lovely, as is the Bog Bean (*Menyanthes trifoliata*.)

A Giant Bay Tree.—There is an increasing interest in Bay trees, and large specimens when offered, may be expected to realise good prices. For the last three years there has been an annual importation into the United States of America of about 5,000 trees from Belgium. The Bay is a very desirable decorative tree for a portico or corridor, or indeed, anywhere in close proximity to a building, and can be kept over the winter in a cellar free from frost. It would seem also, that a taste is generating in favour of well executed clipped trees.

Botanical Society of Edinburgh.—On Friday, June 15th, a meeting of this society was held in the class-room at the Royal Botanic Garden, Edinburgh. Mr. A. Robertson, M.A., B.Sc., St. Andrew's, contributed a preliminary note on "Witch's Brooms." He described and exhibited specimens found on the Larch, Ash, Thorn, Birch, &c., their cause being by fungus or insect agency. Mr. James A. Terras, B.Sc., assistant secretary, made a communication on "The germination of the winter buds of *Hydrocharis morsus-ranae*." Specimens of *Eucalyptus ficifolia* were exhibited by Mr. Robertson, and another specimen grown in Rome by Miss Orrock. *Geranium sylvaticum* was exhibited by Dr. Stuart, Chirnside. The first-mentioned specimens were in fruit, from garden near Arbroath. The plants were grown from seed sent from Australia several years ago. The young plants grew rapidly, and flowered freely in August.

The Banana plant is said to produce more food in relation to the ground it covers than any other member of the vegetable kingdom.

Mr. C. F. Wood, for some years head gardener to St. Barbe Sladen, Esq. at Heathfield, Reigate, Surrey, and for some time previous to that with the late Sir George Macleay, Pendell Court, Bletchingley, has been appointed head gardener to Col. R. G. Cosby, Stradbally Hall, Stradbally, Queen's Co., Ireland.

The Furze.—Has your correspondent "C. B. G." any authority for stating that the word "Ulex," the botanical term for the genus, is indicative of "all prickles"? If it be the fact that it has this meaning, how could it possibly be better rendered by "all flowers"? So far as I can glean, the derivation of the word is entirely unknown, but was used by Pliny as the name of a shrub allied to the Rosemary, though Linnaeus gave the name of Ulex to the Furze.—*J. C. Stogdon.*

Rose Souvenir de Catherine Guillot.—A coloured illustration of this Tea Rose appears in *Rosen Zeitung* for June. The variety was raised by J. Pernet-Ducher in 1894. The flower varies from medium to large size, and is described as of a beautiful yellowish carmine-red. Another description is that the particular tone is that of Azalea mollis, in Indian yellow overlying an orange-yellow ground. The bud stage of the bloom is very handsome, the interior being paler. As a buttonhole Rose or for house decoration in vases it is really very handsome.

Bye-laws of the Royal Horticultural Society.—A special general meeting of the Fellows of the society will be held at the Drill Hall on Tuesday, July 3rd, 1900, at 4 p.m., for the purpose of adopting, with or without alteration or amendment, the following Bye-laws for the society." The above notice is printed at the heading of the pamphlet of the new Bye-laws prepared by the Council of the Royal Horticultural Society, and, we presume, now sent to all the Fellows, so that the latter should be prepared to sanction the same with or without amendment on the above mentioned date, which coincides with the next meeting of the society at the Drill Hall. There are ninety-six Bye-laws arranged in fifteen chapters to be considered, so that Fellows will do well to read them over and go to the meeting prepared to sanction or amend the same, so that no time be lost on the date of the meeting. Otherwise the time taken to discuss them at the meeting will be long and serious. At the same time, however, there are many, in fact, the most of the Bye-laws are reasonable and their object obvious, so that after passing them any one can be altered or revoked at any subsequent general meeting, provided every alteration, revocation, or amendment of any one of them, or any new Bye-law is printed and circulated amongst the Fellows, at least twenty-one days prior to the general meeting.

Onions in Bermuda.—Nowhere in the world (except Britain perhaps) are Onions grown to such a state of perfection as in the Bermudas. The balmy climate and rich soil of these islands combine to produce Onions that, for size and flavour, are peerless. They are always sound, juicy and crisp, and about 30,000 crates of Onions are annually shipped to the United States. The American growers complain of the evil effect of these free-trade importations on the local Onion markets. The Onions are selected, packed in crates of 160 lbs., and sent off in March and April. The Onions are then transmitted to the receiving wharf, and rigidly inspected. If any unsound or inferior bulbs are discovered, the farmer has to re-pack and select the whole lot. The seed of the Bermuda Onion is grown on Teneriff Island. Two kinds are raised, one producing the earlier white variety, the other the red bulb. The seed is sown in drills, 8 in. apart, about September, in enormously enriched land. The fields in which the Onions are grown are little pockets of earth scattered here and there over the islands, being deposits in the depressions between rocks. They are often surrounded by Oleander hedges to break the gales. The plants are set out in beds when about the size of a goose quill, and so many as 800 crates have been taken from an acre. An account and illustration of "Onions in Bermuda" appears in *American Gardening* for May 19th.

A Red Sport of Rose Kaiserin Augusta Victoria, according to *Rosen Zeitung*, has turned up with Herr Lehrer Gärtner, of Waltershausen, Germany. The flower is of a beautiful red.

The National Amateur Gardeners' Association intend holding a conversazione and exhibition on Tuesday, July 3rd, in the Grand Hall, at Winchester House, Old Broad Street, E.C., at 7 p.m. The Right Hon. the Lord Mayor of London has kindly consented to be present and open the exhibition. Exhibitors should make early intimation of their requirements to the show superintendent, Mr. T. G. Swales, at the above address.

American Resistant Wine Stocks.—The Minister of Agriculture in Victoria has made extensive inquiries in France as to the cure of Phylloxera on Vines, and has visited the districts of Bordeaux, Montpellier, and Beaune. He found the leading French officials and vigneron unanimous in the opinion that the American resistant Vine stocks combat the Phylloxera without affecting the quality of the wine produced.

Early Potato Trade.—From *The Yorkshire Post* we learn that an extensive district around St. Malo has within recent years been brought under control for an early supply of the above esculent tuber. For the first time this year's crop has been transmitted to various towns in the north of England, by a fortnightly service of steamers to Hull. The need for a fresh supply has been much felt, for the Jersey Potatoes are said to have deteriorated in flavour on account of the exhaustive system of cropping, which involves the use of enormous quantities of artificial manure. In the St. Malo district a regular system of rotation in cropping is adhered to, the land being practically unlimited.

A Celebrated Botanist.—At the meeting of the Linnean Society of London, on June 7th last, Mr. R. Morton Middleton, F.L.S., exhibited a letter dated "London, 13 June, 1783," in the handwriting of Sir J. E. Smith, addressed to Charles Louis L'Héritier, at Paris, in which he mentioned a visit to Oxford with Sir Joseph Banks and J. Dryander for the purpose of looking over the plants and drawings of Sibthorp, who was then lecturing there; and added some critical remarks on several species of *Sida* which L'Héritier had sent him for determination. Mr. Middleton also exhibited an engraved portrait of Sir J. E. Smith from the *Gentleman's Magazine*, 1828, which, with the letter, he presented to the society.

The Triplex Syringe.—This name is given to an ingenious yet very simple form of syringe, otherwise known as White's Patent Triple-action Garden Syringe, being put into commerce by Messrs. Benton & Stone, Birmingham. The syringe is of the ordinary form in use, as far as external appearance goes, but requires to be turned round in order to make it act in three different ways. By holding it so that the nozzle is uppermost a single stream jet is given out, as in the case of a fire hose, only not so strong. Then by turning the syringe round for a quarter of its circumference so that the nozzle is on the side, a coarse spray is given off as in ordinary syringing. By giving the syringe another quarter turn so that the nozzle is lowermost, a very fine spray is given off such as is used for spraying Orchids and other flowers. The special advantages of this new patent syringe is that the operator may change from a jet pure and simple to a very fine spray merely by turning the syringe round in the hands. No halt in the operation is at all necessary in making this alteration. Secondly, there is a more even distribution of the spray. Thirdly, the syringe has no fine holes to become obstructed with grit or leaves; it has no separate jets or roses to be lost; and fifthly, it has no side pieces or mounts to interfere with the grasp, or to be knocked off with subsequent damage to the barrel. There are two forms of the syringe, the extra strong one with the best quality and finish, and the plain finished sample with polished barrel. It seems to answer readily and correctly when used, but after each discharge, it could be more easily refilled if furnished with Stone's patent adjustable plunger, as in the higher-priced article. In all other respects except in the means for changing the form of spray the syringe is of the ordinary garden pattern.

Weather in London.—During the past week London has been favoured with good summer weather. The oppressive heat of the week previous became modified about Wednesday, the 13th inst.

"The Queen of Flowers."—In the June number of *The Girl's Realm*, Mr. Harold Shepstone contributes a delightfully written article on Rose, "The Queen of Flowers." The history and associations connected with and which hang round the Rose, is spoken of, and we are treated to a dozen of large and clearly printed photographs of beautiful specimen Roses from various parts of the world, together with nursery views and illustrations of the best varieties in their sections. The habit of the many kinds of Roses is popularly described and the best features of Rose gardens briefly pointed out. The article is very interesting.

Webbs' Royal Exhibit.—Considerable interest was evinced in the exhibit of new and improved varieties of cereals which were exhibited by that well-known firm, Messrs. Webb & Sons, The Queen's Seed Growers, of Wordsley, Stourbridge, at the Royal Agricultural Society's Show at York, June 16th-23rd. Messrs. Webb have been engaged for many years past in selecting and cross-fertilizing Wheat, Barley, Oats, and other farm and garden plants, and their long experience is a guarantee of the sterling value of their introductions. At the recent Royal Counties' Show, H.R.H. the Duke of Connaught expressed his great satisfaction with the many new kinds of cereals, &c., which Colonel Webb brought to his notice. Among the new sorts exhibited was the Hardy Winter Black Oat, a wonderful cropper, producing bright stout straw and an abundance of plump, heavy grain of high feeding quality. As an instance of its remarkable hardiness and perennial character a well-known agriculturist says of this Oat: "I planted it two years ago, and after sheeping it close to the earth it produced a crop of 25 sacks per acre; I sheeped it again the next year and harvested 17 sacks per acre, whilst it is now still growing the third year and looks well." Another new Oat which Messrs. Webb are now offering for the first time is the Bosworth White Tartar, originally raised by Mr. John Bosworth, Clapham, Bedford, and since carefully selected on this firm's great Seed Farms at Kinver, where it has proved far superior to all other Tartar Oats in an exhaustive series of trials. In Wheats, Webbs' New Mont Blanc is conspicuous for its beautiful grain, which being remarkably thin-skinned is highly spoken of by millers, whilst it is also a most prolific cropper. Messrs. Webbs' Barleys have long been recognised as the finest in cultivation, and we were shown the sample of their Kinver Chevalier, which won the Championship of the World (and most of the other honours) at the Brewers' Exhibition, London, last October, for the seventh year. Messrs. Webb also excel in the new varieties of Agricultural Roots which they have raised, as is shown by the wonderful success achieved in open competitions year after year. Webbs' New Smithfield Yellow Globe and New Lion Intermediate Mangolds have only recently been introduced, but specimens on view from crops of nearly 90 tons per acre showed wonderful size and quality, combined with good keeping properties, as also did Webbs' New Buffalo Swede. Webbs' celebrated Grasses and Clovers were shown in luxuriant growth, and not only illustrated their system of supplying suitable prescriptions of seeds for various soils, but also demonstrated the superiority of the stocks of Clovers and Grasses which this firm has introduced to the public. A fine collection of vegetables was also exhibited, and now that growing vegetables for market is a course so largely adopted by agriculturists throughout the country, this section of Messrs. Webbs' stand was a centre of great attraction, particular attention being paid to the Emperor Cabbage, Early Mammoth Cauliflower, and Pioneer Pea, &c., the latter in actual growth, with the haulm literally covered with pods. Webbs' strains of flowers made a grand display, and the numerous Gold Medals which they have recently secured are evidently well merited. Seldom, if ever, have such magnificent Gloxinias, Begonias, Calceolarias, &c., been seen, whilst the hardy flowers were also very fine, both in richness and diversity of colour. Another section of the stand is devoted to special fertilisers, which Messrs. Webb manufacture on a large scale, and just at present their special Turnip and Hop Manures are in great demand.

Feeding.—A writer in a trade paper says that forced Beans at the time they come into flower and when they are swelling the pods, should receive more potassic and phosphatic soluble manures than liquid nitrogenous stimulants. The former brace up the plants.

A Pretty Entrance.—Mr. John Russell, at Richmond, teaches the residents around him by practical, ocular demonstration what to choose in the way of bedding stock, and how to use them, for effect in their front gardens. In front of his shop and business offices, which stands backward from the highway, he has arranged in effective display on either side of the entrance path, shrubs, bedding plants and carpeting stuff. These are not planted out, but are growing in pots or boxes, yet the presentment is much admired.

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

ODONTOGLOSSUM LINDLEYANUM CORADINEI.—In gardens this pretty *Odontoglossum* is usually regarded as a species, and Reichenbach so regarded it when he first described it in 1872. In structure it is certainly very closely allied to *O. lindleyanum*, but superior in every respect, both in the breadth of the segments and in the matter of colour; and the many fine varieties that have turned up in recent importations, have given it a status far above what it was hitherto wont to enjoy. A fine variety has reached us from Mr. George Russell, gardener to J. B. Mirrlees, Esq., Redlands, Hillhead, Glasgow. The ground colour of the flowers is creamy white on the lower half, and pale sulphur yellow on the upper half of the segments. On each of the sepals and petals, above the middle, is a large brownish-red or chestnut blotch, with a few smaller ones below, often run together in a blotch of lobed outline. The lip also has the usual large blotch in front of the crest. The segments are altogether broader than those of *O. lindleyanum*, particularly the petals. The variety under notice stands high amongst the finer varieties in cultivation, and the grower may well be proud of it.

AN AMATEUR'S ORCHIDS AT NEW MILNS, BY KILMARNOCK.

It gave me a great pleasure a few days ago to get a look at a collection of *Odontoglossums* grown by a most enthusiastic and intelligent amateur, "whose smithy stan's beside the burn," etc. We had the good fortune to find him there, and as he recognised us he saw it was Orchids we had come to see, not hot water boilers, although they were in evidence. Mr. Neil soon led the way to his favourites, which we found in a well built span-roofed house, and filled with plants that would be a credit to the best specialist. I have not seen better potted plants in any establishment. A glance showed us that Mr. Neil was as much at home here as in his smithy. We had just missed seeing a number of fine spikes that had been cut a few days previous to our visit. But enough remained to satisfy us that the Pachot type was what Mr. Neil believed in. About a dozen spikes were in bloom, and in a casual look round I counted thirty spikes in bud. From ten to fourteen blooms on the spike is very good, and as many as thirty were on one spike last year.

A number of *O. andersonianum*s were in fine condition, the pseudo-bulbs large and shining with health. *O. wilckeanum* is well shown here. The Messrs. Sander, of St. Albans, have been fortunate in securing a plant from Mr. Neil at a fair price, of this grand plant. A number of *O. Rossi majus* were passed and making good growth. *Masdevallias* were represented in good forms of *M. ignea*, *M. harryana*, &c. In another compartment some of the hotter section were doing well, and in the greenhouse some very nice specimen Ferns were in evidence, notably a grand plant of *Adiantum Capillus-Veneris*, in splendid condition. The roof has a fine plant of the white *Lapageria* in vigorous condition. Mr. Neil, senr., who I think must be quite an octogenarian, takes the chief interest in the garden, and I found him an enthusiast about Auriculas, which he grows well, and his Hollyhocks are looked after by himself. He grows them against a light espalier about 6 ft. high. No trace of

Hollyhock disease is here, the plants being the very picture of fine health.—*Visitor*.

PHALAENOPSIS PLANTS FROM ROOTS.

IN reply to Argus's question on the above subject, p. 669, I believe it is a not uncommon thing for Phalaenopsis to develop young plants on their roots. It has been my experience to have seen this on one occasion. The plant in question was one in the collection of Holbrook Gaskell, Esq., Woolton Wood, Liverpool. It having lost its leaves developed a young plant on the apparently healthy roots. In William's *Orchid Manual* I read:—"These plants are difficult to propagate as they supply few opportunities for division. To this rule, however, *P. luddemanniana* is an exception, as it produces young plants upon the flower scapes very freely. Sometimes the other species also will produce young plants on the old flower stems, and we have seen *P. stuartiana* produce them upon its roots. When this happens they should be left on till well rooted, and then placed on small blocks."—*Orchid Grower*.

NOTICE OF BOOK.

CARNATIONS AND PICOTEEES, FOR GARDEN AND EXHIBITION, with a Chapter Concerning Pinks. By H. W. Weguelin, F.R.H.S. London: George Newnes, Limited, Southampton Street, Strand, 1900. Price 3s. 6d.

THE author states in his preface that "a new work concerning the Carnation needs no apology." Although manuals have been written about it, many new varieties have been raised and new groups formed so that it is necessary to keep pace with the times. He describes the Carnation as a great garden flower, but has faults that raisers of the future must correct. Some of these faults, he says, are poor colours, split flowers, want of perfume, and weak constitution, all of which must be rectified, and in those points we agree. In recording the history of Pinks and Carnations, however, the author states that Mrs. Sinkins and Her Majesty Pinks originated by crossing *Dianthus plumarius* with *D. Caryophyllus*; but we must confess we fail to find evidence of the reputed hybrid.

After giving the history of the Carnation Mr. Weguelin supplies chapters on the Carnation as a garden flower; the Carnation in town gardens; various groups of the Carnation; Picotees; some Carnations worth growing; Carnations in the Midlands, Ireland and Scotland; exhibiting and dressing. After this come the ordinary routine of propagation, soil, potting, planting and other operations, which are so essential for the beginner to know.

In dealing with the matter of propagation the author maintains that propagation by layers and cuttings are the only methods of keeping and increasing varieties true to name, the first method being the best for all general purposes. For mere garden decoration or to get large quantities of flowers in a great variety of colours there is no doubt that many gardeners and amateurs will find the raising of seedlings from a good strain a very useful plan, because seedlings flower more freely than layers, and give a greater return of cut flowers for the labour expended. In the matter of layering he gives a very useful hint in the use of layering pins of two descriptions. At layering times especially if done early it often happens that many of the shoots are not long enough and cannot be layered without cutting down or injuring the flower stems. To obviate this one form of layering-pin is used for the first set, and "Sydenham's layering-pins" for the second batch. Those first layered would be rooted in advance of the others and might be lifted in advance of the others and without disturbing them. The ordinary plan of layering is illustrated for the guidance of beginners.

In dealing with insect pests and diseases, the author also gives a useful hint of his experiences with the wireworm and the plan he adopted to get rid of the same. Trapping he found to be laborious and useless. His plan was equally laborious but successful, and therefore has much to recommend it. Every spit of the soil was carefully and deeply dug over and examined with scrupulous inspection, the wireworms being gathered and destroyed. This referred to new garden ground; and if soil or turf is imported for Carnation growing the same plan of inspection before using it must be adopted. For greenfly the XL All fumigator is

serviceable under glass; but in the open air he finds tobacco powder distributed upon each plant affected by means of a puff-ball arrangement the most effective. A mild dose of tobacco juice and soft soap may also be employed. To guard against spot under glass the author advises the grower to expose the plants to the full influence of light and air, and to keep the plants dust-dry from about the middle of December to the middle of February. This also is good advice and generally proves the best preventive to the malady.

THE SHAMROCK.

THIS little plant has no doubt risen a good deal in public favour of late, and as there is still a sort of supposition about it not growing in England, the following facts may help to dispel it. Enclosed is part of a small piece that was sent to us from Ireland on St. Patrick's Day for real Shamrock. Having small roots attached, it was potted into a 60-sized pot and stood in a cold frame, where it soon began to show signs of growth, and by the end of April had filled the pot with roots, when it was planted out at the foot of a small rockery facing the north, but sheltered on every side by trees and buildings. The soil used for planting was shaken from the old *Chrysanthemum* stools. When first potted it scarcely reached the sides of the 60-pot; it is now over a foot across and in flower. These are like miniature *Coronilla* blooms.—*G.B., Mona Cottage, Holbeach*. [It is *Trifolium minus*, a common species.—*Ed*]

THE KITCHEN GARDEN.

NOW that the bedding out is completed, the above will be calling for attention. Such crops as Parsnips, Beet, Onions, Carrots, &c., should be given their final thinning, where good roots are expected for autumn and winter use. Some rely upon one bed of an intermediate sort of the later for present use, as well as autumn, which I consider a mistake, as an extra bed of Early Horn is preferable. Celery plants should be dusted over occasionally with slaked lime, being a good preventive to fly, and at the same time beneficial. All Peas should have a good mulching of three parts rotten manure or stable litter, whichever is to hand, which will assist the Peas when swelling by keeping the ground in a more uniformly moist state and much easier to water when required. The Dutch hoe should be kept in constant use as long as possible, not only for the purpose of eradication of weeds, but to retain the moisture, as by its use the veins, conveying the moisture upwards, are severed, at a distance below the surface and the moisture remains in the soil, when otherwise it would evaporate into the air.—*W. Waite, Southfields*.

ABOUT BOUVARDIAS.

BY setting out Bouvardias on the shady side of a low wall, fence, or hedge, during the summer months, and keeping them well supplied with weak liquid manure, very much better plants can be obtained for winter blooming than by keeping them inside where they get drawn, and make too soft wood to flower well. Old plants ought to be rested, as one would do with Fuchsias, and repotted about the beginning of March, giving them a good start in heat, 65° or so, when they may be gradually hardened in a greenhouse or cool pit, and set outside in the beginning of June. Cuttings struck in March may be potted and treated in a similar way, with the best results. A good mixture of fibrous loam, leaf mould, sand, and charred refuse suits them well, but one should be careful not to overpot them, as they are liable to get soured when put in too large sized pots. Towards the end of September they may be removed into a lean-to house if possible, where a little heat can be given them to assist to open their flowers. If not forced too much they will give a succession of bloom during the flowerless season of the year. Some of the weaker sorts ought to be tidily staked and tied up. A few good kinds are Hogarth, Alfred Newner, Vreelandii, Bridalwreath, and President Garfield.—*John C. Dick, Champfleurie, Linlithgow*.

Bulb Forcing.—It is remarkable that some of the florists of America, to assist a bulb to throw up a flower spike quickly and to be at the same time strong, cut away the foliage. The whole nourishment of the bulb is thus given to the flower.

DIONAEA MUSCIPULA (VENUS FLY TRAP).

THIS curious plant belongs to the *Sundew* family, and from its nature of catching flies and other insects from which it derives nourishment, it is called a carnivorous plant. The leaves are several inches long, the stalks of these are slightly winged. At the end of each are developed two fleshy flattened parts. Each is fringed along the edge with long hairs. In the centre of each part are three small hairs which are very irritable, so that when touched by a fly or any other insect the parts suddenly collapse like a trap, the parts tightly lacing over each other. When the insect is dead they open again but remain closed while there is any movement within. As to culture it should be potted in peat and sphagnum moss. The pots should be well drained; water should be given freely, as their native home is in the swamps. I find the plants grow well near the glass in the intermediate house.—*H Haddon, 65, Denmark Street, Camberwell, S.E.*

THE NEGLECTED CAMELLIA.

IT is surprising to see how quickly those handsome evergreen flowering shrubs have gone out of fashion. I suppose no flower has gone out of favour so completely as the Camellia. Other flowers more graceful in habit, and welcomed, perhaps, for their scent, seem for the time being to have ousted those valuable plants from our greenhouses.

This surely cannot be for long, blooming as they do from autumn to early summer, and even when not in flower their large, shining foliage has a cool and ornamental appearance even in the height of summer. Then again, when associated and judiciously arranged in autumn with *Chrysanthemums*, the bristling buds and foliage of the former would surely show up the blooms of the *Chrysanthemums* to the highest advantage. And what more useful flower could be had for a buttonhole or spray than the varieties *Lady Hume's Blush*, and some few others of similar size? The Rose and Carnation are undoubtedly more graceful flowers, besides being charmingly scented, but then these two latter require some skill with heat and light to produce them in winter, whereas the Camellia, if the growth is early matured the previous summer, will open its flowers in a comparatively cool and dark structure.

Perhaps a few remarks on their culture might not be out of place, as there are still a few garden establishments where these plants are to be seen, their owners not liking to part with them for fickle fashion's sake. As the rising generation of gardeners know little of the requirements of the Camellia, my remarks may be of more interest if I first relate a serious case of failure, and what brought it about, and then how they were restored to health. There is often more to be learned from failures than from successes in plant cultivation.

Now some years ago it fell to my lot to take charge of some score of large and small plants, some in pots and tubs, others planted out in prepared borders.

It was a most pitiable sight in plant life to behold such wrecks, not a healthy plant among them; large ones with only a few yellow spotted and curled leaves. Some of those plants had a few years previously cost from 10 to 20 guineas each.

At first sight one would think they had been grossly neglected. Not so; there was no neglect, but want of knowledge, the man to whom they were given in charge not knowing their requirements. The same thing might happen to hundreds of young gardeners to-morrow if a collection were given into their charge. The plants when purchased were all in robust health, came from different places, and were intended to be the principal feature in a very large, new house. Some were selected to be permanently planted out, others to be repotted and tubbed. Good fibrous loam of moderate texture was selected for them, mixed with dry cow dung and charcoal; borders were formed of this mixture, and the plants duly put out, others potted and tubbed. All being completed, a vigorous growth was looked for.

But a grievous disappointment was in store.

When the season of growth arrived it was not long before they showed signs of unhappiness. The leaves became sickly, spotted, and yellow, and fast dropped off. The whole collection soon became unhealthy, and was the cause of great unpleasantness.

The soil in the borders and pots was now examined, and not a root had entered the new soil, and all small roots which were in contact with it were found to be dead. It was then decided to renew the compost, light loam, peat, and sand being their next "larder." The same process as related above, potting and tubbing, were gone through again, but with no better result. They went from bad to worse, and when I took charge in the month of March they were in this deplorable condition. Having heard their history, as briefly given above, I made an examination of the loam, and proceeded to the spot where it was obtained, finding just what I had expected. With my previous experiences with these plants I soon defined the cause of failure, and at once set about to rectify the mistake. On enquiring I found there were some mountainous formations of light coloured sandstone some twenty miles distant. After exploring this high ground I came upon soil suitable for my purpose, namely, a light loam full of fibre. The loam between the hills was clothed with very fine moss, having been for generations eaten off by sheep and cattle. I eventually obtained permission to obtain what I wanted, and proceeded at once to cut it off in turves, about $1\frac{1}{2}$ in. to 2 in. in thickness. As soon as I got it home it was at once all chopped and torn to pieces, green as it was, and nothing whatever taken out or added. As potting and tubbing had to be gone through again many of those plants which had been previously planted in the borders were also put into pots and tubs, first reducing the old balls, cutting away all dead roots before repotting, and allowing about 1 in. of space for new soil, which was made firm by the use of the potting stick. The larger plants had the soil cleared from them, the balls seen to, and about 6 in. of soil rammed tightly around them, retaining walls being put around to keep the old and new soil apart. Every plant went through one of these two processes. After all had been completed they were dewed morning and evening, and in due time as the season advanced numerous buds began to show from their lower stems, where the leaves had dropped off, and even from the very old wood. Their development was very slow, but anxiously watched. Slowly and surely they were moving aright, and before the summer was over success was seen to be assured.

Although no wood growth had been made, apparently every bud made a pair of small bluish-green, healthy looking leaves, with a prominent wood bud in the centre. The plants at this stage had a peculiar and interesting appearance,—old wood studded with pairs of healthy, shell-like leaves, and when the roots were examined the pots were found to be filled with strong white roots, and as autumn and winter approached, these plants were watched with no ordinary care, for at this season temporary injury is often done.

The following spring, when growth commenced, they made such growth as I had never before or have never since seen;—shoots a foot and more long, with large dark green leaves, and wood of extraordinary thickness, which gave the greatest satisfaction to all concerned.

The result was, of course, a profusion of fine blooms. These plants never gave any more trouble, only further root space in the same soil as needed.

My whole success was in the selection of the loam; that which the plants were first put in after being purchased, came off a limestone formation, not at all chemically suited for these plants. I have often complained in the horticultural papers the indiscriminate way in which loam and peat is recommended by correspondents. If the former is strongly impregnated with lime (which is so often the case), the mixture makes one of the worst composts for most plants. As a rule peat ought never to be mixed with such loams. The loam here which I have to handle is from the sandstone formation. A mixture of peat with it makes an excellent compost for some things. Perhaps twenty miles distant, it might be poison to some plants. I believe Camellias can be well grown in loam from the old red sandstone formation. In one establishment I was once in, nothing whatever but peat and sand were used, and the plants did admirably in it. Here, at Nostell, near Wakefield, Camellias thrive in the natural soil of the district.

I previously said bud dropping was avoidable. To prove it, I will ask any grower who is troubled with it, to turn a plant out of the pot and examine the roots. It will be found to have all the points

of its roots dead, but unless carefully examined it might not be noticed. This, therefore, causes a lack of nutriment to the buds, and the plants are not able to retain them and bring them to perfection. This injury to the roots is caused in various ways. Unsuitable soil may be one; bad water another; and over or under watering may be a source of injury. Manure water often is, and so are heavy chemical dressings. The young roots of Camellias are very susceptible to injury, and require great care to keep them healthy; therefore I say keep the roots healthy, it will then be found that bud dropping will give no more trouble, but instead, the buds will have to be attended to in thinning, if fine blooms are required.

In many localities these plants thrive and flower freely out of doors. They are much hardier than the common Laurel, Bays, or Laurustinus. I have seen the former killed, while the Camellia has escaped injury. Not ten miles from here there are to be seen several plants, trained to a wall, or rather grown against it, which stood, uninjured, the severe winters of a few years ago. Anyone having plants which they are inclined to destroy or to dispose of for a mere trifle, I would say, if the ground is suitable, plant them out in summer. In sheltered positions they will not be disappointed with the result.—*J. Easter, Nostell Priory Gardens.*

Kitchen Garden Calendar.

MOST, if not all, of the frames used for early vegetables will now have been cleared of their crops. That every available space may be utilised to the best advantage, and as many of the tender kinds are greatly benefited by the aid of glass in the autumn, it may be advisable to plant such crops where protection can be afforded them. Take for example Capsicums and Chillies. In cold districts frost often comes before the fruit is ripe, causing the greater portion to suffer. There is also the late sowing of French Beans to be considered. The lights could also be used for growing Tomatoes and the like. This is a good time to have any that need painting or repairing looked over that they may again be ready for use when required.

ASPARAGUS.—Cutting should now be discontinued, and growth encouraged as much as possible by a liberal dressing of artificial manure, and where the rain is slight a thorough soaking also. As this is one of the most useful spring vegetables we have, every effort should be made to grow it well, and have as large a supply as possible from a limited space. Where roots are planted 2 or 3 ft. apart there is too much ground wasted, and small gardens cannot afford to be so extravagant. The aim should be to obtain as much useful produce off a small portion of land as is possible, not a few monstrosities such as we sometimes see at exhibitions, most of which is wasted. If the plants are induced now to make robust stems, strong crowns will be formed at their base for next year's supply. Potash manures of any kind are beneficial, and these should be applied at intervals of about a week or ten days during the month of July, by which time growth will be sufficiently advanced to need no further help.

RUNNER BEANS.—Strict attention should now be paid to this crop, for under good cultivation none pay better; but if neglected, growth soon becomes stagnant. We frequently see fine rows of Runner Beans in cottage gardens, and this is solely owing to the constant attention they receive in the way of watering. It is not always possible in private establishments to give attention to everything at the same time, but an extra effort should be made to look after these. The last sowing should now be made in a sheltered position, that is to say, in one not exposed to the south-west, as in many places more is to be feared from this than from frost. We have sometimes had every leaf stripped off the plants by a strong gale in August, leaving the young tender pods so bruised as to be of no use whatever. While the runner varieties are plentiful, Dwarfs are not so much in request, but it is well to make small sowings of these once a fortnight till the end of July, as they are more readily protected.

LATE PEAS.—In sheltered districts these are a valuable crop. I once remember seeing in the north of Derbyshire as fine a row of Ne Plus Ultra in October as one could wish to see in July, the season just

suiting them, but it is not in all seasons that such fine results could be obtained. However, it is always well to make a sowing or two early in July, and if the autumn should prove favourable, the crops will be very acceptable. Tall Peas do not find so much favour in exposed districts owing to their liability to be blown about by the wind. Late Queen, Autocrat, Invincible, Veitch's Main Crop and Michaelmas are all of medium height and very prolific.

SALADS of all kinds are now much in demand, for this reason no pains should be spared to keep up a constant supply. Lettuce both of the Cos and Cabbage varieties should be sown at intervals of about a fortnight. The plants should be planted out as soon as large enough to handle, on rich moist soil. Water must on no account be grudgingly given them, for the quicker they are brought to perfection the more tender will they be. Radishes may also be had in the finest condition by frequent small sowings, while Mustard and Cress ought to occupy a place on a north border and be protected by shading to keep it tender.

MULCHING at this time of the year ought not to be neglected, not only does this save much time in watering but if suitable material be employed the ground is greatly benefited thereby. There are few private gardens that have an adequate supply of stable litter for all purposes, for what with making hot-beds, mulching Strawberries and the like, very little remains for the vegetable crops; and where the garden is situated some distance from a railway station there is much difficulty in getting suitable material by rail. Where mulching can be regularly carried out, far finer crops at less expense are obtained, than where the cultivator has to depend so much on the watering pot to keep plants growing.—*F. W. J.*

SOME WILD ORCHIDS.

A RAMBLE over upland pastures in the sweet May time is almost sure to reveal one or more species of these curious yet, withal, interesting plants.

In many places the fields are now full of their quaint forms and extraordinary flowers, so much so that, occasionally, they give a distinct feature to the landscape and tint the fields with colour.

Such a charming and refreshing experience was mine on the 27th ult., when my host called me early, and we were soon inhaling the purity of the night-washed air and brushing the dewdrops off the glittering grass. Over the elevated heath-land of Bucklebury Common we made our way, and were soon gazing on the purple, the gold, and the green which go to make up some of the characteristics of English pastoral scenes.

One field in particular was redolent of purple, this predominating colour being due to the richness and profusion of *Orchis mascula*, one of the commonest and handsomest of our Orchidaceous plants. Thus this meadow from afar was purple with delight and glowed with claret colour. A nearer inspection however, gave us other species, and enabled us to fill our vasculum with a dozen different forms. The time, the place, the glorious morn, and the floriferous surroundings all tended to increase our interest, and to produce a Dame Nature of the loveliest description. Where everything is beautiful it is not possible to exaggerate, and so I trust that my readers will not be incredulous as to the amount of beauty a lover of Nature can perceive. After the purple *Orchis*, in quantity and variety, comes the green-winged member of this curious race (*Orchis Morio*). The flowers of this species are paler in hue and form a less dense spike than the purple one.

Moreover, the sepals are distinctly veined with green, curve upwards and form a kind of helmet over the rest of the flower. Any orchidist examining these with the aid of a pocket lens is sure to exclaim *Cypripedium venustum*!

The Spotted *Orchis* (*O. maculata*) also occurs in fair profusion. The spike—at that time—looked crowded and solid, the flowers being of a delicate lilac tint, spotted with darker colours; the leaves also are purple spotted. We found a white variety. The Tway-blade (*Listera ovata*) was preparing to send up its yellow-green spikes. It is not, however, so striking a plant when in flower as those above mentioned, although it is easily distinguished from all our native Orchids by its two broad, glossy-green, strongly-nerved leaves, which are often 6 in. long.—*C. B. G., Acton, W.*

HINTS FOR AMATEURS.

Hardy Plants of Beautiful Forms.—From a gardener's point of view the subjects he cultivates may be judged from two main vantages, the first one, form, the second, colour. Forms and colours are the principles we require mainly to deal with in gardening. It would be idle and very stupid to discuss whether we obtain greater pleasure from beautiful masses of colour with form unnoticed, or from lovely forms in their great diversity. But still, while yet we would not wrangle about the merits of colour brilliance *versus* mere form, it is worth some little while's attention to answer the question whether we might not have more of both in our summer gardens, or at least more of one, though not less of the other.

At the same time the difficulty of introducing those plants which possess the most strikingly bold and noble forms, such as the Rhubarb tribe, the Gunneras, and many Umbellifers, the difficulty of introducing these into small gardens should not be overlooked. They impress one with ideas of extent, of breadth, and for spread limits.

If wide areas are not in our possession, if our gardens are only large enough to fill our view in a single glance, then the thought of including the largest and handsomest foliage plants would be farcical. Yet so very varied is the selection, that gardens of all sizes may have suitable subjects, and many or most of the plants which we shall name as specially fine in foliage, are also the very ones which give us the best flowers.

The fullest wealth of form and colour is only to be had toward the end of summer. In very warm summers (or even only moderately warm ones for that matter, if they were steady), we might almost turn the occupants of our plant stoves into the open air, and they would take no harm. We have instances of this in a limited scale in some of the parks. Fine Palms, Bananas, Monsteras, Coleuses, Dracaenas, Ferns, Caladiums, Tradescantia tricolor, and other tender enough plants are placed out yearly. But all this is beyond the poorer amateur. It may be easier for us if a few worthy plants are separately referred to.

Yuccas.—There are the Yuccas which I always think are not nearly enough appreciated. Few plants are more truly ornamental when properly employed in garden composition. I have before now likened a Chill Pine (*Araucaria imbricata*) in a garden, to a handsome piece of mahogany or walnut furniture in a room among common deal chairs and cupboards. And it is in much the same light that I look upon the best Yuccas. They have an individuality all their own. They speak of the desert. They seem to me the very embodiment of defiance against the scorching heat of a Mexican plain. They are mysteriously superior in their imperious bearing, scornful of every condition that surrounds them. *Yucca gloriosa* sometimes throws up a very massive flower spike, but without the flower it is one of the best of the genus. *Y. g. recurva* is used among old tree roots and stumps at the angles where walks diverge, or in solitary groups on high, somewhat rocky land in the open parts of the pleasure grounds. They make handsome subjects for the bolder parts of a rock garden. *Y. g. plicata* and *Y. filamentosa* are slenderer forms. *Y. augustifolia* and others are worthy of special notice. The Yuccas must not be confounded with the Mexican Agaves, which are spiny succulent plants, whereas the Yuccas are fibrous, dry and hard.

Funkias.—Of quite a different nature are the soft herbaceous Plantain Lilies, usually with ovate leaves, which grow thickly together. The plants make fine objects for the edge of a bed. Indeed a very effective bed can be made simply by using Funkias alone. It should be circular and need not be very large, say 6 ft. to 8 ft. in diameter, but should be well raised up in the centre. To fill the middle, *F. sieboldiana* may be planted; *F. ovata*, *F. o. marginata*, *F. lancifolia undulata*, *F. ovata striata*, *F. o. aurea*, *F. fortunei*, and one or two other forms may be used in masses around the borders.

Bamboos were mentioned last week, and in the meantime nothing further need be said than that it would be better for our gardens if gardeners and owners would interest themselves in, and proceed to plant, Bamboos of known hardiness and beauty. But

so long as planters and buyers are content with reading descriptions of this and that sort, so long will they miss much that would be a benefit to their gardens and give them pleasure. Next to a Rose garden, a well planted assortment of Bamboos, Honeyuckles, and Polygonums can be the finest feature of a garden. But, indeed, I would prefer to combine the Rosary with the Bamboo garden. The Roses, Briers, &c., could be planted over rockeries, rising banks, recesses, or just wherever circumstances and good taste fixed them to be. And if the space was of sufficient dimensions I should greatly like to introduce rock-work with Alpine plants, and water scenery with the types of vegetation suitable to it. Still, we have to be moderate, and there is a great deal of indiscriminate making of lakes, rock gardens, and other "type gardens."

Acanthus.—The Bear's Breech has been mentioned in this place before. The fact that it has been selected by master minds in sculpture as a subject worthy of study and perpetuation in stone—for the forms of Acanthus leaves are modelled in old Greek capitals—is surely enough to prove its bold and picturesque appearance. The foliage is dark, spiny, lobed, and sinuous along the edges. The flower spikes are quite remarkable, not for the brilliance of the flowers, however, but because of their quaint form. They may either be planted in an ordinary plant border, or put out in masses in the back part of lawns. Their own handsomeness is aided and the grandeur of old ruins enhanced when they are planted contiguously to such places. It seems immaterial whether they are planted in a shady or a sunny place, for though they do much better in sunshine, yet they live and flourish in shade. A deep and open sandy loam suits them to a nicety. The best of the hardy species are *A. latifolius*, *A. spinosissimus*, *A. mollis*, *A. longifolius*, and others.

Castor-oil Plants.—These annuals are probably well enough known to be dispensed with at short notice from the present list. They are pretty generally grown. A pinch of seed sown in a box in January or February will furnish one with plants of good size and hardiness for planting out at the end of May. They are frequently employed in sub-tropical bedding. They are effective when used with discretion along the edge of shrubbery belts. I do not think they lend themselves well to massing in groups; they lack picturesqueness.

Wigandias.—Though these are among the finest of the large leaved plants that are used in our summer gardens, they are, perhaps, suited to the gardens of only a very few amateurs. To give a rough and ready description to them, consider them as monster Tobacco plants. They are exceedingly fine in large beds, with plenty of space and massive features around them.

Ferulas.—The Giant Fennels have all very much dissected foliage. Associated with quiet water scenery they are exquisitely beautiful; and when they flower in mid-summer they are then noble in appearance and dimensions. The common Fennel, *Ferula communis*, is slightly coarser in foliage than *F. syriaca*, which is one of the most finely dissected. *F. Ferulago* is a bright pea green, and very feathery leaved species. *F. glauca* and its variety, *F. g. candelabrum*, are at their best somewhat earlier than the others which are named. These are often grown on the outskirts of rock gardens among the Polygonum japonicum types of plants. *F. communis* was mentioned as being the common Fennel, but most folks would apply the distinction to *Foeniculum vulgare*, which is a finer foliaged plant, and is found wild in parts of Britain. It matters little which of them is chosen, they are both very much alike. *F. communis* flowers earlier than *Foeniculum vulgare*.

Polygonums.—Besides *P. japonicum*, which is referred to a few lines above, there are at least two others that are distinguished for their stature and large leafage. These are the well known *P. cuspidatum* and the lesser sort, *P. polystachyum*, which is probably the better of the two for small gardens.

Rheums.—No garden, unless the very smallest, should be without its quotation of the members of the Rhubarb tribe. Space only allows of a very brief notice to a few kinds. There is *R. palmatum*, with very large, crinkled, dark green leaves; *R. undulatum*, having foliage with a more rounded margin; *R. officinale*, with beautiful large leaves, nicely lobed and well spread out. *R. Ribes*, besides having strong and handsome leaves, is at the same time one

of the most attractive subjects of the June garden after it has flowered, and the huge candelabrum which formed the inflorescence is laden with triangular crimson seed capsules which shake in the wind. It would be a capital subject for the columns of THE GARDENING WORLD, and anyone with a photograph of this plant should tempt the Editor!

Other large leaved plants of excellent form include *Senecio macroglossum*, *S. Kaempferi*, *S. japonicus*, *Sonchus palustris*, *Crepis sibirica*, *Gentiana lutea*, *Verbascum Thapsus* (for limestone banks), *V. Chaixii*, *V. Lychnitis*, and *V. longifolium*. *Petasites japonicus*, *P. j. giganteus*, *P. vulgaris*, *P. niveus*, *Bupthalmum* (*Telekia*) *speciosum*, *Artemisia paniculata*, *A. siversiana*, *A. pontica* (all of which have fragrant foliage); *Silphium terebinthaceum*, *Rudbeckia digitata*, and *Delphiniums*. The species of *Cnicus* are very fine and rather uncommon. *C. cdontolepis*, *C. ligularis*, *C. tartaricus*, *Bocconia cordata*, *Cynara Cardunculus*, the Artichokes, *Onopordon Acanthium*, *Saxifraga peltata* (for dense shade), *Echinops bannaticus*, *E. globifer*, *E. sphaerocephalus*, *Cousinia Hystrio*, *Serratula coronaria*, and other herbaceous plants of a like nature. I shall have more to say about the *Heracleums* at another time.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Is *Linum arboreum* hardy?—*Wills*: It ought to do very well in Wiltshire, particularly if care is taken in the selection of a warm and sheltered site. It is a shrubby plant but grows very dwarf and flowers upon the young wood made in the current year. A well prepared sunny border suits it capitally. It grows freely and makes a brilliant, spreading, yellow flowering plant. In cold and northern districts this *Linum* is not hardy.

***Prunus Padus*, the Bird Cherry.**—*Stellon*: This beautiful flowering tree is hardy even in the extreme north, and large specimen trees are found flourishing in a wild state in many a highland glen. As it thrives well in almost any position or soil you will find no difficulty in growing it.

Differences between Clematises.—*W.L.*: If you obtain two plants of *Clematis* Miss Bateman and *C. Mrs. Quilter*, both of which are of the same form and are pure white, you will find this difference, that in Miss Bateman the perianth lobes are close together at the base, whereas in *Mrs. Quilter* the lobes have longer "claws," and form double convex lens-shaped slits around the edge of the carpellary disc.

Dictamnus.—*B*: These handsome herbaceous perennials belong to the order Rutaceae, to which belong the Oranges, the Rue genus, *Correas*, &c. There are eighty-three genera, and most of them are trees or shrubs. *Dictamnus* (*Fraxinella*) is of easy cultivation, and enjoys a sunny position.

***Trillium pendulum*.**—*Eliza*: The specimen you send is *Trillium pendulum*, a semi-bog plant, and not a species of Solomon's Seal. Both belong to the same natural order, however.

Propagating Roses and Briers.—*J. Smallon*: From those who have had much experience in the propagation of Roses we learn that most of the prickly, and the short wooded Roses, such as *R. spinosissima*, the *R. rugosa* section, and all that take after their pattern, are the most difficult to propagate from cuttings or from buds. H.P.'s and all near them in constitution and habit are fairly easy. The *R. wichuriana* section will root almost in a fortnight from cuttings, and grow freely from seeds.

Mixing Privet.—*J. R.*: The method which you hope to practice has been successfully tried. One of the prettiest (or funniest?) hedges we know of surrounding a small villa front garden, is composed of the green and the golden Privet planted in alternate "blocks." Each is kept to the same dimensions as the neighbouring "block," and when the golden variety has attained its deepest colour, the green and

yellow band is much admired. Still, we do not recommend such planting, to see it once in a while is quite often enough.

Poplars for Small Gardens.—*Jas. Steele*: For a garden less than four or five acres in extent we would say that Poplars should find no place. In some exceptional gardens, or with suitable surroundings, they might heighten the effect of the garden composition as a whole. But as a rule they only spoil the perspective, which they ought to enhance. *Populus nigra pyramidalis* is a spiry handsome tree that does not take up much space, and might be used to advantage. We would also recommend some of the fastigate *Cupressus* although these have not the same lightness, "danciness," and change which the Poplars have. The following could be looked up, and those that please you, choosing:—*Biota orientalis*, *Thuja occidentalis*, *T. o. lutea*, *T. o. "Victoria"*, a very handsome variety of pleasing habit; *T. orientalis*, *T. o. pyramidalis*, *Larix occidentalis*, and *L. europaea pendula*. These are all graceful and elegant, of moderate height and medium rate of growth. They are more in keeping with the limits of small gardens.

Removing Trees—*Geo. Wood*: Gardeners from necessity have often to perform certain operations at seasons other than that which experience says is the most proper. But large trees may be cut down now, and after digging out the root, the ground may be levelled and turf placed thereon. To save your lawn, you should cut down the tree bit by bit, first the lesser branches, then the larger limbs, and by doing so the minimum of damage will be done. Patience and perseverance will be required to get under the stump of the tree, but it ought to be taken up. When the turf is well placed you should thoroughly water it all in the cool of the evening, repeating the operation every other night till a steady growth starts. The turfed place should be staked off to prevent people from trampling it.

Removing Grafting Clay.—*Will*: If the grafts have "taken," and if growth is now in action, the clay around the graft, with advantage, may be removed. A few smart knocks with a hammer upon the clay (having a support at the opposite side from where you strike) will soon cause it to fall asunder.

Planning a "Carpet Bed."—*Ascot*: Dig the bed deeply, make up the sides and smooth the surface of the bed. Then, having drawn a plan of your bed on paper, proceed to map it out upon the soil. Measure according to scale, first working out the central and less intricate parts, because from them the other features can be drawn. Rough compasses will be needed, and a narrow measuring rod, neat stakes and lines. In tracing out the lines follow on with yellow or white coloured sand, for upon the exactitude of the curves and lines depends the finished effect. After having planned the whole affair, proceed first to dibble in the carpeting bands of *Alternanthera*, *Saxifraga*, or whatever it may be. Then the dot plants follow, and lastly the edging lines.

THE RAREST FLOWER IN EUROPE.

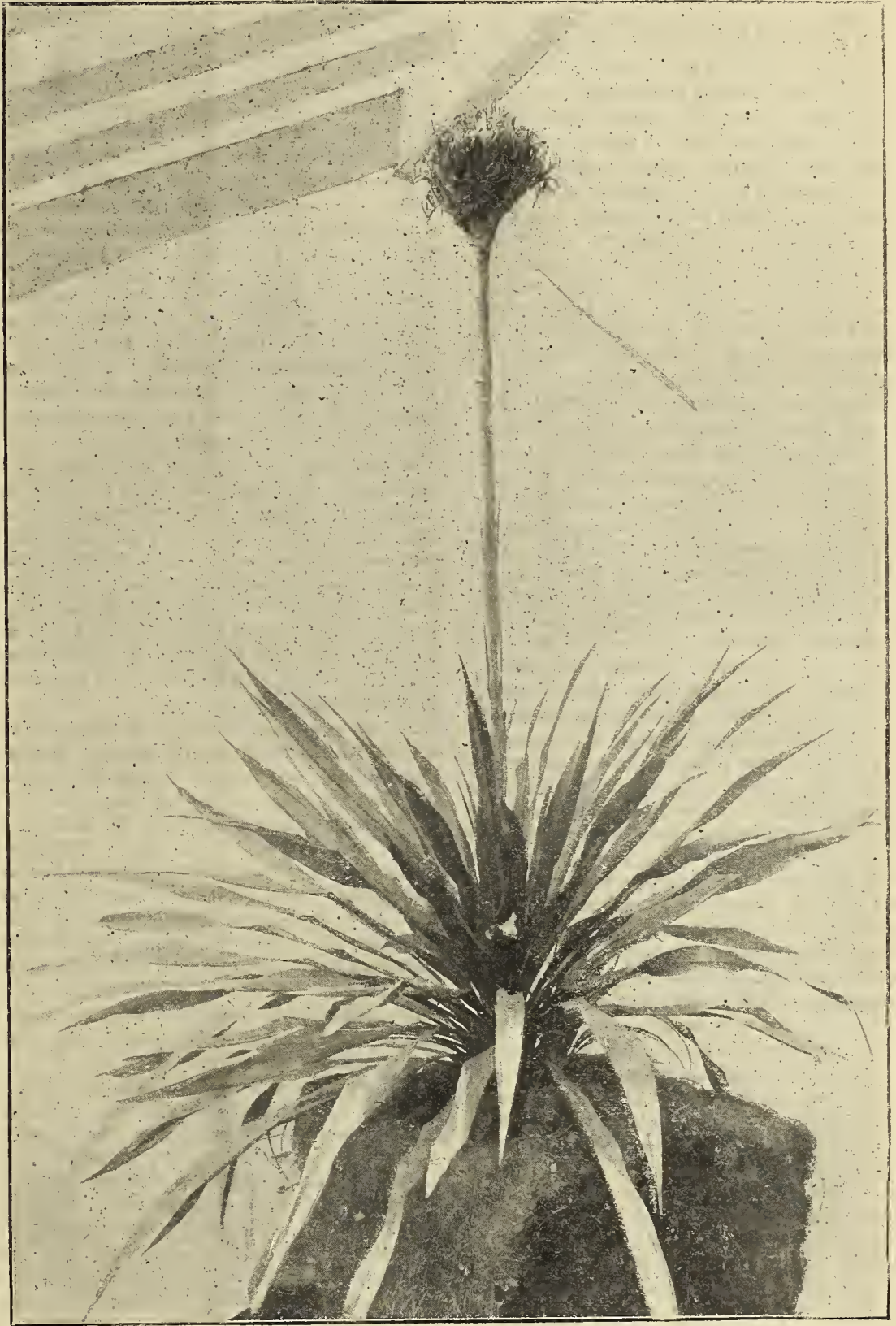
AN exceptionally rare curiosity in floriculture is to be seen in the nurseries of Mr. William Owen, Greenbank, Northwich, Cheshire. It is an Australian Spear Lily (*Doryanthes excelsa*), a singular plant, of which there are very few specimens in the country, beautifully in bloom. It is a native of New South Wales and nearly twenty years ago was purchased from the celebrated nurseryman, Louis Van Houtte, of Ghent, under the designation gigantic Australian Lily. The smallness of the plant, at the time, may be gathered from its being in a 4-in. pot. It continued to develop under the fostering care of its owner, but year after year he was disappointed, looking in vain for the much-delayed bloom. Nearly twelve months ago, however, the heart of Mr. Owen was cheered by noticing an abnormal appearance which led him to believe that at last he was going to have a flower. Time proved this surmise to be correct, for gradually a stem began to display itself, and by slow degrees it has now attained a height of 7 ft. This is crowned with a head of bloom which commenced to unfold itself about a fortnight ago, but it is not likely to

arrive at perfection within a month. The inflorescence is constituted of eight branches, each bearing some dozen flowers, which measure nearly 12 in. across. In colour the blossoms are crimson, bearing in a great measure a resemblance to a large Red Cabbage on the summit of a straight Aloe-like stem. The petals open in succession, for, as the flowers shrivel and die off, others open, and expose the inside of the petals, which is of the most delicate rose-pink, shading into the purest white, whilst the outside is, as already stated, a deep crimson. It is expected to remain in bloom several weeks, if not months.

In its native habitat the Australian Spear Lily

LECKMILM GARVE, ROSS-SHIRE.

THE Highland seat of A. G. Pirie, Esq., is one of the most delightful residences one could well think of, situated on the northern shores of Lochbroom with a southern exposure gently sloping to the Loch, which is here about $1\frac{1}{2}$ miles wide. Twenty years ago, there was nothing on this side but a few small fields with some scrub, and here and there a crofter's hut of which some still remain in the vicinity where the inhabitants are unwilling to remove even into one of the many beautiful cottages the proprietor has erected for all on the estate who will occupy them. Now the grounds are stocked with one of the best collections of evergreen shrubs, Coniferae, and



DORYANTHES EXCELSA

takes about seven years to bloom, and it may be remarked that true to its natural habit began the operation of blossoming in winter, which, of course, is the midsummer of Australia. Mr. Owen, however, has had to wait nearly three times that long, and now considers himself rewarded for the care and patience exercised, for, as the result of careful enquiries at Kew and other important floricultural centres, he is in a unique position, by being the possessor of a plant of which there is not another of its kind in bloom in Europe. The Lily has become the source of considerable attraction.

Most bulbs like sandy soil. So do Magnolias.

deciduous trees it has ever been our lot to inspect Rhododendrons in their thousands are all over the place, in all the finest varieties the proprietor could collect, with *Azalea mollis*, and Ghent Azaleas, in all their lovely shades; and at the time of our visit were all in full bloom, everything growing in the greatest luxuriance. The soil (a very free sandy clay or heavy loam), as well as situation also, seem well suited for the growth of such subjects, although many loads of peat have been incorporated with the soil for such plants as are benefited by it. It also seems just the place for Roses, which are here in their thousands.

Mr. Park, the able superintendent, has already in his short time made many improvements to the satisfaction of his employer. No wonder the old inhabit-

ants of the district are surprised at such a delightful change in the short space of twenty years. Neither time nor ability will allow us to enter into the merits of the many good things we have seen here, but let us enter the garden proper. The chief feature is the large range of hot-houses. First we are led to the late Peach house where a good crop is now swelling. Next we enter the Fig house where there is an amazing crop in several stages of growth, some ripe others just set. Then we are led into first one greenhouse and then another, which Mr. Park informs us are admirably got up for forcing winter flowering plants. Here we saw some of the newest varieties of Carnations in flower, which are very fine. Then we enter the Palm house where some handsome specimens are to be seen, as well as many other subjects such as Dracaenas, Ferns, &c., all in fine health and clean. We now pass to range No. 2, a spacious conservatory, stove and cool house, containing a general collection of plants, and all in the pink of condition. These houses are situated midway between the former range and the vineries, which are placed along the top of the garden facing due south. We now enter the Melon pit, detached from the main range here, where we find the plants growing very strong but not yet begun to set. Crossing the path to the early Peach house, we met a sight seldom seen and should think the same weight of fruit could not be taken every year. There is one tree especially, of only ordinary size, from which hundreds of fruits are now being gathered. Mr. Park says the soil is particularly well suited for stone fruits, and he feeds strongly with different manures alternately.

Next comes the early vinery where Black Ham-burgh and Buckland Sweetwater are just finishing, and for size of bunch and berry would be ill to beat. In this house also we saw some very fine and large Adiantums, such as *A. Veitchii*, *A. cuneatum*, *A. c. grandiceps*, &c. We pass through the second and third vineries in succession, all looking well. Outside this range, detached, as is the Melon pit, is a spacious propagating pit, which is now filled with Tomatos, and a quantity of seedling Begonias.

In conclusion we must say it has not been our privilege even to inspect such a range of houses all in such perfect order, not an insect of any description to be seen. Mildew is never seen about the place. Mr. Park does not attribute all the successful management of the place to himself, but generously gives a due share to the able assistance of his young men, whom, by the way Mr. Park treats each of them, he makes take a special interest in their own department. Mr. Park very much regrets that his inside foreman is about to leave him, and would be very pleased to answer any enquiry regarding him to any one in want of his services. One of Mr. Park's greatest difficulties will be to get young men to stay long in the place, so far distant from railway communication—thirty miles, with only one other garden within about forty miles.

Not being satisfied with the original bothy, on explaining matters to his employer, he has now got, almost finished, one of the most handsome and well-equipped cottages for his young men that could be wished for. The kindness of the people in the district is unsurpassed, and our special thanks are due to Mr. Gauld, Mr. Pirie's estate manager, who with his usual kindness, offered and drove us several miles to the other side of Ulapool, there to view the grandeur of the scenery, so magnificent. Last, but not least interesting, were the rows of crofters' huts, where, in many cases the cattle and people enter by the same door. Altogether we never enjoyed a more pleasant holiday, the scenery was so fine through our long drive. Sometimes the gorges below were hundreds of feet deep, and the mountains as high above, almost perpendicular.—A.

The Resistance of Seeds to Heat.—In a recent issue of the *Revue Horticole*, M. E. Shribaux records some surprising results obtained in experiments in killing insects among seed by the application of heat. Exposed for two minutes to a heat of 122° weevils were quite dead, and many other insects at a heat of 140°. The indications are that this treatment will destroy the eggs of insects and the spores of fungi, experiments being now in progress to determine these points. Seeds if dry resist the heat.

VISITS TO NURSERIES.

MR. JOHN DOWNIE, MURRAYFIELD, EDINBURGH.

WHEN writing of the Messrs. Lairds' establishment at Murrayfield, Edinburgh, we referred to the fact that Mr. John Downie's nursery was likewise in the same district. Beechwood lies east of Pinkhill and is an open, well exposed and sunny nursery. At an April visit, especially the April of this year, there is little to make note of out of doors, but inside where temperatures are made and controlled at the will of man, the case is different.

Greenhouse and stove plants, including choice and rare Ferns are specialties of the firm "Downie." The Ferns are particularly fine, and if only those who are responsible for the keeping of gardens, would value Ferns more highly and induce their employers to foster a regard for them, we think they would be performing what is their duty. At present Ferns are merely adjuncts used in decorations; they do not always occupy the prominence in gardens which they deserve. Exceedingly pretty is *Pteris longifolia* Morrisii, with the slender *Chellanthus elegans*, and the gracefully drooping *Asplenium viviparum*. The *Gymnogrammes* represent possibly the most truly handsome and graceful genus of exotic Ferns found in our gardens. These were seen in many varieties—the splendid *G. Altstonii*, *G. schizophylla*, *G. Pearcei robusta*, *G. argyrea* and such like. *Polypodium venosum* with entire leaves like those of the Hart's-tongue Fern, makes a handsome intermediate or stove subject. *P. aureum*, which is better known as *Phlebodium aureum*, is of course found everywhere, which proves that it is a plant with merits.

Nothochlaena chrysophylla is represented by an exceedingly fine batch of robust and well grown plants. In appearance it resembles some of the Adiantums; but its charms are quite distinct, and with the lovely yellow tint of the fronds it presents a subject which ought to be found in every plant lover's collection. It is as easy to cultivate as many another commoner Fern of less decorative value. It has one or two synonyms, and the correct name is really *N. flavens*. Those who do not have it would do well to enquire for it.

Crotons are found in variety at Beechwood. One of the most beautiful bears the name of *Kronstadtii*. But stove plants in general are well grown, and include the kinds that are usually asked for. *Hoya bella* is somewhat of a feature in the nursery of the firm. It is a plant of wide repute, yet one whose merits ought still to be more widely known and appreciated. The plant lends itself to so wide a variety of uses—as a trained pot plant, as a wall furnisher, as a plant for yielding bloom for many decorative uses—for these, and other purposes it can be employed.

A species of *Anona* named *A. exifera*, with pink flowers, was remarked as being not at all common. It is a warm house subject.

In the cool houses, greenhouse shrubby plants, such as *Boronias*, *Cytisus*, *Prunuses*, *Acacias*, and the like, were very numerous. Lilioms, for cut bloom supply, were being grown in quantity. The collection of stove Begonias embraces some of the best sorts, both flowering and foliage. To do justice to the Begonias would have entailed an amount of time greater than could be afforded. Yet though the subject will not be dealt with here, it may pertinently be remarked that, having a good selection of stove Begonias, in proper hands, a house of them ought to prove one of the outstanding features of any garden during winter and the darker days of early spring. *Andromeda* (*Zenobia*) *speciosa* is seen to perfection at Downie's. It is a lovely spring flowering shrub. Roses and Palms are extensively cultivated. What there was to see in the outdoor nursery did not tempt us to enquire, but at a more favourable season it may be of profit to our readers for us to describe the features that are of interest. But this will not be for yet awhile.

MESSRS. BARR & SONS.

During the summer months something of interest may be seen in the nurseries of Messrs. Barr & Sons, Long Ditton, Surrey; but from April to June there is a plethora of all sorts of hardy plants in bloom, for planting in beds, borders, rockeries, bog gardens, and other places.

In one of the frames recently we noted a rare or little known plant named *Shortia uniflora*, though the force of the specific name is not very evident, as the flowers are arranged in a short raceme, deeply fringed, red, and therefore entirely distinct from *S. galacifolia*. The bronzy-black leaves were similar in form to those of the last named. Fine masses of the Spanish Broom (*Genista hispanica*) were golden with a dense mass of blossom. The species is worthy of more extended cultivation for its fine effect in May and early June. The orange-scarlet flowers of *Fritillaria recurva* make it one of the prettiest plants for the spring garden. Though not particularly handsome, *F. Elwesii* is both rare and very distinct in its way. The three inner segments are broader than the outer ones, with a brown blotch on each at the base of the outer face; the revolute tips are of a shining brown, and the glands are similarly coloured, the rest being green. *Adonis pyrenaica* is the best of its genus, the large, golden-yellow flowers having many petals. A gem of a Tulip is the small or medium sized *T. Batalini*, which has creamy-yellow flowers, flushed, as a rule, with pale orange at the base. The plant is only 10 in. high. The sky-blue flowers of *Mertensia virginica* are pure and pretty when old enough to get rid of the pink which is exhibited by the buds and young flowers. No rockery should be without a patch of *Anemone palmata* and another of its white variety (*A. p. alba*), for they are very accommodating, and grow slowly.

Very similar to *Cytisus albus* is that named *C. sessilifolius*, but while the former was in full bloom by the end of May, the latter was only coming into bloom. On the other hand *C. Ardoini* reminds one of *C. pilosa*, being only about 6 in. high, and bearing golden-yellow flowers.

Arabis albidiflora promises to be a fine thing with double white flowers, freely produced. *Lithospermum purpureo-caeruleum* expresses its colour in the specific name. It is a British plant of trailing habit and very suitable for rockwork in a dry soil. *Muscari conicum*, or Heavenly Blue, is probably the most attractive species in the genus, and should find its way into most gardens. The flowers are produced on a long, conical raceme, and are bright blue and fragrant. Quite an uncommon plant is *Uvularia grandiflora*, with large, drooping, light yellow flowers, on leafy stems about a foot high. The creamy-yellow and semi-globular flowers of *Paeonia wittmanniana* are very distinct and pretty amongst other single kinds. The plant is rather of peculiar behaviour, at Long Ditton at least, for a whole plant will sport into a lovely rose variety on occasion, as if it were a hybrid and reverting to the original type. The veins are darker, thus increasing the beauty of the plant. *Cerastium arvense* compactum is well named, for although the flowers are of the usual size, the stalks are only sufficiently long to raise them above the foliage. Very beautiful are the rich orange flowers of *Trollius japonicus*, which seem to flash as if charged with electricity when looked upon during the twilight hours when the light is giving place to the dusk. Linnaeus mentions a similar phenomenon in the flowers of *Tropaeolum majus* at that period of the day. It is more than probably due to the waves of light which produce a scintillating or flashing effect, rather than to electricity. A similar thing occurs amongst the orange, scarlet, and crimson flowers of zonal Pelargoniums. Another very fine thing is that named Orange Globe, a misnomer, inasmuch as the flowers are large and clear light yellow. In a field, quite apart from the rest of the nursery, is a collection of the English Florist's Tulips, which flowered grandly in their season, the great variety of colours, in mixture, producing a charming effect.

OLEARIA STELLATA.

As a shrubby pot plant the above furnishes an exceedingly pretty subject. It grows erect, bears small, alternate, slightly crenate, dark green leaves, on slender, shrubby branchlets. These branchlets give off from about the apex numbers of their pure white, Daisy-like flowers. The profusion, the full and serviceable size of the blooms, the purity of their whiteness, and their manner of arrangement all combine to compose a plant in all respects qualified for our finest greenhouses or conservatories. The plant is now in full flower.

FLOORS CASTLE, KELSO.

SITUATED about a mile to the west of the border town of Kelso, and overlooking the beautiful silvery sheet of the winding Tweed as it flows past on the south side downward to Kelso Bridge, is the renowned Floors Castle, which for long has been a seat of the Dukes and Duchesses of Roxburgh. From many points of view Floors Castle has a fame. Its gardens and the features of interest to horticulturists have elicited much appreciation and keen attention on many a past occasion, and their traditions are still upheld, and have still their power to interest. But the notice which I would now bestow falls far short of what they deserve, as I had only a flying visit at the end of March.

The mansion itself is a magnificent structure, broad, massive, splendidly balanced, and situated high and commandingly. Around it on the south and west sides are well proportioned terraces, while on the north front a great park with even sward, dotted and belted with trees, and browsed by sheep and kine, stretches.

The gardens, or that portion which includes the glasshouses, lie directly on the west of the Castle. The glass ranges are very extensive, and include six fine vineries, ever so many peacheries, plant houses, Ferneries, Rosehouse, pits and frames. Mr. Street, who has been head gardener at Floors for fully ten years, is a perfect model of a thoroughly able gardener, and in not a single house through which I was escorted, was there a solitary weak subject. It would surely be an incentive to many of the more apathetical gardeners were they to inspect and learn from such successfully cultivated gardens.

The houses of Black Hamburg Vines, and others of Foster's seedling, and Muscats, were in various stages of development. The earliest house had had the bunches thinned for some time and were doing splendidly. The Vines are all vigorous, though some of them are of a good age. The Peaches too are wonderful trees. Some of the fine old ones were planted by Mr. Knight, who left Floors to superintend the King of the Belgians' fine gardens. These are fully thirty years old, with massive basal limbs from which there arises a capital growth of stout fruit-bearing wood.

Melons in small root confined borders were developing close-set healthy stems and stout leafage. By this slight "cribbing" treatment the plants from first to last make firm growth, and are far better able to thwart the many pests and ailments which they are liable to. Cucumbers were fruiting splendidly. Strawberries were everywhere, in vineries, peacheries, and pits, and as many as 2,000 of Royal Sovereign and Vicomtesse Hericart de Thury are forced every spring. Tomatos, as one might expect, are grown rather extensively. Mr. Street has tried some twenty varieties, and now maintains Ham Green Favourite as his favourite. It is prolific, of good size, form, appearance, and flavour, and succeeds under a variety of different conditions. The Tomatos, like the Melons, are grown "hard."

The Malmaison Carnations were a treat to behold. Great, thick stems, long, broad, curling foliage of a lustrous steel-gray colour, and finely branching bushy plants—such are the Carnations at Floors. At this time they will be supplying a very welcome yield of their fragrant blooms. Tree and border Carnations in pots are equally well grown. The latter come in useful where there is a heavy demand for cut bloom in the early part of the year. Such free varieties as Wm. Robinson, Reginald Godfrey, Yule Tide, Dundas Scarlet, Alf. de Rothschild, Reynolds Hole, and Daybreak, a splendid yellow-ground Carnation, from a few plants of which Mr. Street obtained ten dozen blooms, are the special varieties cultivated.

Violets in 6-in. pots were marvellous specimens, growing in cool frames.

A conservatory of Roses is another very useful and important feature of the glass department. The old Camellia house with its Tree Ferns and miscellaneous stock of plants (including a fine example of the climbing *Abutilon megapotamicum variegatum*, which is such a beautiful plant and so seldom seen in good condition) forms a sort of winding corridor from which the rosery just mentioned, and other houses, branch off at right angles.

A concluding reference must be made to a house of *Coelogyne cristata*. To those who are interested in big things, or at least in specimen Orchids, an hour

would be agreeably spent at this famous border garden. There the enquirer would see plants of the above 12 ft. in circumference. Some of the best may be slightly over this mark. So many as 163 spikes of bloom have been cut from one plant. That is certainly remarkable. There may be equally large or even larger specimen *Coelogyne*s somewhere in the Kingdom, but we venture to say there is not more than half-a-dozen.

Cattleyas and *Cypripediums* are also grown and flower luxuriantly as regularly as the seasons come and go. Ferns, Palms and stove decorative plants are well done, and fill house after house. Every part is utilised—walls, stages, corners and even below the stages, every thing being clean and shapely. It is this latter fact which goes such a long way in giving effect to things in this, or any other garden. It is interesting to note that a sample of *Ficus elastica* has grown for over seven years in a sheltered spot out of doors at Floors Castle. It stood through the very severe winter of 1894. Roses in beds are not in all cases pruned hard back, but the sensible plan of only heading back the stouter shoots and then bending them down horizontally has been adopted. By such means hundreds of extra blooms are secured.—D.

A RHODODENDRON SHOW.

THE Rhododendron is a common shrub. The Rhododendron is an uncommon shrub. Now there's a paradox. The interpretation is that Rhododendrons are found in everybody's garden, yet the shrub perpetually maintains its distinctive superiority among the shrubs flowering at the same season. It is one of those subjects which by its bold blaze of bloom can charm the commonest taste, and yet among its list of varieties there are many whose soft beauty and mystic loveliness satisfies, ay, and captivates the regard of the most critical and educated of senses.

Messrs. John Waterer & Sons, Ltd., of Bagshot, Surrey, are at present holding their annual display of new and favourite varieties of Rhododendrons in the beautifully planned area in the Botanic Gardens at Regent's Park, N. The many superb and grand collections of this ubiquitous flowering shrub, which are to be seen in many gardens, will furnish the distant reader with a mental vision of the display at Regent's Park. But it is safe to say that nowhere is the quality of the collections so pure, nor the effective massing and contrasting of sorts so perfect, as is this annual assortment by this firm of specialists. The varieties which we shall name were selected to suit all tastes, and to point out to intending planters what are the varieties of greatest merit. In conversation with a member of the firm it was pointed out that pink varieties are engaging the largest share of attention in the meantime. The very delicate shades of this cheery colour seem to be those most appreciated by ladies, and what the ladies prefer the gentlemen are generous enough to acquiesce in. Still, everyone has more or less an individual fancy, and to provide different distinct types of Rhododendrons is another aim of the specialists.

The finest pink variety which has so far been sent out is Messrs. John Waterer & Sons' Pink Pearl. Our own columns and those of our contemporaries have sung the praises of this best of all the hardy Rhododendrons. On June 5th it was honoured with a First-class Certificate when shown before the Floral Committee of the Royal Horticultural Society. A description appeared on page 668 of THE GARDENING WORLD. Other very good pink Rhododendrons are as follows:—Concessum, a most lovely variety, with fine open blooms, having a light pink centre and deeper edges. It is one of the finest of the pinks. Ingramii is bluish-white, and on its deep yellow throat it bears chocolate spots. Lady Clementina Walsh, a beautiful light sort edged with pink, has a peculiar tinge of cream colour about the base of the corolla.

One of the sweetest and most charming of the newer varieties is Lady Eleanor Cathcart, which lends itself well as a standard. Distance seems to lend enchantment to the view, for at a slight way off it is marvellously fine. The colour is bright, clear rose, having a flush of salmon throughout, and is marked with crimson spots on the upper part of the throat. It is very distinct and beautiful.

A point of special merit in these light pinks is that their soft colours can bear close looking into, and

not suffer from the inspection. Some of the more radiant and deeper-hued Rhododendrons are only lovely when regarded in the general view. Minnie is a good blush-white, whose orange spots in the throat make it conspicuous and pretty. Mrs. Holford would be classed as a rosy crimson. The trusses are very large, strong, and of fine form. Mrs. John Penn is a fine salmon-pink, a variety likely to please many folks. Roseum elegans is one of the most gorgeous Rhododendrons in existence. It forms enormous hushes, which, when laden with its thousands of flowers, are distinct and telling features for a mile or more distant. White Rhododendrons are best as seen in album grandiflorum, which has enormous trusses of beautiful blooms.

R. album elegans is also an exquisite variety. Beauty of Bagshot is another very fine white sort. It has a mauvy centre and yellow upper lip, and when seen in sunlight it is splendid. Francis B. Hayes gives us the type of Rhododendron, having a pure white ground and a broad blood-red or port coloured blotch on the upper segments. This latter feature, and the slightly different form of the bloom, presents to the eye of the expert a Rhododendron of another type from that of the light pink or self-coloured, faint-hued forms. Little points of difference between the various sorts are quickly noted by the specialist's eye, and the best and most distinct variety of a type is taken as a standard from which to judge others. Francis B. Hayes, then, is a very good example of its special class.

Mrs. Tom Agnew is a special favourite with us. It is white, and has an orange-yellow throat. Papi-lionaceum is another one which follows after the Agnew variety. Perspicuum is much thought of by good judges. It is white with a tinge of lavender or lilac in it. Princess of Wales should have come under the rosy-hued sorts, and a very cheery and bright coloured Rhododendron it is.

Nero gives us a change to bright purple. The trusses are large and good and the foliage very handsome. H. W. Sargent is crimson; John Walter, with wavy edge, is a very telling and brilliant rich crimson sort; Kate Waterer is a rosy-crimson with a fine yellow throat, and one of the most telling varieties there is.

John Waterer shows well. It is a free flowering, glowing carmine variety. Fleur de Marie is conspicuous, because of its crimson being blotched with white.

Everestianum is rosy-lilac; Cyaneum is purple; Cynthia, rosy-crimson; Baron Schroder, not very showy, but its splendid plum colour will suit the taste, no doubt, of many. Other recommendable sorts are:—Blandyanum, rosy-crimson; Alarm, scarlet with a white centre; B. W. Elliott, deep rose with dark spots; Chlonoides, creamy white; and Gem, a light blush. There are many splendid unnamed seedlings, and it is worthy of note that many of these which are deemed unworthy to name, though often very good, are offered cheaply to large planters.

GARDENING MISCELLANY.

PRIMULA SIEBOLDII VARIETIES.

NONE of the Primulaceae, or rather the Primrose tribe proper, are more beautiful than the varieties of *Primula Sieboldii*. They may not be so easy to cultivate successfully as are the *P. sinensis* or *P. obconica* sections, but good gardeners, like knights wishing to meet opponents worthy of their steel, may like them all the more because of their shy character. An exceedingly fine lot was staged at Edinburgh show early in April. Of these, the finer varieties were: Princess Beatrice, of snowy whiteness, and finely fringed edge; Queen of the Whites, a more robust and handsomer variety than Princess Beatrice; Charming Bride, a large flowered, deep mauve variety; Harry Leigh, a pretty lavender; and Victor, which is larger and more deeply coloured than Charming Bride. The best hatch came from Mr. Wm. Galloway, of Fernside, Liberton.

GOOSEBERRY SAWFLY.

To spray over the Gooseberry shoots as a preventive against the Gooseberry Sawfly use the following wash:—6 lbs. of soft soap, 6 lbs. of paraffin, 100

gallons of water. Soot dusted over the leaves on a dewy morning, or one part of soot to three parts of lime is likewise recommended.

MACROTOMIA ECHIOIDES.

THIS very showy canary-yellow flowering plant appears to be little known. In rudimentary habit and character it takes after the dwarf *Pulmonaria officinalis*. The leaves are somewhat twisted, oblong-lanceolate, downy and green. There are numerous flowering racemes borne by one plant, these being helioid, that is, always branching from the upper side of the flowering axis, the flowers being on oblique secondary stalks, and arranged closely upon the upper surface of the primary axis. They are funnel-shaped, smooth, of moderate size, and canary-yellow. A sunny portion of the rockery seems to suit it well.

A HANDSOME WREATH.

IN an American contemporary lately there appeared a block portraying a standard wreath, "designed to represent human existence from infancy to the autumn of life." The lower right portion of the wreath was composed of Lily of the Valley, next a cluster of Carnations, followed by white Rose buds, then open flowers of American Beauty, afterwards a cluster of *Lilium longiflorum*, followed by a ripe grain and brown Galax leaves.

T'UNG OIL IN CHINA.

T'UNG oil is extracted from the seeds of the paint tree (*Dryandra cordata*), which, according to the United States Consul at Shanghai, is extensively cultivated in the Yangtze Valley, also in Chekiang Province. The seeds of the paint tree are poisonous, and the oil is used occasionally for poisoning rats; also to produce vomiting in would-be opium suicides. For the latter purpose, however, it is neither so safe nor so effective as zinc sulphate or the stomach pump. The chief use of t'ung oil is as a standard paint, and as such is in great demand by the natives. When boiled it makes one of the best drying oils; it is also extensively used in varnishing with the famous Ningpo varnish, "t'si," i.e., the dried sap of the varnish tree (*Rhus vernicifera*), a good coating of which will stand considerable heat without leaving a mark, and will last for years. The various shades for colouring are produced by animal, vegetable, and mineral substances. Pigs' blood is the favourite for the first coating in varnish. To give body and lustre to paint they mix with the oil finely powdered galena and other ores.—*Journal of the Society of Arts*.

SOCIETIES.

THE YORKSHIRE GALA.—June 13th, 14th & 15th.

AGAIN has this great Yorkshire show passed by for another year. From the competitor's point of view it was successful, but it is to be feared the drawings were scarcely so full as the committees could have wished, and this happens from the fact of unsettled weather and forthcoming counter attractions. Orchids occupied a large share of the available space, while the specimen plants and groups of plants were quite up to the usual.

Cut flowers were likewise extensively exhibited, but fruits and vegetables were limited in quantity. As usual, the nurserymen's exhibits were very fine, no stone being left unturned by them to make their individual displays as effective as was possible.

ORCHIDS.—Mr. J. Cypher, of Cheltenham, took the lion's share of the prizes in the Orchid classes. For the most tasty "Table of Orchids," 12 ft. by 5 ft., he beat Mr. J. Robson, of Altrincham. *Cymbidiums*, *Cypripediums*, *Laelias*, and *Cattleyas* were the chief subjects shown in both cases. Mr. Cypher's table was finely set off by arches of *Vanda teres*, &c. In the open class for ten Orchids in bloom, Mr. J. Cypher again stood first, having some fine *Cattleya Mendelii* and *C. Mossiae*; W. P. Burkenshaw, Esq. (gardener, Mr. J. T. Barker), West Hill, Hessele, was second; Mr. J. Robson, Altrincham, came third; and fourth, the Executors of W. B. Stohart, Esq. (gardener, Mr. L. Hartley), Spetton Hill, Leeds.

For six specimens, Mr. Cypher was again first, with examples of *Laelia purpurata*, *L. p. Niobe*, *Tinnia Marshalli*, and others were very fine; W.

P. Burkenshaw, Esq., and Mr. J. Robson were second and third respectively.

W. P. Burkenshaw, Esq., beat Col. Harrison Broadley in the class for three Orchids. For a single specimen Col. H. Broadley was the successful exhibitor. W. P. Burkenshaw, Esq., won Messrs. Backhouse's prizes in a class for four specimens, distinct. Mr. J. McIndoe, Hutton Hall, was second.

GROUPS OF PLANTS.—E. F. Faber, Esq. (gardener, Mr. W. Townsend), Belvedere, Harrogate, was the proud winner of the first prize in a keen competition for a group of miscellaneous plants arranged for effect. Mr. W. Vause, nurseryman, Leamington, followed.

For a group of Roses Mr. J. W. Hutchison, Kirbymoorside, took the lead. Other good exhibits came from Messrs. M. Campbell & Son, who showed Carnations; Roses from Messrs. Jackson & Son, Bedale, and *Calceolarias* from Mrs. Lloyd, Lingcroft, York.

SPECIMEN PLANTS.—For twelve stove and greenhouse plants, Orchids excluded, Mr. J. Cypher was first. His lot was altogether exceptionally fine. Mr. W. Vause came second with good plants, though not so select. The same order was maintained in the class for six. Mr. Cypher was leader also for three specimens. Mr. W. Vause, however, came first for a single specimen, with *Anthurium scherzerianum*. He also showed the best specimen greenhouse plant, in this instance, an *Erica*.

FLORISTS' FLOWERS IN POTS.—For twelve show *Pelargoniums*, Mrs. Tetley (gardener, Mr. Isaac Eastwood), Foxhill, Westwood, Leeds, was the only exhibitor in this class and also in the class for six, but her specimens were most remarkable. For a dozen "zonals" Mrs. Tetley also scored. Miss Wharton led off in the competition for specimen *Fuchsias*. Mrs. Tetley here came second. These also were monsters in size and capital examples of culture.

Peter Kirkby, Esq., York, was first for eight tuberous rooted *Begonias*. The second prize went to Miss Wharton. For eight *Calceolarias* Mr. J. W. Hutchison came first with plants remarkable for their fine strain.

ROSES.—The York classes for Roses offer liberal money prizes, and some of them are very large, as for instance the class calling for seventy-two blooms. Messrs. Harkness & Sons, of Bedale, Yorks., came in first in this entry, showing some fine blooms even after so poor a season. Messrs. J. and A. May, Bedale, were second, though they were first in the classes for forty-eight and thirty-six respectively. Messrs. Harkness again came in for twenty-four Roses, distinct varieties; Messrs. J. Burrell & Co., Cambridge, were second.

Messrs. Harkness & Son also won first for twelve white or yellow Roses, showing pretty blooms of Kaiserin, A. Victoria, White Maman Cochet, Niphetos, Marechal Niel, and Mdme. Hoste.

CUT FLOWERS.—For a display of hardy cut flowers, Messrs. Richard Smith & Co., Worcester, were the premier exhibitors. The table included some fine *Paeonies*, *Irises*, Day Lilies, *Lilium testaceum*, *Heuchera sanguinea*, *Eremurus robustus*, and *E. himalaicus*.

Mr. J. Smellie, Bushby, N.B., and Messrs. M. Campbell & Son, High Blantyre, N.B., were first and second for Pansies.

FRUIT AND VEGETABLES.—The most successful winners in the classes for fruit and vegetables were Sir J. Pease (gardener, Mr. McIndoe), who led for a decorated table of fruit; second, Lord Barnard (gardener, Mr. J. Tullett); third, Mr. J. Summers, florist, Sunderland; and fourth, the Earl of Harrington (gardener, Mr. J. H. Goodacre), Elvaston Castle, Derbyshire.

Sir J. Pease also won for six distinct kinds of fruits; Lord St. Oswald (gardener, Mr. John Eastor), Nostell Priory, Wakefield, was very close to the remarkable exhibit taking first honours; Lord Barnard came third.

MISCELLANEOUS EXHIBITS.—Messrs. J. Veitch & Sons, Ltd., Chelsea, London, had a particularly choice group of Orchids. (Gold Medal.)

Messrs. Charlesworth & Co., Heaton, Bradford, also received for their display of Orchids a Gold Medal.

Messrs. Hugh Low & Co., Clapton and Bush Hill Park Nurseries, Enfield, showed a splendid group of Orchids.

Messrs. Wm. Cuthush & Son, Highgate Nurseries, London, won for a group of Carnations and miscellaneous plants a Gold Medal.

Messrs. R. Smith & Co., Worcester, had an extensive group of stove and greenhouse plants, &c.

Messrs. Laxton Bros., Bedford, staged a splendid lot of Strawberries. (Gold Medal.)

Messrs. E. Webb & Son, Wordsley, Stourbridge, showed *Begonias*, *Gloxinias*, and culinary Peas.

Messrs. Kelway & Son, Langport, Somerset, had choice herbaceous cut flowers, including *Paeonies*, *Gaillardias*, *Pyrethrums*, &c.

Messrs. Dicksons, Chester, staged flowers from the hardy plant borders.

Messrs. J. Peed & Son, Roupell Park Nurseries, West Norwood, London, showed *Gloxinias* and *Begonias*.

Messrs. W. Clibran & Son, Altrincham and Manchester, exhibited a collection of stove and greenhouse plants.

Mr. R. Sydenham, Birmingham, had a collection of Sweet Peas, &c.

ROYAL HORTICULTURAL.—June 19th.

THE Drill Hall was well filled on Tuesday last with a great variety of subjects. Orchids were strongly represented. The same may be said of Roses, particularly the early-flowering garden Roses, which were shown in great variety and profusion; also herbaceous *Paeonies*, *Irises*, *Delphiniums*, *Aquilegias*, and hardy herbaceous subjects of all classes. Humeas were in strong force, and admirably grown. Sweet Peas in pots, Carnations, and many other subjects were in great abundance.

An interesting group of Orchids was exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, who had well-flowered pieces of *Laeliocattleya canbadiana* Edouard Andr , *Lc. arnoldiana*, the nearly pure white *Cattleya Mossiae* Lawrence, and the large-flowered *Sobralia Velthei*. As pet plants, full of interest were such as *Luisia amesiana*, *Pleuroballis Grobyi*, *Physosiphon Loddigesii*, *Polystachya zambesica*, *Pogonia* species, and *Habenaria rhodochila*, in several of which the public evinced much interest. (Silver Flora Medal.)

H. T. Pitt, Esq. (gardener, Mr. W. Turgood), Rosslyn, Stamford Hill, exhibited a group of Orchids, amongst which *Thunia Bensoniae*, *T. marshalliana*, *Cattleyas*, and fine varieties of *Odontoglossum crispum* were conspicuous. He also had flowering pieces of the rare *Galeandra devoniana*, and the beautiful *Platyclinis filiforme*, *Cochlidoda noetzliana*, *Laelia digbyana*, *Dendrobium Dearei*, and *Laelia tenebrosa* were also very choice in their way. (Silver Banksian Medal.)

H. F. Simonds, Esq. (gardener, Mr. George E. Day), Woodthorpe, Beckenham, had a showy and effective group of Orchids, including a very fine lot of *Laelia purpurata*, stood all along the back of the group. *Miltonia vexillaria*, in great variety, *Oncidium concolor*, *Cattleya Mossiae*, *C. citrina*, *C. Loddigesii*, *Dendrobium Dearei* and *Laelia schilleriana* were also marked features of this bold and well arranged group. The plants were well flowered, and the best use made of them in arrangement to show them off to the best advantage. Ferns and *Isolepis* were used as a ground-work. (Silver Flora Medal.)

Messrs. Stanley, Ashton & Co., Southgate, N., set up a large and showy collection of Orchids, consisting of *Cattleyas*, *Odontoglossums*, *Laelias*, *Miltonias*, and *Epidendrum vitellinum*. They received a Cultural Commendation for a very large and splendidly-flowered piece of *Cattleya Mossiae* grown in a large basket. *Laelia tenebrosa* varied considerably in the depth of colour. Amongst *Odontoglossum citrosmum*, *O. c. sulphureum* was choice and dainty, the lip being bluish-white, but the rest of the flower sulphur. (Silver Banksian Medal.)

F. A. Bevan, Esq. (gardener, Mr. A. Ward), Trent Park, New Barnet, exhibited the finest piece of *Coelogyne dayana* that has ever been seen, it being laden with about fifty long racemes of flowers, in two or three rows, one over the other, all round the plant. (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park Nurseries, Enfield, exhibited a group of Orchids, very profusely flowered. *Cattleya Mendelii* was in great abundance, but they also had *C. Mossiae*, a fine variety of *C. gigas*, *Odontoglossum crispum* in great variety, the flowers being round and well overlapped,

Vanda teres, *Oncidium ampliatum*, *Epidendrum vitellinum*, and several others in fine condition. (Silver Banksian Medal.)

Messrs. B. S. Williams & Son, Upper Holloway, London, staged a group of *Cattleya Mossiae*, *C. Mendelii*, *Vanda suavis*, *V. teres*, *Cypripedium superbiens*, *Laelia grandis tenebrosa*, and the curious, yet pretty *Geodora caudata*, with its trusses of flowers kissing the soil.

Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham, had a group of Orchids, amongst which *Laeliocattleya Eximia*, *Lc. Lady Wigan*, *Cattleya Mossiae* In Memoriam Richard Curnow, were all splendidly flowered. Very handsome was *Odontoglossum crispum* *Xanthotes*, with its golden-yellow spots on a pure white ground. *Cypripedium callosum* *Sanderae*, the green-veined variety, was also in fine form. (Silver Flora Medal.)

J. G. Fowler, Esq. (gardener, Mr. Davis), Glebelands, South Woodford, Essex, staged a pretty lot of *Cattleya gigas*, with the violet-purple lipped *Laeliocattleya Aphrodite*. (Silver Flora Medal.)

J. Coleman, Esq. (gardener, Mr. W. P. Bound), The Gardens, Gatton Park, near Reigate, had a fine lot of *Odontoglossum crispum*, *Cattleya Mossiae*, and *C. M. reineckeanae*.

M. Fl. Claes, Etterbeck, Brussels, staged a very varied lot of *Odontoglossum crispum*, also *O. Adrianae* *Etterbeckense*, and *O. andersonianum*. (Silver Banksian Medal.)

W. Thompson, Esq. (gardener, Mr. Steevens), Walton Grange, Stone, Stafford, exhibited the very handsome *Odontoglossum Rolfeae*, *Walton Grange* var., and *O. crispum* *The Earl*, also handsomely marked.

Messrs. Barr & Sons, King Street, Covent Garden, W.C., showed a large quantity of cut herbaceous flowers, among which double Paeonies, Pyrethrums, and Spanish Irises were most conspicuous. The double Paeonies included such good varieties as *Auguste Mellinez*, pink and creamy; *Sir H. Irving*, rosy-mauve; *Reine des Francaises*, creamy-white; *Pagerini*, beautiful cream coloured; and the Irises included *Cervantes*, *Olympica*, *Thunderbolt*, *Catherina*, *Lemon Queen*, *Princess Ida*, *Californica*, *Canora*, and *Cantab.* The *Ixias* were very fine, besides which *Centaurea dealbata*, mauvy-red, and *Heucheras*, *Saxifragas*, *Erigerons*, *Campanulas*, and others were shown. (Silver Banksian Medal.)

In Messrs. Ware, Ltd., Hale Farm Nurseries, Feltham, London, we noticed very fine pieces of *Sempervivum montanum*, *Hieracium villosum*, *Armeria cephalotes rubra*, *Lilium pomponium*, *Cypripedium spectabile*, *Heuchera sanguinea*, *Gillenia trifoliata*, *Spiraea filipendula plena*, *Saxifraga longifolia*, and *Lychnis vespertina plena*, besides many other choice and good hardy flowering blooms. They also showed a good selection of *Iris germanica*, *I. squalens*, *I. variegata*, and *I. pallida* in the finer known varieties. Their collection of *Nymphaeas* were scarcely shown to advantage. (Silver Banksian Medal.)

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, London, staged a collection of *Malmaison*, tree, and border Carnations. The best and most distinct of the *Malmaisons* were *Princess of Wales*, *Sir Evelyn Wood*, and *Calypso*. *Prime Minister* and *The Churchwarden* were also fine. Of trees and border varieties, *Tom Sayers*, *Alice Ayres*, *R. H. Measures*, and *Rose Celestial* were very distinct and fine. The group was well set up and relieved by foliage plants tall and dwarf.

Messrs. James Veitch & Sons, Ltd., Chelsea, S.W., had a magnificent group of Spanish Iris (*I. Xiphion*) in the following varieties which represent the elect: *Blanche Royal*, white with yellow beam; *Baron Von Humboldt*, blue and yellow; *Couleur Café*, of quaint brown and yellow hues; *Formosa*, deep blue and yellow; *Belle Chinoise*, brilliant yellow; *British Queen*, white; *Gold Cup*, dark blue-brown; *Leander*, deep shining orange; *Darling*, deep blue; and *La Singulaire*, lemon. The *Persian Ranunculus* were good, as were the front row of English Irises and some blooms of *Iris susiana*. In a separate group they showed a new seedling Rose named *Electra*, a cross between *R. multiflora simplex* and *Noisette* *W. A. Richardson*. (Silver Flora Medal.)

Martin R. Smith, Esq., (gardener, Mr. Charles Blick,) Hayes, Kent, set up an immense group of exquisitely flowered *Malmaison* Carnations which

drew the admiration and envy of all who viewed them. The varieties were few, but very select, including, *Cecilia*, an enormous pale yellow variety; *Calypso*, bluish hued; *King Oscar*, rosy crimson; *Albion*, deep rosy-red; *Grace*, deep pink; *Mrs. Martin Smith*, a beautiful fine shaped pink variety, and some others of the first water. The group was mounded evenly from the front to the back, and edged with Ferns and Caladiums.

F. W. Campion, Esq., (gardener Mr. Fitt,) Trumpets Hill, showed a collection of cut Roses from the open air. They were exquisitely lovely, fresh, clean, large and strong. *Carmine Pillar* was shown; *Polyantha grandiflora*, *Thalia rugosa fimbriata*, *Bardon Job*; and *Aglaia*. Among Teas were *L'Idéal*; *Anna Olivier*; *Prince of Wales*; *Madame Cusin*; *Devoniensis*, and other of the finer *Noisettes*, &c. It was a remarkably select collection. (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, had besides the Irises already mentioned, a separate group of double Paeonies, German and other tall growing Irises in pots. Two fine spikes of *Eremurus robustus* were also exhibited. The group was select and the plants very fine.

Lady Pigott (gardener, Mr. John Fleming), Wexham Park, Slough, set up a very large and fine group of greenhouse flowering plants, including a large number of specimen *Humea elegans*, *Carnations*, &c. Stove foliage plants were also used. *Marchioness of Londonderry*, a fine *Malmaison*, was grandly shown, the plants being three or more feet across and well studded with blooms of good size. *Mrs. M. Smith* was another fine specimen variety. There were also beautiful samples of *Achimenes*, *Liliums*, *Gladioli*, *Statice profusa* and other things.

Mr. M. Pritchard, nurseryman, Christchurch, exhibited a choice collection of cut hardy herbaceous blooms. Specially fine was *Delphinium Belladonna*, *D. nudicaule*, *Thalictrum tuberosum*, *Campanula pulla*, *Gaillardia oculata sulphurea*, *Scabiosa caucasica*, *Gillenia trifoliata*, *Martensia sibirica*, *Geum chilense fl. pl.*, *Pink Lady Falmouth*, *Lilium colchicum*, *Delphinium formosum*, *Dictamnus Fraxinella*, together with choice Paeonies, Spanish Irises, and *Lychnis*.

Mr. Amos Perry, Winchmore Hill, London, N., also came forth with a choice assortment of hardy cut flowers. Of these, we may select *Campanula glomerata*; *Linum provinciale*, bright, deep blue, seeming more robust than *L. alpinum*; *Dianthus floribundus*, *Lychnis Viscaria splendens plena*, *Aethionema grandiflorum splendens*, *Pentstemon glabrum*, *Hesperis matronalis lilacina plena*, *Heuchera sanguinea*, a splendid vaseful, *Leontopodium alpinum*, the pretty *Eidelweiss*, *Achillea tomentosa*, *Incarvillea Delavayi*, Irises, *Dianthi*, *Alliums*, &c., &c. (Silver Gilt Banksian Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., arranged a collection of Sweet Peas in pots, plants, freely flowered, ranging about 3 ft. or so in height. The arrangement was very much admired, rising as the group did in elongated form from the front backwards, and lightened throughout the basement parts with *Astilbes*, *Verbenas*, *Begonias*, &c. The more distinct varieties included *Mars*, *Wide-awake*, *Lady Mary Currie*, *Salopian*, *Navy Blue*, *Prince of Wales*, *Midnight*, and *Oriental*. Sweet Peas in pots in so fine a mass have not hitherto been seen in the Drill Hall. The *Malmaison* *Carnation* *H. J. Jones* was also shown. (Silver Flora Medal.)

Messrs. John Jakson & Co., 17, Philpot Lane, E.C., again showed his revolving barrel for Strawberries, a sample of which he showed in the early part of the year. This time the barrel was well laden with Strawberries in fruit. For small gardens the patent ought to be useful.

Messrs. Geo. Cooling & Sons, Bath, staged a valuable collection of cut Brier trusses, covering about ten yards of tabling. The exhibit included such good varieties as *Dr. Rouges*, *Perle de Rouges*, *Papillon*, *Carmine Pillar*, *Cooling's Single Crimson Bedder*, *Harrisonii*, *Austrian Copper Brier*, *Thalea*, *Polyantha grandiflora*, *Perle d'Or*, *Bardon Job*, *rugosa delicata*, and many such other fine sorts. (Silver Banksian Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, staged a choice collection of Spanish Irises, *Mariposa* *Lilies*, *Lilium thunbergianum sanguineum*, Paeonies, *Brodiaeas*, *Ixias*, and other things. *Orchis foliosa* was well shown; *Lathyrus undulatus*, *Heuchera micrantha rosea*,

Ornithogalum arabicum, *Lilium excelsum*, *L. Brownii*, *L. rubellum*, and numerous Irises in all sections. (Silver Banksian Medal.)

Messrs. J. Kelway & Son, Langport, Somerset, proved themselves as the growers of very superior Paeonies, for those they showed at the Drill Hall on Tuesday were larger and fresher than most others which we see. The finer of the doubles were *Galtee More*, rosy-pink; *Mrs. Willock*, creamy centre and pink edge; *Sir Geo. White*, large and good, rosy-mauve; *Lady Esther Smith*, creamy-white; *Grandeur*, a fine pink variety; *Briton Ferry*, deep crimson; *Lady Alex. Macduff*, pure white; *Maria Kelway*, rosy-pink, and others. They also had *Gaillardias* and *Delphiniums*, the former with long and excellent spikes, the latter with large blooms. *Jeddah* was a very fine *Gaillardia*, *Klondyke*, *Brownii*, and others. Of the *Delphiniums* *Mrs. Rushton*, blue; *Mary Morrison*, light blue; *Artemis*, dark blue; and *Mrs. Bayard*, blue or violet, were very fine. (Silver Gilt Banksian Medal.)

Messrs. Paul & Son, Waltham Cross, Herts., set up one of the finest groups in the Hall, a selection of cut sprays of Briers together with some fine specimen plants of *Nicotiana colossea foliis variegatis*, a new and very beautiful foliage plant. The group was backed up by splendid *Bougainvillea sanderiana*, which were remarkably fine to say the least. The Roses too were charming. (Silver Flora Medal.)

Messrs. Paul & Son, The Old Nurseries, Chess-hunt, also staged cut Brier and Rose blooms.

Messrs. H. Cannell & Sons, Swanley, Kent, set up a group of *Aquilegias* which seemed even to put the Roses, which neighboured them, in the shade. These long or cock spurred *Aquilegias* have been receiving special attention at the hands of this Swanley firm, and the results are in the highest sense satisfactory. Their great merit, or one of their strongest merits rather, for they have many, lies in the beautiful contrasts of uncommon yet lovely and distinct colours, as yellow and violet-purple, yellow and cerise, creamy and blue, and other such combinations. Their fine flowering nature, dwarf habit, large size, and picturesque form, marks them as exceptionally fine plants for the hardy flower border.

Messrs. Frank Cant & Co., Rose Growers, Braiswick, Colchester, staged magnificent Roses. The *Austrian Yellow* was there, *W. A. Richardson* also, in extra good form and remarkable colour. *Mdme. E. Resal*, another good Tea or *Noisette*. *Princess de Sagan*, brilliant carmine; *Papillon*, *Blairii* No. 2, *Camœus*, *Marquis of Salisbury*, *Euphrosine*, *Hebe's Lip*, *Perle d'Or*, *Queen Mab*, *China Ducher*, *Harrisonii*, *Aglaia*, *R. rubrifolia*, *R. Papa Gontier*, and many others. (Silver Flora Medal.)

Two tall plants of *Onopordon tauricum* (Thistle) were exhibited by D. A. Cator, Esq., The Cedars, Upper Tooting.

Mr. Anthony Waterer, Knap Hill, Woking, Surrey, showed a few stands of cut trusses of hardy *Rhododendrons*, for which he was awarded a Bronze Banksian Medal.

Lord Gerard (gardener, Mr. Waters), Eastwell Park, showed a collection of Melons, all of which were remarkably fine for this time of year. *British Queen* × *Countess* was represented by a very beautifully creamy coloured Melon. Other varieties were *Frogmore seedling*, *Countess*, *Hero of Lockinge*, and *British Queen*. (Silver Knightian Medal.)

C. Suachan, Esq. (gardener, Mr. H. Folks), Gaddesden Park, Hemel Hempstead, sent a collection of Peaches and Melons. The Peaches were very finely coloured and of useful size. (Silver Banksian Medal.)

Lord Wantage, V.C., K.C.B. (gardener, Mr. W. Fife), Lockinge Gardens, Wantage, Berks, sent a collection of fruit, which included six bunches of black, and six bunches white Grapes:—*Foster's Seedling* in the one case and *Madresfield Court* in the other, *Carter's British Queen* Melon, *Imperatrix Nectarine*, *Stirling Castle* Peach, and *Brown Turkey Figs*, all very fine. (Silver Gilt Knightian Medal.)

Lord Gerard, of Eastwell Park, showed a collection of Roses, for which he was awarded a Bronze Banksian Medal.

Mr. B. R. Cant, Rose Grower, Colchester, arranged a very select and beautiful table of Brier Roses in vases. These included *R. alba*, *Polyantha grandiflora*, *p. simplex*, *Carmine Pillar*, and the *Teas Ma*

Capucine, Mdme. de St. Marceau, Gustave Regis, Rainbow, Mdme. Falcot, and Papa Gontier, &c.

Mr. Geo. Prince, Rose Grower, Oxford, staged a charming selection of cut Roses, including such fine Teas as Princess of Wales, Marechal Niel, Souvenir d'un ami, white Maman Cochet, Comtesse de Nadaillac, Mdme. Hoste, and others. The Briers included Lady Penzance, Aglaia, Thalia, Janet's Pride, and others. He also had some fine arrangements of Sweet Peas, tiered up in conical array. The quality of the Roses was remarkably high. (Silver Gilt Flora Medal.)

Messrs. Heath & Son, Cheltenham, showed Carnation Mrs. Broomwhite, a tall growing pink flowered variety.

Messrs. N. M. Gauntlett & Co., Japanese Nurseries, Redruth, showed some cut stems of species of Bamboos.

OBITUARY.

ONLY in your last issue you found me space to chronicle a few words about poor old "Mark" and his grafting operations, and now within a week I regret to state that he has gone over to the majority and so suddenly, for it was only on Tuesday evening, the 12th inst., I met him on his way home. Like the writer he got caught in a thunderstorm, and, I fear, not being over nimble on his feet he got drenched to the skin, caught a severe cold, inflammation ensued, and he passed away early on Friday morning, the 15th, at the age of sixty-five. Though departed he will not soon be forgotten, as he has left many a landmark behind in the orchards and gardens of East Devon, in the shape of trees and bushes, now profitable, which before were useless and unworthy of the ground they stood upon. Saddle grafting was his method, and it is much practised in the western county.—*J. Mayne, Bilton.*

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. J. Mayne, Bilton, for his article on *Richardia africana*, p. 662. *Richardia* was the subject which gained the prize the previous week, but it is often profitable to have the advantages of two or more systems explained. Several of the other articles are of a high order of merit, and of much practical importance to gardeners generally.

QUESTIONS AND ANSWERS.

* * Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

Conifers and Thorns Withered and Brown.—*A.J.*: If the Conifers are withered only at the tips of the shoots they may yet be capable of making decent specimens; but if the whole of the twigs and leaves are brown, it is almost a hopeless case with them. Either their roots were greatly injured by the process of lifting, or they must have been allowed to dry up and die by the exposure to the atmosphere. Dry soil after planting, followed by dry and cold east winds, is often responsible for many deaths amongst newly planted Conifers. The roots should always be well watered after planting if the soil is at all dry; and the heads should be frequently syringed if a dry atmosphere prevails. The Thorns should not be disturbed if any of the branches appear fresh and sound, because they may break away fairly freely later on when young roots begin to move. Branches and twigs that are brown and dry may be cut away as fresh growth from such is not at all likely. Give the ground about the roots a good watering occasionally during dry weather.

Removing Plants from a Garden and Greenhouse.—*Alpha*: We agree with you that the gardener had no moral right to the 300 plants which you state he removed from your garden and greenhouse. In the first place he had no right to bring the plants into the garden without your consent, and after they were there, he had no right to remove

them without your permission, especially after they had been sheltered by your glass, and reared in your pots and soil with your fuel and labour, for the space of two or three years. Practically, all that cost should have been laid to their charge before they could be removed; and we doubt whether they could then have been legally removed without your sanction and permission. If this sort of thing were permitted a man might turn your garden into a nursery for his own advantage, rent and other charges free. After they have been removed the case is somewhat different. As far as we can see it would be a clear case for prosecution for the theft of the plants; but it would be advisable to consult a solicitor before committing yourself to an action. We have given similar advice in a similar case, except that the gardener consulted us whether he had a right to take the plants which he had been the means of procuring and placing on his master's premises. Of course, our advice was in the negative. We have a faint recollection of a case being tried, but for the time being cannot lay fingers upon it. We also knew of a fine collection of *Cypripediums* being detained in an establishment where they had been got together without the employer's sanction. If you consult a solicitor he might be able to lay hands on the case that was tried, and decided against the gardener.

Succession Plants to follow Beds of Carnations.—*R. H.*: There are several things which might be made to follow Carnations as bedding plants. We presume you intend to lift the Carnations and plant them where they can be layered. If so then dig over the soil in the beds and plant them with such early flowering *Chrysanthemums* as *Précocité*, yellow; *Mons. Grunnerwald*, pale rosy-purple; *Mdlle. Marie Masse*, purple; and *Madame C. Desgranges* or any of its sports. China Asters may be planted out now in a fully exposed position in the reserve garden to make their growth. Before lifting them give them a thorough watering, and allow the superfluous water to drain away. In the meantime prepare the bed or beds to receive them. Then lift the plants with a good ball of soil and carefully replant them in the prepared ground. If the weather is dry and warm at the time some stakes should be pushed into the ground and a light awning of tiffany thrown over the stakes for a few days till the Asters recover from the operation of shifting. On the other hand you could grow on a hatch or two of *Celosia pyramidalis*, to plant in the beds when the Carnations are removed.

Pear with Black Patches.—*Omega*: The sample you sent us was badly affected with *Cladosporium dendriticum*, a fungus that affects the skin and tissues immediately under it only. When the fruits are attacked at this early stage they can never become good samples in autumn, because the skin at the black patches cannot grow any more, consequently as the rest of the fruit continues to swell, the surface will crack in those places and render the fruits both unsightly and useless. There is no remedy after the attack; and the best preventive, if taken in time, has been found to be the spraying of the trees with Bordeaux Mixture immediately after the petals drop, and again at intervals of some weeks during the course of the summer. In America this has been found to pay.

Tobacco and Soft Soap to Kill Greenfly.—*Omega*: Various receipts may be given. One is to use 3 oz. or 4 oz. of coarse shag tobacco to a gallon of hot water. Strain out the tobacco after it has been steeped for some time; then dissolve 1½ oz. of soft soap in a small quantity of water and add to the tobacco water. Another mixture to dissolve 8 lb. of soft soap in twelve gallons of soft or rain water and then add a gallon of strong tobacco water, using the same amount of tobacco to the gallon as above mentioned. In smaller quantity you could use 1 lb. of soft soap in 1½ gallons of water, and add one pint of strong tobacco water. Syringe with this before leaving work at night and then wash the plants with clean water next morning.

Names of Names.—*G.R.*: *Odontoglossum Coradinei* (a good variety).—*E.C.H.D.*: 1, *Spiraea Filipendula*; 2, *Deutzia scabra*.—*D.L.*: 1, *Gaultheria Shallon*; 2, *Cotoneaster Nummularia*; 3, *Thellia opulifolia*; 4, *Corydalis lutea*; 5, *Centaurea montana alba*; 6, *Lupinus polyphyllus*.—*W.K.*: 1, *Phlox ovata*; 2, *Thymus serpyllum citriodorus*; 3, *Aquilegia vulgaris flore pleno*; 4, *Geranium sylvaticum*; 5, *Pelargonium fragrans*; 6, *Menyanthes trifoliata*.—*A.C.*: 1, *Negundo aceroides*; 2, *Cytisus albus*; 3, *Cornus mas variegata*.—*R.M.*: 1, *Dendrobium transparens*; 2, *Fuchsia procumbens*; 3, *Rivina laevis*; 4, *Phyllanthus nivosus*; 5, *Davallia elegans*.—*A.J.B.*: 1, *Maranta bicolor*; 2, *Convolvulus mauritanicus*; 3, *Sedum glaucum*; 4, *Sedum Rhodiola*; 5, *Rhododendron hirsutum*; 6, *Ajuga reptans rubra*; 7, *Oxalis floribunda*.—*J.S.L.*: 1, *Abies nordmanniana*; 2, *Ptelea trifoliata*; 3, *Magnolia acuminata*; 4, *Abies concolor violacea*; 5, *Juniperus virginiana*; 6, *Abies nobilis*.—*Omega*: 1, *Bishopweed* (*Aegopodium Podagraria*); 2, *Enchanter's Nightshade* (*Circaea lutetiana*)—*A. Hutton*: 1, *Heuchera sanguinea*; 2, *Centaurea montana*; 3, *Aquilegia vulgaris* var.

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As come it will for a' that,
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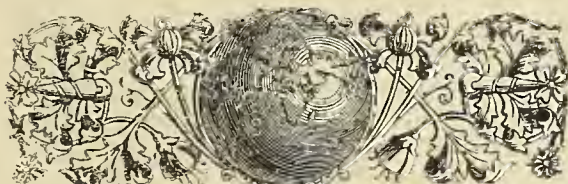
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 30th, 1900.

BRITISH GROWN FRUIT AT THE CRYSTAL PALACE.—The great annual exhibition of British grown fruit at the Crystal Palace, under the auspices of the Royal Horticultural Society, again draws near, and of this we are reminded by the recent publication of the schedule of prizes. The general arrangement is similar to that of former years though there are minor alterations, one of which might have been made with advantage in the paragraph which states that "exhibitors can commence staging at 6 a.m. on September 28th, and may remove their exhibits at 6 p.m. on the 30th," which would be Sunday. These dates should have been moved a day backward as the show will commence on the 27th of September, and remain open for three days. It is amusing to note the old idea that still lingers round the Tomato as to whether it is a fruit or a vegetable. Possibly the man of common sense will be expected to declare that it is both. Like many other undecided questions it frequently crops up in connection with societies all over the country. Another is whether a dish of fruit (Grapes for instance) should consist of one or more varieties, but here it is distinctly limited to one dish. To prevent disagreement amongst judges at provincial shows this method of dealing with the question might well be adopted. The settlement of the differences to be observed between the terms "kind" and "variety" leaves the matter much as it was, namely, in an arrangement that is purely arbitrary or of convenience, so that exhibitors will have to take the examples laid down for their guidance. The Nec-

tarine is a smooth fruited variety of the Peach (*Prunus Persica*), yet the Peach and Nectarine for exhibition purposes must be regarded as distinct kinds. The arbitrary nature of the case is carried still further when it is remembered that white and black Grapes are regarded as distinct kinds. From a botanical point of view Royal George, Noblesse, and Alexander would have to be considered as sub-varieties in any scheme of classification. From a garden point of view they are given a higher status; hence the reason why it is necessary to follow the special rules laid down by this or any other society at whose shows an exhibitor may be competing.

The minor alterations made in the schedule reduce the number of classes from 174, last year, to 170, this year. In addition to money prizes a Silver Cup and a Silver Knightian Medal are offered as first prizes for nine and six dishes of fruit respectively. The Challenge Cup, offered by Messrs. Wm. Wood & Son for six distinct varieties of Grapes, still holds out inducements to the bold exhibitor who can take it three times in as many successive years. This will be no easy matter even to the best of gardeners and amateur growers, unless the seasons are propitious; though the case is far less risky than in the case of hardy fruits, the prospects of which might be destroyed by hailstorms considerably in advance of the show. The collection of hardy fruit, grown entirely out of doors, and open only to gardeners and amateurs, has been raised from thirty-six to fifty dishes. Not more than thirty dishes is allowed for Apples and Pears, so that twenty dishes, at least, of other kinds will have to be found by those who intend presenting themselves in this class. The nature of the season and prospects will largely determine whether Peaches, Nectarines, Apricots, Gooseberries, and Cherries can be largely drawn upon to make up the twenty dishes. An early season would favour northern growers, and an average or late one would be more in favour of gardeners in the southern counties. This class should certainly test the capabilities of private gardens for supplying fruit at that season of the year, and if competition is weak it may be taken for granted that fifty dishes in September are too many. With good crops, such as seem to be everywhere promised this year, and a propitious season, the class might be made both instructive and interesting to all concerned. Hitherto the large classes have not been well patronised by the gardener and amateur element. The "Hogg Medal" has been offered in addition to last year's money prizes as an incentive to exhibitors.

The same extent of staging is allotted to nurserymen as last year; and they are not limited as to the number of fruits which they may arrange in the space at their disposal. Duplicate varieties of trees in fruit are permissible; but not of gathered fruit. The number of varieties may therefore be great, unless the exhibitors choose to increase the number of baskets for the purpose of displaying fine fruits to the best advantage. The society, we notice, has profited by the case of combined exhibiting which cropped up last year from the Channel Islands. No syndicate for the purpose of exhibiting will be permitted at the forthcoming exhibition. There must be no combination of individuals, or firms, nor collections of fruit from a district to be shown as one exhibit. Nor must gardeners from two or more gardens, even if the latter belong to one and the same proprietor, combine for the purpose of competing in any one class, but must exhibit separately. This latter case would appear to be somewhat stringent; but in the case of com-

binations to represent districts for the purpose of taking prizes, the necessity and advisability of the restrictions are self-evident.

National Dahlia Society.—A Committee Meeting will be held on July 3rd, at 4 p.m., in the rooms of the Horticultural Club at the Hotel Windsor, Victoria Street, Westminster (by kind permission of the members of the Club). Agenda:—Election of Judges; Meeting on September 25th, and other business.—*J. F. Hudson, Hon. Sec.*

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, July 3rd, in the Drill Hall, James Street, Westminster, 1-5 p.m. On this occasion special prizes will be offered for Roses. At 3 o'clock a lecture on "Bedding, Hedge, and Pillar Roses" will be given by Mr. George Paul, V.M.H., and at 4 p.m. a "Special General Meeting" will be held to consider the new bye-laws.

An Insect Infested Fern.—She was very angry with the florist, and told him that he would never get another order from her. "That Fern you sold me was infested with insects. The under sides of the leaves were thick with them. I cut the leaves all off to get rid of the insects, and now the plant has died." "But, madame, those were not insects, they were spores, the seeds of the Fern plant"!!!—Exit madame.

National Carnation and Picotee Society.—The annual exhibition of this society will be held at the Crystal Palace, Sydenham, on Wednesday, July 25th. The Carnations and Picotees give promise of an exceptionally good bloom this season, and a very large display is anticipated. The schedule is a very liberal one, all classes of exhibitors being provided for. Four Silver Cups and about £300 are offered in prizes. The hon. secretary is T. E. Henwood, 16, Hamilton Road, Reading, who will gladly answer any enquiries respecting the society.

"Aye haddin Sooth."—A paper reaches us (*The Southland Times*) containing some account of Mr. Peter Barr, V.M.H., to whom we referred two weeks ago. He was then at Dunedin, New Zealand; now, however, he has gone south to Invercargill at the southern end of the south island, N.Z. He takes his leisure as he moves about, inspects and "quizzes" as he goes, rubs against the Mayor and town dignitaries wherever he stays and soon they are listening to schemes of improvement all round. As the various councils seem to think the suggestions are fit and reasonable, Mr. Barr may thus do a lot of good in a quiet way. We echo the sentiment expressed recently in a contemporary—"We hope Mr. Barr will write a book about his travels."

Mythology has it, "that the trailing *Arbutus* among the flowers of Eden, was the richest in beauty, foliage, and fragrance. It was styled the flower of Eden, by reason of its attributes, and was Eve's favourite. When desolation was visited upon the garden, and Eve was banished therefrom, the little *Arbutus* elected to go with her. The Lord in punishment robbed it of its beautiful foliage, but by reason of its attachment and loyalty to Eve, allowed it to retain its fragrance. Its companion was what we now know as the night blooming *Cereus*, which was relegated to Adam, and was his favourite. The same condemnation was visited upon it, and in addition to the loss of its beautiful foliage the Lord decreed that it should never raise its head or bloom in the sunlight again, and so on."

The Chiswick Garden.—The Chiswick garden, needless to say, refers to the experimental garden of the R.H.S. The fine collection of Paeonies which are so well treated were at their best about the 20th inst. The Irises *germanica*, *squalens*, *variegata*, *pallida*, &c., were just saying "Good-bye" to summer 1900. They evidently had been very good. No one visiting the old garden at this season could pass the Box hedges and fine edges without admiring and remarking the evenness, size, and bright green colour. The fruits of all kinds are very fair. Cherries are carrying extra heavy crops, so heavy indeed that either severe thinning will have to be done, or heavy feeding accorded to some of the trees. The *Caladiums* in a nice span house, are very fine. Tomatoes are also good; *Chrysanthemums* are fair; and Peaches and Vines look promising.

Royal Honours for a well-known Cork Seedsman.—It is with much pleasure we announce the fact that Mr. Wm. Baylor Hartland, of Cork, has been sent the "Royal Warrant" from Buckingham Palace appointing him Purveyor of Seeds, &c., in Ireland to Her Majesty the Queen. The firm of Hartland is one of the oldest in Ireland, dating back to 1774.

Wanted! an Acer Conference.—Owing to the enormous proportions of the trade in Japanese Maples, and which are yearly extending, it might be well to announce an Acer Conference for 1901 (just to keep the kettle boiling!). The nomenclature of *Acers* is something remarkable. Each firm has its own name for varieties. An Acer Conference is quite as reasonable as the Sweet Pea affair.—*J.*

Canadian Fruit Imports.—It strikes us as strange that Canada, which we look upon as always exporting fruits, especially Apples, should yet have paid away \$3,036,563 for imports of fruits for consumption last year. The import of Apples amounted to \$39,238. Oranges and Lemons to the value of \$93,800 were imported from Great Britain, even though Coliformia, with its territories of orange groves, is a country of the same continent as Canada!

Ulex Europaeus.—The etymology of botanical terms is admittedly difficult, and this term, *Ulex*, appears to be one of those about which it would seem authorities agree to differ. Some confine themselves to classical usage, and bring the legendary Pliny to witness even against himself. Others, who want a reason for what they do, say it is derived from the Celtic *ac* or *ec*, a point or prickle. I accept the latter derivation as better than "entirely unknown." Linnaeus uses the term for these prickly shrubs, and doubtless Linnaeus had a reason why. Certain it is that the prickles are there—no one will gainsay that—although on the occasion in question the floriferous condition of the Furze was such that we couldn't see the prickles for the flowers, whereas my critic, who is always demonstrating, cannot see (metaphorically, of course) the flowers for the prickles.—*C. B. G.*

A Girl's Garden; a Beginning.—In that up-to-date and exceedingly interesting magazine which we have previously appraised, viz.: *The Girl's Realm*, there appears in the July number, now published, a communicative article under the above title, "A Girl's Garden; a beginning," from the able and versatile Miss Gertrude Jekyll. The object is to show the way for the forming of a girl's garden, how to start, how to keep on, and what plants may in the first instance be chosen and expected to succeed. Few can write more clearly or interestingly than the author of "Wood and Garden," &c., and the present instance but proves our words. A number of graceful illustrations illuminate the text.

Severe Hail Shower in Ayrshire.—On Friday afternoon of the 22nd inst. a hail shower of great intensity occurred here, doing considerable damage to tender plants, fruits, &c., in the gardens. *Chrysanthemums*, for instance, which were being arranged in their summer quarters had their shoots and leaves almost entirely stripped from the stems, while the few leaves that are left on the plants look as if they had been ruthlessly cut with a pair of scissors. Leaves of the *Brassica tripe* such as Brussels Sprouts are completely riddled. Gooseberry and Currant bushes had their fruit and leaves thickly strewn under them. Apples and Pears which looked well beforehand are severely hammered and cut both on wall trees and standards, besides a host of other tender subjects too numerous to mention. Some idea of the severity of the shower can be had from the fact that it only lasted twenty minutes, and in that time the ground (which was dust dry beforehand) was covered to a depth of 2½ in. with hail, which lay in some sheltered places till twelve o'clock on the day following. Fortunately the hail was only the size of extra large Peas, or the damage would certainly have been more serious. Workmen who have lived on the estate for the last forty years say they do not remember such a shower of hail falling in such a short space of time even in the middle of winter, and strange to say our neighbours two miles distant had only a few drops of rain at the time.—*D. Buchanan, Bargany Gardens, Ayrshire, N.B.*

The Croydon and District Horticultural Mutual Improvement Society.—The monthly meeting was held at the society's room at the Sunflower Temperance Hotel, on Tuesday, June 19th, Mr. W. Harris occupying the chair, Mr. W. J. Simpson, the vice-chair. A large attendance of members was present, six new members were nominated. The chairman introduced Mr. W. J. Jarman, one of the younger members, who read a capital and instructive paper on "Carnations," dealing very lucidly with the classification as *hizarres*, flakes, *Malmaisons*, &c. Soils, propagation by layers and pipings, cultivation in open borders, potting and indoor culture, and suitable structures were next treated upon: insect pests and diseases were also dealt with. Mr. Jarman's paper was listened to with close attention, and at the close of the reading met with applause. An interesting and profitable discussion followed, in which many of the members took part. The subject was further interesting by the exhibition of some fine varieties of Carnations, sent to the meeting by Mr. H. T. Dixon, of Hailsham, and a stand of capital flowers from Mr. T. Butcher. A hearty vote of thanks was accorded Mr. Jarman for his paper. The tables were very attractive with a beautiful display of good exhibits. Mr. John R. Box sent two dozen excellent flowers of double *Begonias*, which received considerable attention. Mr. Lisle, Sanderstead, brought some good *Cattleyas*. Mr. Humphreys, Hackbridge, brought *Eulophiella gracilis*, a pretty miniature Orchid of botanical interest; Mr. P. Bunyard, some fine spikes of *Dictamnus Fraxinella*; *Calochorti* came from Messrs. Wallace & Co., Colchester, and sprays of flowering shrubs were brought by Mr. Gregory. A vote of thanks was given the exhibitors named. The secretary (Mr. Gregory) read an excellent list of lectures and papers to form the programme from August to January next. The chairman then announced that at the next meeting in July, an exhibition of Sweet Peas will be held, when ladies will be invited. The meeting closed with a vote of thanks to the chairman and vice-chairman.—*John Gregory, secretary, 60, Canterbury Road, Croydon.*

PRESENT DAY TOMATO CULTURE.

THE Tomato is so well known nowadays as to render the task of saying anything very new or interesting about it somewhat difficult. Yet one phase of the subject does not seem to be generally recognised. We are told that the liking for Tomatoes has to be acquired, and that nobody who for the first time tastes them likes the flavour. This statement might be quite true twenty or thirty years ago, but the flavour of the fruit as now grown is so immensely improved that even beginners can relish it. About that time the now popular esculent was only seen as a sort of rarity about gentlemen's places, and regarded by folks in general as a thing whose virtues only the upper ten were sufficiently discriminating to discern. The great consumption now, I believe, is due to the improved flavour begotten of superior culture, which again is largely due to the use of artificial manures, and also to superior varieties. The old term *Love-Apple* was a misnomer if the name was indicative of the feelings aroused at first taste. Unmitigated hatred and disgust were generally the passions depicted on the face of the embryo Tomato taster. A somewhat varied and extensive experience supports these views. I would, therefore, suggest to Tomato growers—use artificial manures, as they are called, liberally yet judiciously, and continue raising new varieties from robust parentage, as practised in Potato culture.—*J. McAvra, Kingsburgh, Prestonkirk, June 25th, 1900.*

GARDEN CROP PROSPECTS IN WEST LOTHIAN.

WE have had a very late, cold spring, and early summer; but I think I am safe in saying that crops seldom or never looked more promising. The late genial weather has worked wonders, and we will now have a fairly early fruit harvest. Strawberries show over an average crop, and the size of the fruit promises to be good. The most favoured varieties are Royal Sovereign, President, and Duke of Edinburgh. I have Laxton's Noble this season, and it promises very well; the first fruits will be ripe about June 30th. Gooseberries set a very heavy crop, but have dropped a good many fruits lately and are still a heavy crop. Black Currants are a good

average, while Red and White Currants are very heavy; Raspberries medium; Cherries and Plums are good average crops; Apples and Pears are very little grown in the district, but what is of them are fair.

All vegetables except early Kidney Beans are looking well; Peas and Potatoes exceptionally so. All the Brassica tribe are growing away freely. Tomatoes are looking well; of course they are only grown under glass here. Laird's Supreme and Stirling Castle have again proved themselves to be of the very highest class. Their free setting qualities are above all praise, while the quality is unsurpassed by any other variety I have ever grown.

Flowers are exceptionally fine this season. Rhododendrons have been magnificent, as also most other flowering trees and shrubs. Bedding stuff never in all my experience got a better chance. I have never once required to use the watering pan not even at planting time. The result is eminently satisfactory, everything growing freely. Among herbaceous plants Pyrethrums make a brave show, while the Scotch Rocket, Dianthus of sorts, Iris, Paeonies, &c., are much finer than usual. Roses are very strong, clean and healthy, and ere long will doubtless make a grand display. Rose Gloire de Dijon is exceptionally fine just now. To sum up, I think I am safe in saying that as far as the present promise goes it is an exceptionally fine season for the gardener in this locality.—*Black Watch.*

HUMEA ELEGANS

MAKES a highly decorative subject for the greenhouse or as isolated specimens in the flower garden. A good way is to remove a piece of turf and take out the soil large and deep enough to receive the pot, sinking same a little below the level, placing a piece of slate at the bottom for the pot to rest on so that water may pass away quickly, securely staking the stems as they take the wind rather much. The plants under good culture reach six to eight ft. high, are graceful in the extreme, whose leaves when touched emit a very strong peculiar odour, rare in plant life. The reddish-brown blossoms, too, are very graceful and feathery. Seeds can be sown from now to the middle of August, placing the pan in a cold pit or frame, and shading until germinated, pricking off the seedlings into boxes when large enough to handle, potting into 48's before crowding takes place, shifting on as they require it. For their final potting in March or April into 10-in. pots use loam, leaf soil and coarse sand with a good percentage of well decayed manure at each potting; and aid with weak liquid manure when established, guarding against over-watering, as they are ticklish subjects to deal with. Keep as near the glass and as cool as possible at all times to prevent the plants from getting drawn. For out-door use, harden gradually, and place in position early in June.—*Grower.*

PSILA ROSAE.

WITH the advent of the present warm weather, comes this marauding fiend, devastating that which recently gave promise of a remunerative crop of that esculent, umbelliferous plant—the Carrot—whose yellow, drooping foliage only too evidently portrays the fact that again the cultivator is baffled, and the insect has once more gained the ascendancy. Curtailed, its life history and description may be given in a few words. Early in spring, the black, slightly downy, imago emerges from its pupa case wherein it has hibernated. The eggs, which are deposited on the root, hatch in a week. The small yellow larva, aided by means of two tunicated mouth hooks, bores into the Carrot, and throws a yellowish dust to the surface, erroneously termed "Carrot rust." After a period of three weeks of this destructive life the larva returns to mother earth, wherein, for a space of fourteen days, it pupates, and finally the imago appears. Several generations occur annually. To eradicate the larva is thus impossible. Pages have been written in favour of deterrents of sorts, which, although not effective, are to a certain degree preventive. Amongst the many, the use of nitrate of soda is seldom enumerated; and it is in its favour that this article is written. Applied during the thinning period, in showery weather, the use of this salt resulted in a crop of excellent clean roots, in a garden greatly addicted to attack where for years deterrents had been applied without satisfactory results.—*Alpine.*

"NERIUMS OR OLEANDERS."

IT is sometimes difficult in the management of Neriums to get them to flower well, and to get large fully expanded blooms, as a great many of the smaller buds often drop off. The following method if taken up by anyone interested will be found to be a successful one. They prefer a sunny position, and must be kept soaked with water after the flower buds are formed. Plunge the pots inside seedpans, giving them liquid manure twice a week, as well as a drenching occasionally with tepid water. They like a high temperature at this stage, but the roots must never get dry at any time, as Oleanders are moisture-loving plants. In propagating them put seven good strong cuttings in an 8-in. pot or pan, using three parts sand to one leaf mould. Put a bell glass over them and plunge in a propagating pit or stove, keeping them moist. They will soon root, and when young growth begins take off the glass and pot in the ordinary way. They do not flower freely in a small state, so that the above remarks on flowering refer to year-old plants and older. When potting, give plenty of drainage, using a mixture two parts turfy loam, one fibrous peat, or old sphagnum, one leaf mould, with a dash of sand and stick ashes. Thus treated they will be found to flower freely.—*John C. Dick, Gardener, Champfleury, Linlithgow.*

GLADIOLI AND CANNAS.

THESE, when used together for bedding purposes, form such a pleasing combination, that it is a pity they are not planted together more often. The brilliant flowers of the Gladioli, when seen with the bold foliage of the Cannas, is not soon forgotten. The hybrid Gladiolus Childsii and its varieties, are, I think, the best that can be used for this purpose, as they grow so strong and there is such a beautiful variety of colours; but should scarlet be preferred, the well known variety Brenchleyensis cannot be beaten. As it is most convenient to plant the Gladioli and Cannas at the same time, usually about the first week in June in this locality, the former should be prepared by potting three bulbs in 24-size pots, and placing them in a cold frame early in April. They will then be found nicely rooted by the time they are wanted, and are not likely to be smothered by the Cannas. Of course it is well known that Cannas make a beautiful show by themselves, now that there are so many splendid varieties, but still the Gladioli take up so little space and add so greatly to the beauty of the bed that anyone who has not done so would do well to give them a trial.—*G. Robins, The Gardens, Dudley House, Springrove, Isleworth.*

CINERARIAS.

To obtain a batch of these useful and showy plants during winter, seed should now be sown in shallow pans, well drained. Cover the seeds with a thin layer of fine soil and water in carefully with a fine rose can. As soon as the seedlings show a rough leaf or two prick them out carefully in the same pans, using a fine, light soil; and should the weather be bright they will need to be lightly shaded. A frame under a north wall will require less shading. As the young plants become rooted, pot them into small 60-sized pots. Care should be taken in watering, as they are liable to damp at the collar. Pot on as required, using a slightly rougher soil at each potting. As soon as they need larger pots use a mixture of two parts fibrous loam, one part each of peat and well decayed leaf soil, with a little rotten cow manure and sand. They should be kept syringed daily to keep them clean. If fine specimens are desired, use an 8-in. pot for the final potting, and a rather coarse soil. A little cow manure water twice a week will greatly benefit them at this stage. A cold frame will suit them best at all stages of growth, but care must be taken to exclude frost in winter. Failing this, a cool greenhouse is the most desirable, using little or no fire heat, and allowing the plants all possible light and air.—*R. Thatcher, Lockinge Gardens, Wantage, Berks.*

Covent Garden Market.—In the Florists' Exchange for June 17th there is a fine photograph of the Central Avenue, Covent Garden, London, together with a few very interesting notes about its origin.

CARPENTERIA CALIFORNICA.

THIS is a comparatively new plant, but a lovely one. Its pure white flowers, and shiny dark gray-green foliage are highly ornamental. When I first got it I was told that it was perfectly hardy. This may be so in the south of England, but here the first winter (and it was a mild one) killed it. I have therefore grown it for several years in pots in a cool greenhouse. It roots easily enough, but takes a considerable time to do so, and in its early stages, grows but slowly. However, it is well worthy of a place in any greenhouse, and to those who care to give it a trial, the following hints on its culture may be interesting. It does not seem to be over fastidious as regards soil, but good fibrous loam, leaf mould and sand seem to suit it best. Do not give too large a pot, and drain well, as it is somewhat intolerant of water, especially after repotting. After it shows flower buds, frequent doses of weak liquid manure may be given with the very best results. It is not much troubled with vermin, but greenfly sometimes attacks the young shoots in spring. It has been in flower here for the past three weeks, for although the individual blooms last only a short time, they come in succession for several weeks. The plants should be neatly staked, and that in brief is about the whole of their requirements.—*C. Blair, Binny, Uphall, N.B.*

PILLAR ROSES.

WE have now a great variety of climbing Roses, and few things can be more beautiful in the summer than these when properly treated. To see them to the best advantage they should be trained to Larch poles 15 ft. to 20 ft. high, which they quickly cover, and very little attention is required at any stage. In spring, a mulching of half-rotten cow manure will greatly benefit the plants, and thorough soakings of water must be given in dry weather. A careful selection is of great importance, and the following will prove to be some of the best. The charming and now popular Sweet Briers, raised by the late Lord Penzance, lend themselves most readily to this mode of treatment, and, indeed, I have never seen them more beautiful or so effective as when treated in this way. We have pillars here fully 15 ft. high, at this moment studded from top to bottom with their delicately tinted flowers. Among other suitable kinds are the well-known Turner's Crimson Rambler and Paul's Carmine Pillar, two of the very best; Royal Scarlet, very bright and free flowering; Mdme. Plantier, white; Single Crimson, Alister Stella Gray, yellow; Fortune's Yellow, orange-yellow; and Alba, pure white. They should be syringed about three times during the season to kill the green aphids. Keep the growths nailed in as they continue to grow.—*A. Thatcher, Aldenham, Elstree.*

AMARYLLIS AND CRINUM.

THESE two genera of plants are grown under the same treatment, and by retarding their growth, they can be had in flower for several months of the year. Their easy cultivation and most lovely blooms should make them favourites with gardeners and amateurs. There are very few plants that have such a telling effect when placed in a collection at some of our local shows, standing so well above the foliage of other plants. Their large Lily-like blossoms are of various colours, embracing crimson, white, white and red, and striped white and crimson. The Amaryllis bulbs are expensive at first, but they soon increase by forming small bulbs at the base of the flowering bulbs. Crinums can be bought at a much cheaper rate, and although Crinum capense album is classed as hardy, it will repay if grown in pots. It makes a grand show as a plant for house decoration. The soil we use consists of half good fibrous loam, one of leaf soil, and the soil from a spent Mushroom bed with a good quantity of sand. The bulbs are shaken out of the pots where they have been resting, all decayed roots removed, and then repotted into 6-in. pots, allowing the bulbs to be half way out of the soil. They are then started in a gentle heat. The flowering stem will soon show itself from the side of the bulb, and when in flower the plants must be kept well shaded. They do well in a vinery, and look well intermixed with Ferns. The small bulbs should be grown on in small pots according to the size of the bulb.—*J. Wallace, King's Lynn.*

ABELIAS.

THESE are not so often met with as one could wish considering their value as wall plants. Probably with us and further down, especially near the coast in Cornwall, bushes in the open would thrive and flower well, but my experience is with plants on walls only, so will confine my remarks to such. The kind most often seen is the Rock Abelia (*A. rupestris*), carrying delicate pale pink flowers in autumn. *A. uniflora* is similar in habit but flowers earlier, is pale red, also sweetly scented and an evergreen. It is often found under the name of *A. serrata*. These two are from China, where things just at present are far from satisfactory. *A. floribunda* bears rosy purple flowers in clusters, and is not quite so hardy as those before mentioned. *A. triflora* is in my idea a gem, three flowered as the name implies and deliciously scented, that is, if we have it under the right name. [Quite correct.—ED.] Why I write so cautiously is because in *Nicholson's Dictionary of Gardening* it is spoken of as having pale yellow flowers, tinged with pink, while Johnson says it is pale red, and in Robinson's *English Flower Garden* it has pink flowers; and last, and perhaps not least, we find it of the purest white, providing of course we have it under its right name. I am sending Mr. Editor flowers for his opinion. The two former authorities give September month for it to be in bloom. If that is

THE ROCKERY AT LIMPSFIELD GRANGE.

THERE is no more pleasant time for visiting the country on the south side of the Surrey Downs than when summer is young. Limpsfield Grange is situated at the north end of the village of Limpsfield, where the geological formations of the Gault and Lower Green Sand meet, and therefore close at the foot of the North Downs, which here form the most elevated point in Surrey. The grounds are traversed by the Titsey Brook or Bourne, which makes quite a brawling torrent after heavy storms. Limpsfield Grange is the residence of D. G. Landale, Esq., J.P., and forms a compact estate embowered amongst and much hidden by trees from various points of view.

Mrs. Landale is most interested in the rockery, and in fact regards it as her portion of the garden, taking intense delight in the many and varied plants there collected together. It is situated in a hollow by the brook which sometimes overflows its banks and floods the low lying portions. The rockery consists of various high mounds, intersected by narrow, winding pathways, ascending and descending by flights of undressed stone steps. The stonework consists of green sandstone obtained in the neighbourhood, and being porous holds the moisture, much to the welfare of the plants. Having been

grown in broad masses. A deeper and, perhaps, finer blue is met with in *Lithospermum prostratum*. The sky blue flowers of *Sisyrinchium bermudianum* are very profuse at present. The rosy *Anthyllis montana* has just passed out of bloom.

All of these things the gardener, Mr. W. C. Lewis, is delighted to point out, as he is as enthusiastic over the hardy plants as Mrs. Landale herself; and propagates various things both from seeds, cuttings and division so as to get clumps and masses of a kind. On the top he has masses of Oriental Poppies, collections of dwarf, and tall Michaelmas Daisies, *Aster alpinus* being very fine at present though hardly a Michaelmas Daisy. A fine bush of *Potentilla fruticosa*, a yard in diameter, is now in full bloom. The masses of Spanish Broom (*Genista hispanica*) have just been splendid; and *G. tinctoria* will presently continue the succession in no mistakable manner. *Linum perenne* delights in a wealth of blue flowers. The double white *Saxifraga granulata* *flore pleno* is just over; but *Lychnis dioica* *flore pleno*, another British plant, is in full beauty. There will be quite a bank of Goldilocks (*Chrysocoma Linosyris*) presently, as Mr. Lewis has raised a large quantity from one original. The purple *Erinus alpinus* is truly a rock plant. British Orchids are represented by *Orchis mascula*, *Ophrys apifera* and *Habenaria chlorantha* obtained in the neighbourhood. The glaucous leaved *Tropaeolum polyphyllum* is quite happy trailing over the rockwork. Hybrid *Aquilegias* are plentiful and consist of forms raised chiefly from *A. chrysantha* and *A. caerulea*, though *A. canadense* and *A. vulgaris* may also be noted. Various strains of fancy Pansies and Violas are flowering in profusion. The pretty blue flowered *V. cornuta* is quite at home in pockets on the rockery. Of the yellow flowered *Linarias*, *L. dalmatica* is one of the most handsome by reason of its glaucous flowers and large flowers.

On the lawn is a fine bed of *Nemesia strumosa* Suttoni well varied by cream, yellow, orange, white, red, rose, crimson, purple and other shades of colour. Passing into the kitchen garden we noted a wealth of popular and useful herbaceous plants growing luxuriantly in the borders. Some of these were Paeonies, Pyrethrums, *Spiraea Aruncus*, Delphiniums, Oriental and Iceland Poppies, Irises, *Geranium platypetalum*, and fine masses of the Maned Barley (*Hordeum jubatum*).

There is a fine crop of Apples on bush trees. The Gooseberries are too heavily laden, even although gathering for cooking purpose has been going on for the last four weeks. An Apple orchard of standard trees was recently planted on what appeared to be quite dry ground; but when the holes for the trees were taken out the subsoil was found to be permeated with a substratum of water, and every hole had to be drained. Thus though the surface may appear dry in summer, the various crops have an abundance of moisture beneath.

Potatoes have made good growth. The picking of Peas has just commenced, the earliest variety being Wm. Hurst. Sangster's No. 1 is just a week later. Lettuce White Heart is a strong growing kind and fit for use earlier than Paris Cos. Early Market Cabbage, sown under glass, is now ready for use.

Tomatoes now occupy the pits recently filled with bedding plants. In the greenhouse that interesting old plant *Tropaeolum tricolorum* Jarratii is making fine progress. *Francoa ramosa*, Pelargoniums, Fuchsias, *Streptocarpus*, *Primula stellata*, *Cineraria stellata*, and similar subjects fill up the greenhouse, keeping it gay.

A similar variety of subjects occupy the stove, including Crotons, Acalyphas, Dracaenas, Anthuriums, *Calathea zebrina*, *Pandanus Veitchii*, and others.

Peach trees under glass are carrying a marvellous crop, the trees being grown upon the back wall and upon a trellis fitted up some distance below the front glass. The Alexandra Peach has been ripe for some little time past. Royal George is magnificent. Hales' Early is well advanced in the matter of colouring. Sea Eagle is also good. The crop everywhere would appear to be too heavy; but the soil is evidently well suited for them.

A large stokehole capable of holding boilers and fuel to heat a very large establishment has recently been put in. A fruit-room has also been admirably fitted up. A potting shed has also been constructed, together with bins for the storage of Carrots, Parsnips, Beet, and Potatoes. Mr. Lewis is doing everything to place the establishment in thoroughly working order; and being quite a young man he is full of enthusiasm, and we wish him many years of a useful career. About five years ago he was in the gardens of the Royal Horticultural Society at Chiswick.



DRACAENA THE QUEEN (See p. 697).

the case, we are fully three months in advance with ours. But whatever its name it is a species to be proud of, and I believe the Editor will say the same. *A. triflora* comes from India. Cuttings root readily in summer.—J. Mayne, Bickton.

[In *Hardy Flowering Trees and Shrubs*, A. D. Webster says this species flowers continuously from May to November, the flowers being white, flushed with pink. Those sent by our correspondent were flushed with pink while in the bud stage, but the fully expanded blooms are pure white, the pink disappearing. Old or damaged flowers are yellow, even if damaged in the bud stage, so that possibly the original description was taken from dried plants and the error repeated in different books. Pink is present in the early stages, but disappears during expansion as above stated. Wall plants may be seen in and around London, according to A. D. Webster, also at Exeter, and in the South of Ireland. As it comes from the Himalayan regions that accounts for its relative hardiness. Against a wall at Kew a large plant shows it to be quite hardy. The flowers sent us were deliciously scented. They recalled those of a white Verhena. The shrub is well worth cultivating for cut flowers which it produces in profusion.—ED.]

Grape Thinnings.--Jelly can be made from the thinnings of half-matured Grape berries.

recently constructed it is not yet quite covered with permanent and perennial occupants, but already looks well established. Very bright just now are the violet tracts of *Salvia Horminum violacea*; and the orange, crimson, scarlet and creamy flowered varieties of *Nemesia strumosa* Suttoni. On the higher portions are fine bushes of *Cytisus scoparius andreaana*, and patches of *Cistus* and orange, scarlet and yellow, single and double forms of *Helianthemum fugacius* enough in the case of individual flowers, but producing a liberal succession each day. *Phlox ovata* is also a mass of rosy flowers. *Dictamnus alba* and *D. gigantea* are also in perfection. *Vicia pyrenaica* with rich purple flowers looks for all the world like a greatly magnified form of the British *V. angustifolia* Bobartii. Iceland Poppies are also charming by contrast with other subjects.

Amongst rock plants proper, few of the *Linarias* are neater or prettier than *L. alpina*. The Edelweis (*Leontopodium alpinum*) has been raised from seed and successfully brought to the flowering stage. *Geranium sanguineum*, and the lovely pink variety *G. s. lancastriense*, form bright patches here and there on the ledges. *Thymus Serpyllum lanuginosus* seems quite at home creeping over the stones of the pathway, from which a grateful perfume arises as the foot passes over it. For a profusion of bright blue flowers few things will beat the Dwarf Veronica *Teucrium dubia* also known as *V. rupestris*, here

AQUATIC PLANTS.

At the Drill Hall meeting held on the 19th, inst., Prof. Boulger lectured on "Aquatic Plants." He treated the subject entirely in the scientific aspect, but to those who were able to follow his discourse, the lecture was very interesting.

Gardeners classified plants, said the Professor in his opening remarks, according to their partiality for a warm, an intermediate, or a cool temperature. And epiphytic Orchids, as another example, were usually subjected to quite different treatment to that of terrestrial ones. The gardener therefore ran on the lines of the physiologist rather than those of the anatomist. In early times botanists merely grouped vegetation roughly into groups, as trees, shrubs, herbs, according to their various medicinal properties. Later a single set of characters was considered, such as the reproduction organs upon which the artificial system of Linnaeus was entirely founded. But more was wanted. It was Darwin who first showed that affinity meant relationship. Characters possessed in common by large numbers of plants seemed to be derived from remote ancestors. From these characters, botanists have been able to build up the great primary divisions of the natural system of classification.

What these characters were in the Angiosperms, Gymnosperms, and Cryptogams the lecturer briefly described.

The characters belonging to species may be divided into those which are inherited, and those which are acquired. Mere physiological characters are no guide, but these and a study of the reproductive organs form a guiding system. Referring strictly to aquatic plants, Prof. Boulger delineated the distribution of some of the better known genera. So widely scattered are some of the genera, that only the species can be called local. A point of interest here noticed was that in temperate regions hibernation during winter becomes essential. *Marsilea* and *Subularia* were genera referred to in this connection. The Water Star Wart and some others, however, remain unaltered. The species of *Aponogeton* on the other hand are like the above mentioned, the *Marsilea*, &c., in that they die down to the rhizomes, like any other common terrestrial herbaceous plant. Another large group of aquatics form buds of modified leaves before they die back in autumn. The common English Arrowhead (*Sagittaria*) and the Frogbit are examples. These buds fall to the muddy bottom, and there they lie till their dormant capacities are awakened by some power or other in spring and they begin to develop a new plant unit. When flowering is over and growth well developed in autumn, the young bud-plants are seen at the end of long shoots, like a Strawberry with runners, or a Houseleek with offsets. By and bye the base of the stalks rot, the "hen and her chickens" become separated, and the "buds" sink to the bottom. And so the cycle goes on.

The power of certain aquatics (e.g. *Elodea canadensis*) to spread and propagate vegetatively received note. This Canadian Weed, named above, was introduced to Britain in 1836, and though only male plants were ever discovered here, in a few years it became an unmitigated nuisance to farmers, gardeners and others, for by its vigour, streams and ditches were completely choked with it. But once the soil lost its virgin quality, the *Elodea* also lessened in its vitality.

The foliage of entirely submerged aquatics is excessively thin. Aquatics usually have two or more forms of foliage leaves, which vary in consistency, &c., as submerged leaves, floating leaves, or leaves raised erect. The fineness or degree of dissectedness to which an aquatic's leaves may become modified, has been statistically accounted as varying in proportion to the swiftness or moving rate of the water in which they grow. The swifter the stream, the finer the leaves. *Vallisneria spiralis* and species of *Callitriche* are subjects which demonstrate this fact. The length, compared with the breadth, of submerged leaves is remarkable. They are usually very much longer than they are broad, being so much as thirty times as long as broad, in *Hippuris*. It seems odd to be told that the roots of aquatics are principally useful for anchorage. Prof. Boulger dealt minutely with the histological and physiological characters of a few particular species, contrasting them, and showing their points of likeness or difference. Modified leaf-hairs serving as roots are seen

in the Water Chestnut, and in *Salvinia*. It is worth noticing that *Castalia* is now the botanically accepted name of the White Water Lily, in place of *Nymphaea*.

The quantities of certain saline ingredients which such aquatics as *Juncus bufonius*, *Isoetes*, *Villarsia*, &c. take in, is surprising. It is also known that these surplus quantities are not essential for their regular growth. For instance, on analysis the ash of a Duckweed gave $7\frac{1}{2}$ per cent. of iron; while in the Water Chestnut in the plant there was $29\frac{1}{2}$ per cent. of iron, and as much as $68\frac{1}{2}$ per cent. in the fruit.

The bladder cells on the leaves of some aquatics, are primarily useful as "floats," but they also aid in the assimilation of oxygen. In *Utricularia*, the objects that used to be thought of as floats are really "traps" for the catching of insects. Air-cavities or air-tissues are developed enormously in some genera, and the "Knees" formed upon the roots of the Deciduous Cypress (*Taxodium distichum*) are a case in point. So numerous are air spaces in aquatics, that when they are cut and exposed to the free air they very speedily collapse. In running water again, floats and air-spaces cease to be developed (e.g. the Water Crowfoot). The concluding remarks applied to the origin of aquatics. The low forms of Algae are the primary and simplest constructed types. They are sexually reproduced by means of male fertilising antherozoids which are liberated generally in the water. True flowering aquatics on the other hand very seldom burst their pollen-cases under water (about fifty species do), and they may be simply instances of adaptation to environment and circumstances.

PLANTS RECENTLY CERTIFICATED.

AWARDS made by the Royal Horticultural Society, on the 19th inst.

Orchid Committee.

ODONTOGLOSSUM ROLFEAE WALTON GRANGE VAR.—This is considered the best of all the supposed natural hybrids between *O. harrayanum* and *O. Pescatorei*. The oblong sepals are rich brownish-purple, transversely barred with white, while the tip is rosy-purple. The petals are ovate, straight, revolute at the tip, rich brownish-purple and netted with white. The large lip is nearly square, with a large, crescent-shaped blotch of rich chocolate in front of the crest, and spotted at the sides, while the upper third is white. (First-class Certificate.) W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs.

SOBRALIA VEITCHI AUREA.—The typical *S. Veitchi* has flowers of the palest blush-white and a yellow throat. The variety under notice is characterised by the yellow of the throat being carried all over the flower, making it a handsome acquisition. (Award of Merit.) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

Floral Committee.

IRIS PARADOXA.—The falls of this peculiar form of Iris belonging to the section *Onocyclus*, are short, oblong, velvety and almost black. The standards are very much larger, obovate, white and striated with slender, violet lines. The stigmas are recurved and brown. (First-class Certificate.) C. G. Van Tubergen, Jun., Haarlem, Holland.

IRIS URMENSE.—In this we have another species belonging to the *Onocyclus* group of Irises. The leaves are linear, leathery, and glaucous. The scape is about 6 in. high, and bears a solitary primrose-yellow flower, with a deeper yellow blotch on the centre of the falls. (Award of Merit.) C. G. van Tubergen, Junr.

CAMPANULA PERSICIFOLIA MOERHEIMEI.—The flowers of this double variety are very large, pure white, and consist of about three corollas, placed one within the other, in the form of a large basin. They are very much larger than the fine old double form named *C. p. coronaria*, though not so fully double. They bear the same relation to the latter which the modern so called double *Delphiniums* and double zonal *Pelargoniums* do to the old types of thirty years ago. (Award of Merit.) Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London.

ANCHUSA ITALICA GRANDIFLORA.—The rich blue and handsome flowers of this variety are very much

larger than those of the type, and therefore an acquisition. (Award of Merit.) Mrs. Bulteel, Sefton Park, Slough.

DELPHINIUM QUEEN OF HUISH.—The flowering panicle of this variety is conical, and bears large flowers of a rich and handsome dark blue. (Award of Merit.) Messrs. Kelway & Son, Langport, Somerset.

PAEONIA EASTERN QUEEN.—This interesting and handsome Paeony has two or three rows of broad, outer petals of a rich crimson-red, surrounding a central mass of narrow, petaloid stamens, partly red and partly yellow. (Award of Merit.) Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester.

HEUCHERA MICRANTHA ROSEA.—Very graceful are the panicles of small flowers of *H. micrantha*, either on the rockery or amongst cut flowers. The variety differs from it in having bright red instead of brown stems. (Award of Merit.) Messrs. R. Wallace & Co.

IRIS GERMANICA BLACK PRINCE.—The falls of this variety are of a velvety violet-black, with a yellow beard. The standards are blue. The variety is a very distinct one. (Award of Merit.) Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, London.

GERANIUM SANGUINEUM ALBUM.—The diffuse stems and small, fine cut leaves of the typical *G. sanguineum* make it a useful rock plant. The variety differs in having pure white flowers. (Award of Merit.) Mr. Amos Perry.

EREMURUS WAREI.—The spike shown by Messrs. T. S. Ware, Ltd., was of medium vigour and closely covered with bright yellow flowers, darker than those of *E. Olga*, which may be one of its parents, as it is suspected to be a natural hybrid. Messrs. T. S. Ware describe it as a new species from Central Asia, and state that it usually grows 8 ft. high. It is certainly very handsome. (Award of Merit.)

The Orchid Growers' Calendar.

POTTING ORCHIDS.—I can well remember the time when to advise the repotting of any Orchids during the summer months would have brought forth a storm of ridicule from most of the recognised authorities or writers on this beautiful class of plants, but happily all this is altered, the consequence being we get much better results all round; for there is no question that to do potting at stated periods, whether the plants are ready or not, is as great a mistake as it is to miss the flowing tide.

You must in a great measure do as the plants dictate. I have often pointed out that it is a golden rule to catch the plants just as they are pushing new roots from the newly made up growths, for affording some new material.

Generally those that have missed flowering are the first to make new roots and must necessarily be seen to first; leaving those that are flowering undisturbed until that satisfactory period has passed, except to give them a few fresh lumps of peat for the new roots to take hold of, which may of course be left intact when the potting is done.

I have in my mind's eye just at present the beautiful, but alas, shy flowering *Cattleya Gigas*, of which we grow a quantity and which will receive immediate attention. Plants of *Cattleya Mendelii* that have gone out of flower will be potted at once, as will any other *Cattleyas* or *Laelias* that seem to ask for it.

ODONTOGLOSSUMS.—We are always having some or other of this species on the potting bench to overhaul; and unless you do this you cannot keep the collection in good condition for long.

A SUBSTITUTE WANTED FOR PEAT.—The general cry is that the peat besides being too high in price is becoming smaller by degrees and beautifully less, as the saying goes. We have had *Polypodium fibre* and found it wanting after a good trial, especially when used for hot things. The fact is it is too spongy, and will not let the water pass away freely. I believe it is still largely used on the Continent for *Odontoglossums*, with a little leaf mould and sand well mixed together, with of course some sphagnum moss. We have not tried it ourselves, but turning out some recently bought in plants from across the silver streak, we were much impressed by the fine healthy root action, where partially decayed leaves were used.—S.C.

HINTS FOR AMATEURS.

WHILE the subjects of the flower garden (not the formal flower garden) are at present so numerous and so beautiful, a notice may fittingly be given to some of the finer sorts suitable for the amateur, yet are not very frequently found in his garden.

Lotus corniculatus.—The amateur may excuse him or herself for omitting to grow this in the garden by referring to the fact that this pretty plant can be seen freely growing in the sunny banks and meadows in any part of the country, and so it can. Yet it is worth a good deal of space even in well kept and choice collections. Or it might still be kept to the lawns or banks, not where smooth green grass is desired, but in rather unkempt or corner spaces, in which it could be duly encouraged and planted so as to form spreading masses all alone. The cushion of short grass which may be allowed to grow with it will only "set off" the brilliant yellow and crimson of the flowers. It goes by the commoner name of Bird's-foot Trefoll, and in Scotland is locally, at least, termed Crow's-taes (Crow's-toes). Dry sunny banks suit it best.

Onosma echioides.—Here also we have a yellow flowering plant, sweet in its way and suitable for a little rockery, or a border. It is a Borage-wort with the usual hirsute stem and leaves, branching habit, and the clusters of funnel-shaped flowers. The species in question inhabits the sandy flats of Armenia and South Europe, and is perennial. Nothing finer than a broad spreading sheet of this plant and that other nearly allied blue flowered plant—*Lithospermum prostratum*, could be imagined. This latter plant flowers somewhat earlier, however, but if grown for contrast, let the *Lithospermum* be placed on a higher level, as it is dwarfer, and delights in plenty of light. *Onosma echioides* should be propagated from seeds sown early in the year, and the young plants pricked out permanently at a later date.

Polygonum affine.—This neat little subject is more common in gardens than the plants I have just mentioned. It is one of those subjects which give an appearance of luxuriant vegetation to rockeries, or to shady borders. It spreads about in a rampant manner, covering the ground with its red stems and handsome lanceolate green leaves. All over its broad surface too, the reddish spikes of flowers crop up. They are not tall, but they are pleasingly beautiful.

Chrysogonum virginianum.—Yet another yellow perennial, but still different in habit and appearance. It is a bushy growing plant attaining to a height of from 15-in. to 18-in., and succeeds well in any good garden soil. The flowers are bright yellow, the foliage and stems being somewhat hairy. It is a desirable plant and one to be recommended.

Inula hirta.—The *Inulas* are all plants of easy culture, so easy indeed that, as a rule, they can be naturalised in most open spaces. I refer to *I. hirta*, a hairy species with tough wiry stems, which grows freely even on poor soil in exposed positions. This genus of *Compositae* is by many disparaged, but I warrant there are few better plants for an amateur's garden, more especially if select culture is not a great desire. The flowers are the size of a crown piece, having an orange coloured disc, and a pretty fringe of lighter yellow ray petals. As a cut flower it lasts fresh for weeks.

Geum montanum.—Not so much for the flowers of this little *Geum* is the present notice made, for these soon fall off, but in this we have another of those subjects that develop a fine "mop-head" of silky brown hairs. Other good examples on a very similar fashion are to be found in some of the *Anemones*. These hairs are out-growths from, or around, the carpels and they are persistent, that is, they do not easily drop off.

Silybum marianum.—It is not as a flowering subject that this plant is recommended, but as a bright and beautiful ornamental leaved type which, though growing a few feet in height, is yet suitable for an odd corner in smaller gardens. From first to last it is an interesting plant. The leaves are tough, smooth, thrown in close succession from the ground upwards, are large in size, most remarkably crinkled, undulated, variously cut, and marked all over with bands and blotches of white which enliven the deep green. The leaves also are slightly spinous. It is a native biennial plant, and grows freely in any well-

drained good garden soil. Associated with *Rumex*, *Sage*, *Dame's*, *Violet*, or *Sweet Cicely* it is charming.

Meum Athamanticum.—A plant of fine foliage, at least, is this species of *Meum*. It takes after the *Ferulas* in its finely dissected foliage, and throws up umbels of white flowers. It is indeed very much like a dwarf *Fennel*, and must come very close upon this genus. It is interesting to note that the species named is the only one in the genus; it being what is termed a monotypic genus. *Bawd Money* and *Spig-nel* are common names for it. A young stock can soon be raised by dividing the plants in spring, or by sowing seeds indoors in March for planting out later on. It is highly aromatic. It seems to have few wants. On a rockery it grows very finely, and, not being more than 2 ft. high, is quite suitable for small places. As a border plant it may likewise be recommended, or, indeed, in slightly favoured situations it may be naturalised. Occasionally, it is found growing wild in elevated parts of Britain, but it is chiefly found on the mountains of France and Spain.

Valeriana pyrenaica.—This *Valerian* is somewhat of an old favourite, though perhaps not so well known as *V. officinalis*. But there are a number of plants which go under the name of "Valerian," as, for instance, *Greek Valerian*, which is *Polemonium caeruleum*, also commonly called *Jacob's Ladder*; and two species of *Centranthus* are termed respectively *Spur* and *Long-spur Valerian*.

The subject under special notice here grows over 3 ft. in height, has a branching habit, and is terminated by many flat-headed umbels of reddish or lilac coloured minute flowers. The plant is handsome, though not altogether showy.

Anthericums.—These Liliaceous flowering plants are extremely graceful, both in flower raceme and grassy foliage. In warm, rich sandy borders they succeed admirably. They are worthy of careful attention. The flowers which are pure white with yellow stamens in the centre, and borne profusely on a long slender central axis, are frequently used in floral decorative display. They are propagated chiefly by division. *A. Liliastrum* (*St. Bruno's Lily*) is the one most often seen in gardens. *A. L.* major is a variety of the above, having larger flowers; *L. ramosum* is very fine, and *A. Liliago* (*St. Bernard's Lily*) is another exceedingly popular species.

Present Work.—Sowings of various plants for the decoration of the greenhouse in winter must now be made. A sowing of *East Lothian Stocks* should be made in pans or boxes, placing these in a mild temperature (60°) to germinate, but remove them whenever the seedlings are through the surface soil, and grow them as steadily and firmly as possible. Do not over-pot, nor be unduly lavish when watering. *Celosias* may also be sown and treated much in the same way. The following other subjects which are raised from seeds may be sown in the open air on a sunny border:—*Wallflower*, *Aquilegia* (*Columbine*), *Pansy*, *Primroses*, and *Polyanthuses*, and most biennials and perennials may be sown now. By sowing perennials now, plants fit for yielding a small amount of bloom next year are thus secured. *Begonias* may also be sown in pans, and these placed in the propagating house.

Bedding plants in the formal flower garden should not be neglected in the water supply. Give a thorough soaking when you do water, $2\frac{1}{2}$ gallons per sq. yd. is the quantity according to law which ought to be given. Thin out and do some pinching of the shoots of *Currants* and fruit trees.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Moles troublesome.—*St. Andrews*: Moles are difficult things to exterminate when once they make their home in a garden. And especially when they burrow through *Asparagus* beds, the difficulty is very great. A good and thoroughly experienced mole-catcher could clear out the wretches, or by using *Garlic* roots (which moles are said to detest), you yourself may dislodge them. Cut the *Garlic* roots into pieces, of the size of a *Walnut*, and drop these here and there along the runs and into the

mouths of the mole hills. Authorities state this to be a perfectly reliable method for clearing them.

The Pearl Bush.—*P. Wilson*: The above, botanically called *Exochorda grandiflora*, is a beautiful flowering shrub, but one which requires a fairly mild temperature for successful growth. In London districts it is grown on walls and lawns flourishing very well, especially if the soil is sandy and dry. In the warmer south-western counties it grows as open-air bushes and flowers finely. It is propagated by seeds, layers or suckers. One would expect it to be hardier, seeing it comes from North China.

Heuchera sanguinea.—*J. T.*: Sometimes this beautiful hardy plant takes a while to succeed or do well. If you find that your plants are not doing as they ought to in their present position, do not hesitate to shift them, or part of them at least, to another site somewhat different from the one they now occupy. We have known plants of the above to do admirably under pot-culture, and yet when planted in the open borders of the same garden they made no headway. To have it in perfection, we advise you to choose a slightly shaded sight, say on the north side of a loose shrubby belt, and to allow the plants a cool, moist loam. The rhizomes should not be planted deeper than to allow the crowns to rest at the soil level. If you can allow the bed (for they should be massed in beds) a mulch of strawy manure during winter so much the better for the plants. There are other fine *Heucheras*, very ornamental for the borders, such as *H. micrantha*, *H. m. rosea*; *H. pubescens* syn. *ribifolia*, and *H. glabra*. *H. sanguinea* is far the best.

Ramondia pyrenaica.—*Alpine*: The conditions in which it is found in Nature, and which have to be adopted in gardens to attain success are:—Moderate exposure to light, coolness, a vertical surface to grow from, such as between the clefts of rocks or stones, and a fibrous, peaty soil should be given. Under such conditions, with a free and ever-circulating supply of root moisture, the plants grow and flower beautifully. You should try to obtain the white variety also.

Paulownia imperialis.—*Sylvia*: This large leaved tree is sometimes grown in beds, being yearly pruned down to the ground, leaving only one bud to throw up a shoot for the following summer's growth. The *Ailantus*, or *Tree of Heaven*, may be treated as a standard, and, indeed, many other ornamental shrubs are pruned hard back with the aim to secure extra stout shoots, and it succeeds. Where one bud alone is left the chances are that it may perish, and so the plant is either spoiled or greatly thrown back in growth. A sheltered position should be chosen for the *Paulownia*.

"Lily" to Name.—*W. D.*: The flower you send is not a *Lily*, but an *Iris*, a variety of *I. squalens*. Many plants receive the common appellation of *Lily*, though they are not at all *Lilies* (or *Liliaceous* plants), many of them, indeed, far removed, as, for instance, *Arum "Lily"*, or *Lily of the Nile*; *Yellow Pond Lily*, which is *Nuphar lutea*; *Wood Lily*, i.e., *Trillium grandiflorum*; *Lent Lily*, i.e., *Narcissus Pseudo narcissus*. In fact, when one comes to think over them all they form a respectable list. The following "Lilies" may be interesting to yourself and others (*L.* stands for *Lily*):—*African L.* (*Agapanthus umbellatus*), *Day L.* (*Hemerocallis*), *Plantain L.* (*Funkia*), *Guernsey L.* (*Nerine*), *Scarborough L.* (*Vallota purpurea*), *Peruvian L.* (*Alstroemeria*), *Mariposa L.* (*Calochortus*), *Cape L.* (*Crinum capense*), *St. Bruno's L.* (*Anthericum*), *St. Bernard's L.* (ditto), *Belladonna L.* (*Amaryllis*), *Atamasco L.* (*Zephyranthes*), *Madonna L.* or *White L.* (*Lilium candidum*), *Orange L.* (*L. croceum*), *Scarlet Martagon L.* (*L. chalcedonicum*), *Swamp L.* (*L. superbum*), *Tiger L.* (*L. tigrinum*), *White Trumpet L.* (*L. longiflorum*), *Turk's Cap L.* (*L. Martagon*), *Valley Lily* (*Convallaria majalis*).

Propagating Austrian Brier.—*J. S.*: Suckers are more a nuisance than anything else; they are seldom or never desired, at least not for propagating a good *Rose* from. You should bud your *Brier* on to a common *Dog Rose* stock in August. Hints on the subject will appear before then. Or you may strike cuttings of half-firmed wood at any time, autumn preferably, and place them singly in small pots filled

with sandy soil, and place these under hand-lights or in cold frames for the winter. Dew them over occasionally till the roots are emitted. By next summer they will have made nice plants for shifting on, to be eventually planted out.

Ivies in Window Boxes.—*K. B.*: A well selected batch of Ivies, to include the larger leaved climbing sorts, such as *Hedera Helix dentata* or *H. H. grandifolia*, for the side walls, and trailing kinds for the edge, also dwarf gold and silver variegated varieties, and these all well arranged would furnish your box handsomely.

TWO USEFUL DRACAENAS.

As a handsome and useful plant for table decoration in the hall of a nobleman or in the cottage we would recommend *Dracaena Eeckhautei*, more correctly or botanically named *Cordyline australis* var. *Eeckhautei*. Whatever name is used the beauty and usefulness of the plant will remain the same. The lanceolate-linear leaves are of a rich green and vary from 15-in. to 20-in. in length. They are thinly arranged along the stem, and droop gracefully on all sides of the plant giving this an elegant contour. A special feature of the plant is that the leaves are retained from top to bottom even when the stem has gained a height of 2 ft. to 3 ft. Plants of the largest size permissible for table and similar decorations can therefore be used without presenting a naked and leggy appearance as in the case of many otherwise highly desirable forms in cultivation. The accompanying illustration of it placed at our disposal by Messrs. J. Veitch & Sons, Ltd., Chelsea, will give a good idea of a characteristic plant. Specimens we have noted at Chelsea exactly coincide with the figure in all respects. It may be placed on the dinner table without appearing heavy or obstructing the view on the opposite side.

It is, of course, equally suitable for cool conservatories or greenhouses; and being a form of *D. australis* its hardiness is guaranteed, as well as its capacity for withstanding bad usage in dry and heated rooms. It is truly an acquisition, and an improvement upon *D. rubra* so well known in gardens and so largely grown for market purposes. The qualities of the plant may be summed up by saying that it is hardy, graceful, stately, elegant, and capable of withstanding the wear and bad usage attendant upon house decoration. It received an Award of Merit from the R.H.S. on October 11th, 1893.

The other plant we refer to is *D. The Queen*, quite of another type, and belonging to that strain which is highly popular for table decoration, the leaves being narrow, not more than, but generally under $\frac{3}{4}$ in. in width, about 12 in. long, and drawn out to a slender point. They arch gracefully on every side. The surface is of a deep olive-green, overlaid with a bronzy, metallic lustre, and edged with carmine, tinted with orange. An Award of Merit was accorded it by the Royal Horticultural Society on November 21st of last year, at which time we described it as a decorative subject of the first water, the clearly defined colours being all in its favour. The accompanying illustration of it (p. 694) was also lent us by Messrs. J. Veitch & Sons, Ltd.

When in their nursery recently we noted a fine batch of seedlings of the yellow *Richardia elliottiana* with dark green leaves blotched all over with white. Though yet quite dwarf many of them were flowering. In the cool conservatory *Hydrangea Mariesii* was flowering freely. The outer flowers of the corymb have very broad sepals of a rich rose. The plant itself is dwarf and sturdy. *Hydrangea stellata rosea* would no doubt take the fancy of many growers on account of its flowers all having the enlarged sepals, which are round, serrated, and of a bright rose, but sometimes blue or blue pink. A whole houseful of *Anthuriums* was quite gay with the rich scarlet spathes of *A. scherzerianum* and *A. s. Wardii*. The spathes of the latter are very broad, roundly oval, and carried well above the large and vigorous leaves. This variety would take a lot of beating. Fine forms of the hybrid *A. rothschildianum* were also plentiful, their creamy-white spathes being richly spotted and marbled with scarlet.

In the *Nepenthes* house were some magnificent pitchers of the rare *N. sanguinea*, the deep red pitchers being 12½ in. long, by 3½ in. in width. The thinly fringed wings were well developed. There

was also a promising hybrid between *N. mixta* and *N. dicksoniana*. The pitcher was about 12 in. long, cylindrical, but proportionately wide, and blotched and marbled with chocolate-red on a light green ground. No name has yet been given it, though that will follow in due course when the plant has attained its full development and shows its true character. Evidently it must be classed amongst the large or gigantic-pitched forms.

THE HERBACEOUS BORDER.

The borders during June are rich in bloom of tender tints, and also shades of colour seemingly

shorn. The borders with the garden plants are rich to luxuriance, with golden Day Lilies, sky-blue Lupines, Geums, the colour of the setting sun, and foamy sheets of *Saxifragas* and *Silenes*. The old-fashioned *Aquilegias*, which are among the finest of hardy garden plants, and ever will be, have been flourishing for a week or two, even on a dry and sterile soil. But they love a sunny slope. Sunshine, good soil, and perfect freedom to shake their heads without collision with their neighbours, is what they most prefer. The common Columbine, *Aquilegia vulgaris*, is a useful old subject, and to me it seems as good yet as many of the supposed improved new types. Of course it does not compare



DRACAENA EECKHAUTEI.

in proportionate splendour with the brightness of the midsummer sunlight. The garden in June bears its happiest characteristics. It has not quite lost the charm of spring, for the remnant of Primroses and spring flowering plants just pass away when June is young. The thousand shades and forms of trees and bushes in their first flush of the year's growth, blaze everywhere, and before the month has passed away, these trees and bushes have begun to swell their tribute of fruits. Life is young in every place. Young plants, young birds, fresh swarms of newly-hatched butterflies and moths, while in the fields the lambs bleat behind their strange mothers, newly

with the dwarfer and handsomer *A. glandulosa*, which has the tips of the petals white to contrast with the dark blue sepals. Then another of the finest species is *A. chrysantha*, more or less yellow; *A. grandiflora alba*, white, *A. canadensis*, which is very conspicuous with crimson and yellow sheaths of flower heads. From these of course have been raised such fine strains as Cannell's selected Cockspur *Aquilegias*, which are of moderate height, very vigorous and floriferous, besides having a wide range of colours. The red and yellow shades predominate. They may be raised from seeds by anyone who possessed a small greenhouse or even a

frame. If sown in boxes in cold frames and pricked out when they are half an inch high, fine sturdy plants result. Or, as is often done, the seed may be sown as soon as ripe in a sheltered sunny border, afterwards transplanting the plants, and when large enough, finally place them in their permanent quarters. Seedlings cannot always be depended on, however, so that where very special sorts are wished to be increased and perpetuated, division of the root should be the means adopted. They are gorgeous flowering plants, worthy of very extensive cultivation.

The Pyrethrums and Paeonies are gems of early June, though the former lasts well through the next month. The single Pyrethrums are claiming increased attention and are really more graceful and beautiful than the close set, stiff, double varieties. But they may well have a special notice apart from the present reference.

BAPTISIA EXALTATA.—This and the other members of the genus differ very little from the Lupines. They, or at least the above and one or two others, flower before the middle of June, and last fresh for a few weeks. The Baptisias are propagated by division and from seeds.

GILLENIA TRIFOLIATA.—This is really a gem of the hardy plant border, and one which is making progressive headway. It grows about 2 ft. high, has pretty, dark green, tri-lobed foliage and fringe-flowered pendent and pink or pinky-white panicles. To those who may not have seen this plant, it is one to be recommended. Given an ordinary garden soil of fair quality, well worked, and in an open position, pieces of the root and crown of Gillenia may be planted in March or April and will do well. It comes true from seeds sown in boxes in autumn, or in the open in May, the seedlings afterwards being pricked off and planted out in the border.

HEDYSARUM MICROCALYX.—As a free growing subject for an open bed, or for the hardy plant border, this Vicia-like plant is a subject deserving attention. The habit is bushy, and vigorous, yet graceful. The dark green pinnate foliage is abundant, wreathing all the stems, which terminate in long conspicuous rosy-purple spikes. The plant, though it grows nearly 3 ft. high, does not necessarily require to be staked. It enjoys a rich soil and a sunny situation, on which site it forms an object of remarkable beauty and charm.

ANCHUSA ITALICA.—For a long continuing, blue-flowered, conspicuous and ornamental border plant, and one which succeeds admirably under but moderate attention, the above may certainly be recommended. In height it attains about 4½ ft., or less probably, and is characterised by the brilliant blue flowers, the broad sessile leaves, branching habit and general hairiness or bristly character of the great order of Boraginaceae. It is fairly well-known but the present notice is not inopportune. *A. Barrelierii* is much dwarfer, more spreading and not so beautiful as a plant, though the brilliant blue flowers are numerous and pleasing. Such other varieties as *A. capensis*, *A. tinctoria*, the Alkanet, may be recommended. They are all easily raised from summer sown seeds.

NEPETA MUSSINI.—The common Ground Ivy is a pretty little subject for placing on the edges of a rocky projection, on which site its stems and leaves become almost purple, and of course rather stunted. This neighbour of its, *N. Mussini*, also adapts itself well for a spot on the rockery, but the place should be enriched so as to obtain a full growth. The plant spreads over a good deal of space if it gets the chance. In a border which suits it, this forms a very fine edge plant. It throws up a large number of blue flowered inflorescences, which contrast well with the somewhat gray foliage. All the *Nepetas* are of easy culture. *N. Glechoma variegata*, which is used for edging flower beds, is generally propagated from cuttings. The others are increased by division or sowing seeds in spring.

CYNOGLOSSUM NERVOSUM.—In this we have a lovely hardy plant of rather slender habit, deep, bright blue flowers, and dark foliage. Being one of the Boragineae, and very much like the usual type, only that the inflorescence in this case is more of a thyrsoid or branching form, its general attributes may be mentally summed up. In a fairly sunny position in ordinary garden soil, it succeeds well. Like other Borages it is raised from seeds.—*J. Harris.*

Superlative Raspberry is one of the best red varieties.

FLOWERING TREES AND SHRUBS.

LABURNUM, ACACIAS, LILAC, AND WISTARIA.—There are four or five small trees which flower at this time of year, and which, in a sense, vie in people's minds for the foremost place in popularity. These are the False and the Rose Acacia, the Laburnum, Lilac, and Wistaria. The Himalayan *Syringa Emodi* may be substituted in place of common Lilac, which is now past, but the others are in flower. And if we single out one member from the others, as being universally popular, the choice must be upon the Laburnum. Go where we may this magnificently glorious creation flourishes and generates amenity all round. Yet times and again the thought has ushered itself, "Why not have other lovely flowering trees?" Of course, the difficulty is in selecting a tree of equal beauty and hardiness. The Bird Cherry, which one cannot say is quite so tempting, and might by some people be designated as a dull flowered subject, is perfectly hardy, for at the present time it may be seen flourishing upon the mountains of the Scotch Highlands. But it must have pure air to succeed and develop its greatest purity. The Rose Acacia blooms and grows quite freely in the drier, warmer, sunny, and sheltered gardens in South and Mid-England, but it requires a wall in most parts of Scotland. The Wistaria takes no harm, even away North, when it once becomes thoroughly established, though it would never diminish the numbers of Laburnums which are yearly planted. Still, there are acres of suitable wall space whereon to grow this other fine flowered climbing shrub. The Lilac, of course, is quite hardy, and it only remains for those who have charge of planting operations to take note of the newer and improved varieties of this tree which are recommended to them or which they may see for themselves. What can be accomplished by raisers and selectors of trees and shrubs to improve the constitutional vigour and hardiness of the two beautiful Acacias or Rohinias previously mentioned has yet to be taken in hand and proved. But surely he who could add hardiness to the great merits of the Rose Acacia and to the white one would have his reward in seeing these dwarf trees in every villa and front garden throughout the kingdom.—*D.*

BYE-LAWS OF THE ROYAL HORTICULTURAL SOCIETY.

A VERY urgent appeal has been made to me in my official capacity as secretary of the R.H.S. by certain of the Fellows who are most anxious to show their loyalty to the council by supporting them in their proposals with regard to the bye-laws of the society, but are unable to do so entirely, so long as No. 45, 46, and 47 are retained. They have no objection whatever, many of them cordially approve of, the Swiss principle of a referendum, "aye" or "nay," on any important proposal, but they dislike a general "proxy."

At this late date I have no time or authority to call the council together to consider this point. I am, therefore, writing quite unofficially to say that I am confident that the council will accept a permissive referendum on points they think to be vital to the society's welfare. The council, I am convinced, have no desire for a general "proxy," but they feel, and feel very strongly, that as the society has recently been increased by such an enormous accession of Fellows living at a great distance from London, it is unjust to confine the whole governing power of the society to Fellows living in or near London, which would practically be the case if no referendum on important points is permitted.

The council would, I am sure, accept the three following bye-laws in the place of the three whose numbers they bear, together with the form for a referendum which I have drafted.

I have written this letter solely in order that Fellows may have time to consider the matter, and to induce country Fellows to come up to the meeting of July 3rd, and support a measure for their own enfranchisement.

I am, sir, faithfully yours,

W. WILKS.

ALTERNATIVE BYE-LAWS.

45. With respect to any resolution brought before a general meeting, and considered by the council to be of vital importance to the welfare of the society, the council shall have power to adjourn the

meeting for not more than twenty-eight days in order to refer the decision on such resolution to the whole body of the Fellows, and to take a poll of the "for" or "against" it.

46. In the event of any resolution being referred for decision from a general meeting to the whole body of Fellows, the council shall, within ten days after such meeting, issue by post to every Fellow of the society residing in the United Kingdom a copy of the resolution thus referred, together with the necessary form (form D) for voting for or against it. But the council shall not therewith, or otherwise at the expense of the society, send any communication tending to influence the vote of the Fellows.

47. When any resolution is referred from a general meeting to the whole body of Fellows for decision, the general meeting shall, before it adjourn, be requested by the chairman to nominate four scrutineers of the poll, whose duty shall be to examine and classify the votes of the Fellows, and report the result to the adjourned general meeting. Two of the scrutineers shall be chosen from amongst the members of the council, and two shall be Fellows holding no official position in the society. In a poll every Fellow shall have one vote, and one only.

FORM D.

Form to be used in event of the council considering any resolution submitted to a general meeting to be of sufficient importance to require a poll of the Fellows to be taken to decide it.

At a general meeting of the society held on (date) the following resolution was proposed and seconded, viz. (here insert the resolution).

The council considering this to be a matter of vital importance to the welfare of the society, and acting under bye-laws 45, 46, 47, adjourned the meeting till _____ hour on (date) at (place) in order that meanwhile a poll of the Fellows may be taken.

You are requested to sign your name in one or other of the two blank spaces below, and to return this paper entire to the scrutineers, R.H.S. office.

I desire to vote FOR the above resolution. Fellow's } Signature. }	I desire to vote AGAINST the above resolution. Fellow's } Signature. }
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This paper is issued by order of the council, and is sent by post to every Fellow residing in the United Kingdom.

..... Secretary.

N.B.—Nothing is to be written on this paper but the Fellow's signature only.

A BELT OF COLOURED SHRUBS.

NOW-A-DAYS when gardening is becoming a necessary adjunct in the lives of all civilised peoples, the plebians equally with the aristocracy, it behoves those who are responsible for its advancement in popularity, either as planters and planners of private estates and gardens, or better still, the supervisors of our public parks and recreation grounds, to study every means which shall tend to make the common taste appreciative of what is pure and beautiful. One has only to point to Kew as an example of what can be done to attract the "every-day person," and to spread abroad a desire or enthusiasm for garden beauty around the individual homes. Many there are who will throw down this paper when they read the above reference to Kew, or if not quite that, they are very likely to turn over the page to another subject. But it generally happens that those who thus have an antipathy to Kew and condemn it have never seen it in spring or summer. If they go there at this time of year, they will find some beautifully bright belts of variously coloured trees and shrubs. When the selection is well chosen and properly grouped, such coloured beltings or beds are wonderfully cheery, and form most attractive features of a garden. Such a list as the following may be taken to furnish a nice border.

As a back-ground to the smaller shrubs, such as most of the Japanese Maples, Wistarias, Thorns, Maidenhair tree, Laburnums, or Lilacs, may be planted, and Elm or other forest trees may be at the back of these again.

The green towering Lombardy Poplar, and either Larch, Birch, *Taxodium distichum*, or other trees may likewise be used to build up the general effect. Of purple-leaved shrubs we have *Prunus cerasifera* var. *atropurpurea*, and *Corylus Avellana purpurea*, both of which form bushes that often go up to 14 ft. or more in height. There is also *Berberis vulgaris purpurea*, *Acer palmatum roseo-marginatum*, *Prunus pissardii*, and *Acer rubrum*.

Yellow is furnished by the Golden Elder, Golden Privet, *Cornus Mas variegata*, and *Neillia opulifolia aurea*, and white or silvery shades by *Elaeagnus argentea*, a pretty bushy North American shrub; *Negundo variegatum*, various *Acers*, and other things. M. R. R.

THE WATER LILY POND, GREENWICH PARK.

IN consequence of a note sent to THE GARDENING WORLD by Mr. Webster, the Superintendent of Greenwich Park, which appeared in a recent number, I went a few days ago to have a look at his Water Lily pond. This is situated at some distance towards the top of the park, and is within a large enclosure surrounded by a wire fence; and what I was informed was originally a sandpit is now converted into a most interesting botanic garden.

Unfortunately, the pond or lake has lost so much water of late as to be in parts almost dry, and I think that it will be necessary to take some steps for an artificial supply of water.

The Water Lilies were not in evidence. It seems early for them to have given over flowering, so perhaps I had misunderstood that they were in bloom when Mr. Webster wrote. There were some capital clumps of the yellow *Iris Pseudacorus*, and also a lovely dark blue species in flower. I hope I am not wrong in my observation when I state that I think I detected some Australian Blue Gum trees in a dry part of the lake—if so, I must apologise—it seems rather a curious locality. A few *Gunneras* on the bank will soon assert themselves and claim plenty of space.

Outside the lake the garden is treated with much professional skill. The soil evidently is poor and sandy, but much has been done. Some *Rhododendrons* seem to be flourishing, and various species of *Viburnum*, notably *V. plicatum* are doing remarkably well. There are beds of *Violas* which are flourishing, and a good collection of *Spiraeas*. *Polygonum cuspidatum* is much utilised, as it deserves to be for its healthy and vigorous foliage.

Altogether, I think Mr. Webster is to be congratulated on his success in introducing a section of Kew into Greenwich Park, and, as Rip van Winkle says, "May he live and prosper."—*Sigma*.

THE LIFE-PRINCIPLE OF NATURE.

ACCORDING to announcement Rev. Prof. Geo. Henslow, M.A., V.M.H., delivered No. 1 of his series of four scientific lectures in the Great Vinery at Chiswick, on Wednesday, the 20th inst. W. Marshall, Esq., occupied the chair, and in a few brief sentences, wherein he urged the young men to take notes, and not merely to trust to memory, he introduced the Professor. About fifty persons attended.

The subject of the lecture was "Protoplasm: What it is and how it Maintains Plant Life." What protoplasm is no one so far has been able definitely to say, nor do we know all about its complex workings and properties. That it is the life-principle of Nature, the basis and primary factor in life, has been discovered. Protoplasm, too, is continuous throughout all living organic units, hence the expression "continuity of the protoplasm."

No one has succeeded in manufacturing artificial protoplasm. Even the most careful and delicate compounding of all the necessary elements—carbon, hydrogen, oxygen, nitrogen, and phosphorous—has only resulted in yielding a matter devoid of the vital life-power.

Prof. Huxley, during his voyage on "The Challenger," in some of his marine investigations fished up a slimy matter from an ocean bed so much resembling vital protoplasm that he described it as such. On careful analysis, however, it was discovered to be a mere composition of "salts," having no life-spontaneity. This slimy or gelatinous stuff

is found at great depths in the ocean, and has been termed "Bathylbus," or "Life of the Depths."

Prof. Henslow summed up the intricacy of protoplasm when he said that it was "as complicated as a steam-engine." What plant protoplasm was like can be specially well seen in springtime by peeling off a strip of bark from a shoot, whence the slimy matter may be both seen and felt.

Continuing, the lecturer produced a diagram of a root-tip much enlarged. The structure of the root and the development of the cells received minute attention. The details need not be here reported, but a summary of the growth of a cell is briefly this: It starts from a small nuclear mass surrounded with less concentrated protoplasm, and bounded by a cell-wall. The cell gets bigger and bigger, and may assume various shapes, according as the protoplasm is more active in one part than another, &c. As the cell enlarges, vacuoles or air-spaces become apparent throughout the body of it, and chiefly by their means circulation of the protoplasm is set up.

Proceeding to explain how the cell divides after it has attained to its full size and power as an individual, Prof. Henslow enlightened his audience with a new discovery, one of the most important in natural science for twenty or thirty years past. It has been discovered that around the nucleus (which usually occupies the centre of a cell) there is a network encirclement of "chromosomes," otherwise termed "footrule bodies," because during their development they become lengthened and bend upon themselves. They take up and variously utilise the solar colours. When the chromosomes have doubled into the "footrule" form, they penetrate higgledy-piggledy in one conjoined mass with the nucleus. "Stars," called more fully "conducting stars," are also known to exist at either pole of the nucleus, and their part in the cell division is that of attracting a portion of the nucleus from its position in the centre of the cell, to themselves at the ends. The chromosomes greatly facilitate them and their "attracting" power, for soon after twisting and knotting themselves up with the nucleus, they lengthen out toward the "stars," forming as it were, a number of conducting tubes or flow-lines, along which the nucleus easily travels under the influence of the attraction at either end. Thus one half is drawn to one star and the other half to the opposite star, so that at this stage there are two nuclei, formed from one parent nucleus; then the chromosomes re-arrange themselves around the new nuclei, a partition grows between the young divisions, and so we have two cells now in place of only one which existed before. Long cells, that is, fibres, are formed just as ordinary parenchymatous cells are, only with this difference, that there are no partitions laid between the new and the old portions of an elongating cell.

But if Nature did nothing else than this it would result in always forming vegetative tissue. Other tissues and organisms are, however, duly built up. The stamens with their pollen—wonderful things—the ovary with its ovules, each having an embryo sac, and the complicated union of the parts of these are other formations originating from protoplasm, cells, and cell division. A pollen grain may briefly be stated to consist of an inner and an outer "coat." The inner one grows out and forms the pollen-tube conveying the male nucleus or fertilising element.

The ovary contains either one or more ovules, having two outer integuments and an embryo sac in the centre of all. The growth of the nucleus of the embryo sac divides once, giving two nuclei; these again divide, and four is the result, which four dividing for the last time yield eight, or four at each end of the embryo sac. The generative male nucleus passes between the two uppermost (neck cells or synergides) of the four cells in the embryo sac and fertilises the third, which becomes the embryo, while the fourth travels to the centre of the embryo sac, where it meets with a similar cell from the lower end of the sac. These two unite and form the working cell which develops the endosperm of a seed. In abnormal cases sometimes a seed produces two or three fully formed and perfectly good embryos. This arises from one or two or three, as the case may be, of these otherwise dormant nuclei which lie at the ends, having been fertilised by other pollen nucleus. The development of the endosperm (or starchy matter which the germinating embryo lives on) the suspensor and cotyledons of the embryo from the time of fertilisation was fully and very carefully

described by Prof. Henslow. All this went to show the power and the functions of protoplasm. The lecture was listened to with rapt attention throughout, for there are no finer teachers of such a subject than Rev. Prof. George Henslow.

THE PHALAENOPSES AT HOME.

THE Phalaenopses are natives of the Philippine Islands, which extend from the fifth to the eighteenth degree northern latitude. They are bordered on the east by the North Pacific, and on the west by the China Sea, being visited by north-west winds from October till May, and by south-west winds from May till October. Winds in both directions carry rain with them, which is deposited along the coasts and highlands of the islands. The limits of these rains are the mountains which traverse the islands from north to south. Thus the mountains have a continuous moisture, and in their valleys the Phalaenopses grow. Sometimes during a typhoon, the rain will continue pouring in these valleys for fourteen days. Otherwise the rain is about the same as in Europe, only that the rainy period is steady for a few months. There are also very hot days, often running into weeks without any rain at all. The Phalaenopses grow upon the highest branches of the trees where wind and sunshine can have most effect. Plants which are too low, or in places over-grown with creepers, soon die. Bees and other insects carry the seeds from tree to tree, so that there is a constant vegetation. The period of rest seems to be only a short while after flowering. All the plants are strong, for the weaker are over-grown by the more robust. Great care ought to be taken in collecting and transporting the Phalaenopses. It is at this time that they frequently become infested with insect pests. In their natural habitat they are said never to be attacked by insects. These are the natural conditions which prevail in the habitats of these beautiful Orchids, according to "Moller's Deutsche Gartner-Zeitung." They are worthy of all the care we can give them.

SOME BEAUTIFUL TULIPS.

TULIPS do not obtain quite so much notice as they at one time did, yet they still occupy a goodly share of our thoughts, our regard, and our time. The amount of money spent upon Tulips each year is almost incredible. And since it has been proved that they succeed well when planted out in the grass, the chances are that the demand will increase and more and more will be grown for sale. Tulips are beautiful in pots, but not half so lovely as when grown in beds or borders. The varieties which are given below are mostly of the early and May flowering types, and were noted in the nursery of Mr. H. J. Jones, Ryecroft, Lewisham, and in his group at the Temple Show.

Empress is of a dusky blue, with chocolate and orange suffusion. Snowball, white, with a deep yellow throat; Sunset, a mixture of colours, mostly bright blue and yellow. Stellata is a blue-gray variety; Lemon Queen, pale yellow; Avalanche, pure white; Catherine, lavender, and white, and yellow; Chrysolora, clear bright yellow; the Moore, brownish violet purple, and Louise, pale lavender with a white fringe. The descriptions do not detail the exact colours and blendings, but no one need falter in selecting one, rather than another. All are very lovely. Commandant, flaked white with rosy-crimson, has open obovate flowers; Rembrandt is a brilliant rosy-cerise; gesneriana albo-oculata, rosy-cerise with a white base, a pretty variety; and Orange Brilliant, with its beautiful yellow base, is very fine. Vitellina, is a pale creamy-yellow variety; and Scarlet Beauty is perfectly charming with its glowing crimson-scarlet globes. Another of the gesneriana varieties of merit which Mr. Jones grows well is spatulata, which measured nearly 9 in. across the mouth of the perianth. It is a bright crimson-scarlet, and has a lovely blue base. Billetiana is another of the richly coloured Tulips, having also an exquisite form. It is a bright yellow variety with broad orange-red tips and edges.

Wilhelmina is a capital rosy-cerise of glowing colour. Vondel is a well known variety, rather larger and deeper coloured than the last, but not quite so brilliant in colour. It is at the same time a first-

class and much-prized Tulip. Yellow Rose is a special favourite with many persons, persons too who are blest with perfect good taste. It is delightfully fragrant, double, deep yellow, but it has one fault, and a serious one, its stalk is too weak to hold the rich double blooms erect. This can be remedied by the commonsense practise of placing a stake to each bloom. This one failing should not be allowed to affect the choosing of so fine a Tulip. La Panachée is a creamy-white variety, having bright mauvy stripes upon the perianth lobes. Lastly, Zeno, a glorious variety of a glowing crimson-scarlet colour, possesses a fine blue base. These are all very distinct and showy Tulips, with characteristics which we specially desire in this class of plants. Mr. Jones was successful in obtaining many commendations and some Awards of Merit at the Chiswick Tnlp trlals in the spring of this year.

WAR AMONGST PLANTS.

THE cry of war is in the air! Periodicals are charged to their utmost capacity with reports of war-like deeds, which are as glutinously devoured by the man at the street corner, as by the aristocrat in his breakfast room. Amongst all this war, and rumours of war, it is interesting to note the bellicose nature of all plants. Plants like all beings frequently succumb after a prolonged struggle against adverse circumstances; hence, the life of an individual may be described as a battle against circumstances. Plants of different kinds growing wild in a state of nature may contend with each other, for roothold, soil, food, and for space to expose their foliage to the sun. Under such circumstances, if there be room for all, it may chance that the severity of the struggle is slight owing to the different requirements of the different plants, but even there the stronger will prevail, as exemplified by the preponderance of couch-grass, over the finer and more succulent forms of grasses, in waste ground. Plants of the same kind growing gregariously like heaths on a moor have the same requirements; and these are supplied in about equal proportions to all the individual plants. The result is that while the weaker ones are crowded out, the survivors are pretty much on an equality. This class of warfare is internecine, and competition between plant and plant may be mitigated by the adoption of thin seeding, whilst the competition between cultivated and alien plants may be prevented by weeding.—*Alpine.*

GARDENING MISCELLANY.

CROTON CULTURE.

THE best way to propagate these handsome stove plants is to take off the points of half-firmed shoots and strike them in thumb pots in a brisk bottom-heat. Cuttings of 6-ins. in length are quite suitable and only a few of the bottom leaves should be dressed off. Tie up the leaves and fasten them, when bunched, by a loose sling to a stake. Plunge the pots in a warm bed of fibre keeping the case close and moist till they get well rooted. Pot on when the small pots are comfortably filled using a rich but so far open compost. At each later shift let the compost be heavier, a good solid loam being given to plants in 6-ins. pots. The plants may either be grown as standards or as bushes. Standards are the more recommendable. The heat of the Croton house can hardly be too great, in fact Mr. McIntyre of Darlington does not give them direct air half-a-dozen times all summer. And it is important that the atmosphere should be laden with moisture. When plants are to be coloured-up highly, little potting should be done, but watering with clarified soot-water or fertilisers should be depended on. Constant sponging or smokings are necessary to keep the plant free from the insect pests which trouble them.

SCILLA CAMPANULATA ROSEA GRANDIFLORA.

THIS is one of the grandest varieties of the campanulate Scillas there is. The flowers are large, distinct, deeply coloured, and are a cheery rosy pink. The racemes are long and handsome. For planting in the grass in association with the common blue and

white Scillas, it forms a charming addition. It is worthy of special culture, and where one can afford to plant it in masses, this system is best for effect.

SOCIETIES.

ROYAL BOTANIC OF LONDON.—June 20th.

ON Wednesday, June 20th, the Royal Botanic Society held a floral fête in their gardens at Regent's Park, N. The weather was all that one could wish it to be, though frequently it threatened to rain. The flower exhibition seemed a little adjunct thrown in as a variety along with the other attractions. A report of the flower exhibits follows. The Pastoral Play or cantata held during the afternoon in the open air, and sustained mostly by juveniles, interested and drew out a large throng. The conjoined volume of the many girl-voices in song, was borne on the breeze for fully a quarter of a mile across the park, and was very pleasant to listen to. The Royal Hand-bell Ringers also gave a charming entertainment during the afternoon. They were a source of great interest and pleasure, and were very highly appreciated. The band of H.M. Second Life Guards rendered a programme of select music at intervals. Along the central walk leading from the conservatory to the south or main entrance, on either side tall Bamboo poles were obliquely placed, and these were decked from top to bottom with bouquets of flowers. In the evening fairy lights by the thousand were placed about the grounds.

Messrs. Barr & Sons, King Street, Covent Garden, staged a collection of cut herbaceous flowers, such as they had at the Drill Hall the day previously. Of double Paeonies, the following were certainly very fine: Lord Rosebery, Duke of Wellington, Mdme. Montot, Mdme. Mieliez, and Nobilissima. The Ixias, Dictamnus, Heuchera sanguinea, Astilbes, and Spanish Irises in many varieties were staged in delightful profusion. (Silver Medal.)

Messrs. A. W. Young & Co., The Nurseries, Stevenage, Herts., set up a collection of such fine hardy cut flowers as Linum alpinum, Centaurea montana alba, Lychnis, Linaria dalmatica, Achillea umbellata, Aquilegias, Pyrethrums, and various varieties of Irises, Delphiniums, Anchusa italica, &c. (Silver Medal.)

Mr. Geo. Prince, Rose Grower, Oxford, showed the very fine Roses which he staged at Westminster the day previously. This fact was remarked by not a few of the visitors, so that the interest in so fine an exhibit was somewhat weakened. He also exhibited a collection of Sweet Peas. (Silver Medal.)

The class for a patriotic design drew forth two competitors, the first prize falling to Mr. L. H. Calcutt, Fairholt Road, Stoke Newington, who had a large anchor, with the words "Well Done, Powerful," in blue Cornflowers above a white ground. The design had plenty of blaze about it. The second design was more modest, taking the form of a picture-frame with a portrait of the Queen behind. Bunches of Shamrock and flowers were placed in the corners.

Miss Mary Louise Gordon, 29, Denbigh Place, S.W., was first in the class for a ball-room bouquet. Mr. L. H. Calcutt was second. Mr. Henry O. Gorfod, Floral Depot, Stoke Newington, was first for a lovely bridal bouquet, all in white, Roses, Sweet Peas, and Stephanotis being used. Miss F. Boff, 203, Upper Street, Islington, London, N., was second.

There were seven nice tables (though mostly after the same pattern, having a profusion of Poppies) of floral decorations. Messrs. A. and U. Youens, were first, Mrs. Cole, 137, Charing Cross Road, W.C., second, and Mr. Calcutt, third.

Messrs. Carter & Co., High Holborn, London, set up a fine table of their Invincible-Prize Gloxias, magnificently flowered plants, denoting a good strain. (Large Silver Medal.)

In the competitive class, for three vases of flowers, arranged for drawing-room decoration, Messrs. A. & U. Youens, 15, Tower Road, Dartford, were first, having spikes of Gladiolus, Astilbes, Grasses Spanish Irises, &c.

RICHMOND HORTICULTURAL.—June 27th and 28th.

THE twenty-sixth annual show of this prosperous and influential society was held in the Old Deer

Park, Richmond, and was favoured with splendid weather, though the clouds were rather threatening on the morning of the opening day. The Richmond society was joined by the Royal Horticultural Society, which had a large and well filled tent of its own, in which the various committees met and gave awards to new plants. The Richmond society had several large tents and at the combined luncheon of the judges and committees of the two societies several speakers, including Sir Trevor Lawrence, Bart., T. Skewes-Cox, Esq., M.P., and Sir William T. Thiselton-Dyer, acknowledged the fact that the tents were overcrowded notwithstanding the hundreds of acres at command for the putting up of more tents. The show was opened by Lady Lawrence.

A large group of Orchids, not for competition, was exhibited by Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen. In the centre was a massive piece of Coelogyne asperata surrounded by a band of Laelia tenebrosa. Bold and handsome subjects also were Sobralia macrantha alba, S. Veitchii aurea, Cattleya gigas, C. g. sanderiana, Phalaenopsis grandiflora, Laeliocattleya Wiganiae, Lc. Aphrodite, Lc. Wiganiae aurea, Lc. canhamiana marginata and Odontoglossum crispum.

Henry Little, Esq. (grower, Mr. A. Howard), Baronshalt, East Twickenham, also exhibited a large group, not for competition, including some massive pieces of Cymbidium lowlanum, Oncidium marshallianum, O. praetextum, Odontoglossum citrosimum, O. crispum, Cattleya gigas, C. Warneri, C. Mendelii, C. Mossiae and others were also fine.

MISCELLANEOUS EXHIBITS.

Mr. James Hudson, V.M.H., Gunnersbury House, Acton, W., made an interesting exhibit of his well-grown Castalias (Nymphaes) in tubs. These occupied an end space in the large Orchid tent, and having Holcus grass, Rumex, Cyperus, Myosotis palustris, Ranunculus, with a fine deep edging of Bracken and Eurya latifolia. The C. stellata with Typha latifolia or Reed Mace at its back made a beautiful show. The other fine named hybrid sorts were in flower and bud.

Messrs. Carter & Co., High Holborn, London, N., had a splendid collection of Gloxinias, the flower of many of the plants being as fine as any we have ever seen. The size and form were all anyone could desire, and the floriferousness and brilliance were equal in points of merit to the other factors. They have some very fine pale pink speckled varieties. And their Petunias. Well! Surely anyone seeing them would make up their mind to have a batch for their conservatory as soon as possible, we mean of the double sorts.

Messrs. J. Peed & Son, Roupell Park Nurseries, Norwood Road, S.E., had an exceedingly fine exhibit of Caladiums. The plants were not so large as those usually staged by the firm, but this was merely a matter of convenience, space being at a premium. The finer varieties were Verdii, Ibis Rouge, Chelsoni, Thomas Peed, Mrs. H. Veitch, Lord Derby, and Vreelandii.

Mr. John Russell, Richmond Nurseries, Richmond, set up one of the finest and choicest groups of choice hardy shrubs we have ever seen or referred to. Euonymus ovatus aureus, Quercus concordia, Laburnum aureum, Cornus Spathii aurea, and other fine subjects supplied the yellows, while Prunus Pissardii, Acers in variety, Yuccas, very fine Ivies, Bamboos, Hypericum moserianum, and Eulalia gracillima, which is the perfection of grace, and quite hardy, were a few of the many good things included. (Silver Gilt Banksian Medal.)

Messrs. J. Hill & Son, Barrowfield Nursery, Lower Edmonton, occupied 400 sq. ft. of tabling with choice exotic Ferns. These had plenty of space accorded to them, with here and there a tall pedestal raised and upon its top a lovely pendent growing Fern, on the forked arms of a cork bark frame with some choice and rare Adiantum, &c., cropped up. Some of the loveliest were Gymnogramme schizophylla gloriosa, Pteris scaberula, Platycerium alci-corne, P. tricolor, Asplenium caudatum, Gymnogramme peruviana argyrophylla (nearly white), Platyoma flexuosa, Adiantum farleyense, A. macrophyllum, Asplenium Hillii, Davallia tenuifolia stricta, and a host of other subjects scarcely ever seen, which means that people do not know of them.

Messrs. Barr & Son, King Street, Covent Garden, made one of the finest displays of hardy cut flowers, including choice Liliums and Irises, alpinas in pots,

Paeonies, &c., which we have seen from this high-standing old firm. Everything seemed to wear a newer and greater brilliance than ever before. There was that glorious subject *Heuchera sanguinea*, a perfect glow of crimson-scarlet, and among other species of this genus were *H. brizoides* and *H. micrantha*. *Ixias*, which do well on sunny south borders, were shown in a dozen varieties, while the *Iris orientalis*, *I. monspur*, *I. m. Dorothy Foster*, and others, were as choice and effective as the finest of Orchids. The Paeonies were fresh and strong, but these we have previously spoken of. Very fine, also, were the Gaillardias, *Lychnis*, and Campanulas, and the Lady's Slipper *Cypripedium* also attracted much notice. They had a number of new plants for certificate, and these we must treat of next week. (Silver Gilt Banksian Medal)

Messrs. John Peed & Son, besides their group of Caladiums, also staged a very pretty exhibit of Malmaison Carnations in the following choice varieties:—Blush, Lady Grimstone, Mephisto, Calypso, and Trumpeter, the minor mounds being headed and relieved with foliage plants. They also showed a handsome batch of Gloxinias, among which were some striking new shades of colour.

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, put together in very effective array a collection of cut herbaceous flowers and Roses. Vases of Clematis were also shown. The much-loved *C. coccinea* of which so much was made at the Temple Show was also here in good style. Pyrethrums, Campanulas, Veronicas, Sweet Peas, *Lupinus arboreus* Snow Queen, Delphiniums, Lilliums and Aquilegias. Irises and Roses, the latter especially formed a very large portion of the exhibit.

Messrs. Kelway & Son, Langport, Somerset, the great specialists of Delphiniums, Paeonies, Pyrethrums, Gaillardias, had a wonderfully full and fine exhibit of these flowers and other handsome hardy flowers. Their *Pentstemon Cobaea* was very much admired; it is quite like *Maurandya spectabilis*, a large fine flowered greenhouse climbing plant. The finer of the Delphiniums were *Aramis*, blue with a flush of tender lilac, *Moghul*, deep violet blue, *Beauty of Langport*, creamy yellow, quite distinct, *Eugene Sandow*, purple and blue and others. Their Gaillardias included *Columbus*, *Ormonde*, a large and fine variety, *Vesuvius*, *Rose of Torridge*, yellow, and *Lorenzo*, one of the handsomest of them all. Their *Campanula persicaefolia*, and *Tropaeolum polyphyllum* were splendid. They also showed two stands of hybrid *Hippeastrums*.

Messrs. Sutton & Sons, The Royal Seedsmen, Reading, set up what was an exceedingly interesting exhibit of Tomatos and Gloxinias, the Tomatos being arranged along the centre, the Gloxinias on either side and relieved with Ferns, &c. The Tomatos were grown in different forms, some on arching frames, others on square trellises, oval forms and such-like. The varieties as named below provide a number of variations in type, but all are of fine usable size and good appearance. They were fruited at every joint and bore heavy bunches.

The varieties of Tomatos were Sutton's Winter Beauty, Peerless, Earliest of All, Best of All, Dessert, Eclipse, Maincrop, A. r., Cluster, Sunbeam, Golden Nugget, and a new distinct race in the varieties Peachblow, Pomegranate, Tender and True. Sutton's Climbing French Bean *Excelsior* was also on view. The Gloxinias were capital plants, especially good ones being seen in *Her Majesty*, white, *Reading Scarlet*, *Empress*, *Duchess of York*, and others. (Silver Knightian Medal).

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., staged Sweet Peas in vases, Zonal Pelargoniums, Astilbes, and small Palms. The Sweet Peas with their foliage in a varied array of colours furnished a showy group, though had they been on the table with greater lightness about them, their beauty might have been enhanced. As it was they were exceedingly fine and staged well and effectively.

Messrs. Wm. Cutbush & Son, Highgate, London, N., had put themselves to enormous trouble to arrange the best group possible and their efforts were crowned with full success. They had an effective group of fine clean Malmaisons, including *Baldwin*, deep rose, *Nell Gwynne* white, *Mrs. Trelawny*, crimson-salmon, *Nautilus*, blush, and *Mrs. Martin R. Smith* with large deep pink blooms, *King Oscar*, a new variety which everyone should grow, being clean in habit, strong and vigorous, with large blooms of a rich rosy-crimson colour. Lilliums,

Ericas, Roses, and foliage plants were disposed throughout.

Messrs. James Veitch & Sons, Ltd., The Royal Nurseries, Chelsea, set up a magnificent collection of Roses, H.P.'s, of robust growth, fine dark healthy foliage, and a large amount of good sized blooms. They exhibited a selected number of their seedling *Rose Electra*, a climbing variety with very showy, pale yellow flowers, fading off to pure white, and borne in profuse clusters. The H.P. varieties were choicest as represented by *Gen. Jacqueminot*, *Mrs. R. G. Sharman Crawford*, *Prince Camille de Rohan*, *La France*, *Victor Hugo*, and others. At the side of the Roses they also set up one of the loveliest groups of flowering and foliage plants to be seen in the show. Malmaison Carnations, Crotons, Caladiums, Ericas, Crassulas, *Statice profusa* Saxifragas, Hydrangeas, *Clerodendron fallax*, and other things, all set up above a group of bright green Maidenhair Fern. Their collection of cut herbaceous flowers included the handsomest and finest of the subjects now in flower, as Delphiniums, Eryngiums, Linarias, Chrysanthemums, *Lychnis*, *Verbascums*, and Paeonies. The English Irises were represented by better blooms and finer varieties than ever we have seen, and this is our conscientious opinion. Space does not allow of our giving a list of varieties, and, indeed, mixed collections are usually bought. The smaller flowered Spanish Irises were also liberally staged. The pretty *Kalanchoe flammea*, in small pots, formed another brilliant feature, and so with their *Javanico-jasminiflorum* hybrid *Rhododendrons*.

Messrs. Phillip & Taylor, Bracknell, Berks., set up a small yet highly creditable group of Malmaison Carnations. The plants were strong, clean, well grown, and bore numerous fine formed flowers.

Mr. James Williams, 4a, Oxford Road, Ealing, to show his useful table decorations made a beautiful exhibit with graceful cut flowers.

Mr. Wm. Spooner, Arthur's Bridge Nursery, Woking, had a tasty array of garden and Tea Roses, including *Kaiserin Augusta Victoria*, *Mdme. Eugene Resal*, *Ma Capucine*, *Souvenir de Catherine Guillot*, *Perle d'Or*, *Cecile Brunner*, &c. They were in the pink of perfection.

Messrs. Dobbie & Co., Florists to the Queen, Rothesay, Kent, were strong in Violas and Sweet Peas. These were arranged with infinite care and taste in glass vases, on a dark green ground of blue cloth. Beautifully grown bright green plants of Parsley (rather a strange plant to use as an edging, as it might seem, but highly effective all the same). The varieties of Sweet Peas which we have previously referred to were again exhibited. The Violas included *Countess of Kintore*, *Hamlet*, *Ada Fuller*, *Edina*, *Jessie Prestwell*, *Garnkirk* (a very distinct brown Viola), *Butterfly*, *Iona*, *Saturn*, *Ophelia*, *Bronze Kintore*, *Princess Beatrice* and *Dobbie's Blue Bedder*.

Mr. John Russell, Richmond, made a bright, a really bright, and pleasant exhibit of hardy herbaceous cut flowers. Gaillardias, *Inula glandulosa*, Irises, *Doronicum Harper Crewe*, *Spiraea aruncus*, Delphinium Geums, *Oenothera Youngii*, Irises, Cornflowers, Pinks, *Heuchera sanguinea* and other fine things.

Messrs. A. W. Young & Co., The Nurseries, Stevenage, Herts., also staged herbaceous cut flowers. The group included Linarias, *Polemonium caeruleum*, Linums, Campanulas, Pyrethrums, *Ixias*, Lilliums, Irises *squalens*, *I. variegata*, Cornflowers and Sweet Peas. This firm also showed an interesting exhibit of Cacti, the only such exhibit in the show.

Messrs. Robt. Green, Ltd., 28 and 29, Crawford Street, W., set up a group of very brilliantly coloured Crotons in all the well known market and decorative varieties. The group could certainly have been more tastefully arranged, though the grace and brightness of the plants even as it was furnished a pleasing feature.

Messrs. Carter & Co., High Holborn, London, W.C., set up a varied arrangement of alpine plants in which stones and rocks were used in natural form, the whole being backed up by Delphiniums. They also made an exhibit of Ferns on Fern baskets in all the various forms which Japanese inventive power has previously thought of. On their improvised rockery we noted the *Edelweiss*, *Linaria Cymbalaria*, *Sedum acre*, *Achillea tomentosa*, *Lychnis Viscaria splendens* fl. pl., *Sedum japonicum* fol. var., Cam-

panula G. F. Wilson, *Dianthus deltoides*, and other little subjects.

Besides their very large Fern group Messrs. J. Hill & Son, of Lower Edmonton, had also a minor group of equally choice Ferns, with the *Lygodium japonicum* in long festoons, and many "tinted" species on the stages.

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, came out with one of the finest groups of double Begonias they have ever set up, and this is saying something. But the plants speak for themselves to those who had the privilege of seeing them; to those who had not—well, imagination can hardly conceive their great worth and beauty. A beautiful Picotee edged variety was set up for certificate named *Mrs. James Porthury*, creamy ground and pink or red edge; *Mrs. Andrew Tweedie* is a handsome pure white new variety with strong, reflexed, smooth petals; *L. Waller*, glowing salmon-scarlet; *Miss Elsie Engel*, and others were among the choicest.

A small group of foliage and flowering plants from Messrs. W. Fromow & Sons, Chiswick, filled up a corner neatly.

Messrs. Amos Perry, Winchmore Hill, London, N., had one of the finest of the hardy plant groups. Freedom was allowed to each of the subjects staged, and these included only the finest of the flowers at present to be found in borders.

There was *Phlox russelliana*, *Alstroemeria aurantiaca*, *Heuchera sanguinea*, *Geum Heldreichii*, *Scabiosa caucasica*, *Gillenia trifoliata*, *Gaillardia Comet*, *Delphinium formosum*, *Geum coccineum* plenum, Irises, &c.

Messrs. John Laing & Sons, Forest Hill, S.E., arranged a group of splendid large-flowered double and single Begonias, most of which were of very high quality. The new double orange-scarlet named *Lord Roberts* is certainly one of the best of new Begonias. It has every merit that a first-rate Begonia ought to possess. *Lady Pearson*, salmon or orange-salmon; *Lady Audrey Buller*, *Mrs. Laing*, bright clear yellow and smooth petalled; *Mrs. Harold Hartley*, pink; and *Princess of Wales*, blush pink and cream; are among the best of the Messrs. Laing's fine strain. Their new *Polyanthus* type of *Streptocarpus* are also worthy of every flower lover's notice.

Mr. John Russell, Richmond, set up a group of stove flowering and foliage plants which everybody admired, but which we have not space to fully describe here. It was superb, and that sums it up.

Mr. W. Icton, Roehampton, set up a group of very tall Palms, Bamboos, *Euryas*, *Dracaena Lindenii*, *Lilium longiflorum Harrisii*, Hydrangeas and Caladiums, Ferns and retarded Lily of the Valley.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, had a tasty group of Malmaison Carnations. *Duchess of York*, *Churchwarden*, *Jane Seymour*, and others were shown.

Mr. H. J. Jones, Ryecroft, Lewisham, S.E., set up a very finely arranged exhibit of greenhouse flowering and stove foliage plants. The groups of single Begonias were exceedingly handsome, while the great and finely flowered specimens of *Verbena Miss Willmott*, *Celosias*, *Cannas*, Sweet Peas in pots, and fancy Pelargoniums with a lovely assortment of Ferns, including about twenty kinds of *Adiantums*, *Gymnogrammes*, Caladiums, *Vitis reticulata*, &c., interspersed, combined to form an exceedingly handsome display.

Messrs. T. Rivers & Son, Sawbridgeworth, had the only exhibit of fruit trees in the show. The splendid training, the healthy appearance, the sturdiness, cleanliness, and profusion of large fruits on the young trees exhibited by the Messrs. Rivers have formed the subject of comment on many previous occasions. The fruits on the splendid Peach trees, Nectarines, Cherries, and Figs, were of very large size, good colour, and handsome appearance. The varieties shown were *Sea Eagle*, and *Princess of Wales Peaches*, *Early Rivers*, *Frogmore*, *Bigarreau*, and other fine varieties suitable for forcing or otherwise.

Mr. Wm. Thompson, Sheen Nurseries, Richmond, made a very pleasing group of *Spiraeas*, in varieties, *Kentias*, *Eulalias*, and Hydrangeas.

W. Cunard, Esq. (gardener, J. Allsop), Orleans House, Twickenham, sent six boxes of very fine Strawberries and Nectarines.

Messrs. B. S. Williams & Son, Upper Holloway,

N., showed Malmaison Carnations, *Centaurea maritima aurea*, *Hibiscus Cooperi*, Crotons, and Ferns.

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, showed a fine collection of cut hardy flowers, including *Lilium rubellum*, *L. pomponium*, *L. longiflorum Harrisii*, &c.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, showed a small but interesting collection of Paeonies, and a full collection of cut hardy flowers.

Lord Gerard (gardener, Mr. H. Walters,) Eastwell Park, Ashford, showed a magnificent collection of Melons. (Silver Banksian Medal.)

Mr. W. Hayward, Floral Depot, Fife Road, Kingsthorpe-on-Thames, had a glorious exhibit of floral decorations, of which we shall make further note.

Messrs. Cutbush & Son, Highgate, London, N., showed an open air group of their now well-known cut bushes, and the fun comes in when the remark is passed that "Cutbush's cut bushes are exceedingly fine." Peacocks, swans, chairs, tables, &c., were numerous shown. They also had a collection of trained Ivies in pots.

COMPETITIVE EXHIBITS.

In the vegetable competitions, J. B. Johnstone, Esq. (gardener Mr. D. Gibson), Coombe Cottage, Kingston, had three first prizes for distinct collections of vegetables, nine sorts in each collection. Mr. Gibson thus succeeded in carrying off the prize offered by Messrs. Sutton & Sons, of Reading. The Magnum Bonum Cauliflower, Perfection Tomato, Snowball Turnip, Globe Beet, Leviathan Onion, Centenary Pea, and Sutton's Favourite Carrot with Potatoes, Beans, &c., were all of very high merit. Mr. Gibson was also first in classes 91 and 23. The cottagers' exhibits brought forth a keen competition in most classes.

For a group of plants arranged for effect, the first prize fell to H. E. Fordham, the Nurseries, Twickenham. This was in class I. In class 92, Sir F. Wigan, Bart. (gardener C. Want), Clare Lawn, East Sheen, was first.

J. W. Harker, Esq., The Elms, Ham Common, was second. Both were fine groups.

Mr. Charles Turner, Slough, won first prize in Class III. for six show and decorative Pelargoniums, and also in Class IV. for six fancy Pelargoniums.

Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, won for forty-eight Roses. His Mdme. Jules Grole, Dr. Andry, General Jaqueminot, Mdme. Jules Finger, Mrs. F. Cant, Marie Baumann, and others were exceedingly fine. Mr. B. R. Cant was second; Messrs. D. Prior & Son, Colchester, third.

In Class IV. Messrs. Prior & Sons were first, Mr. B. R. Cant second, and Messrs. F. Cant & Co. third.

READ THIS.

Competition continues next week.

The prize last week was awarded to Mr. John C. Dick, Champfleurie, Linlithgow, for his article "About Bouvardias," p. 678.

QUESTIONS AND ANSWERS.

National Carnation and Picotee Show.—*J. Durward*: The date of the show at the Crystal Palace is now definitely fixed, we are informed, for Wednesday, July 25th, next.

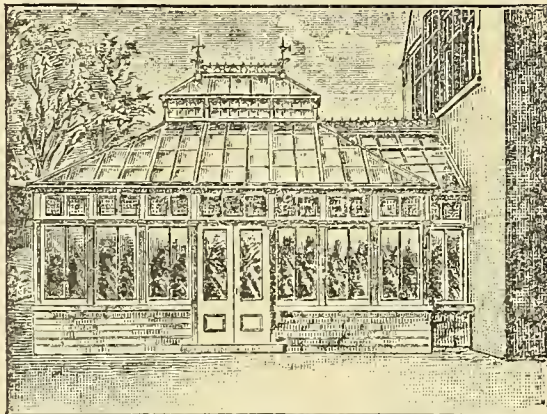
Ants Damaging Fruit.—*J. Durward*: Holes in the walls of all fruit houses infested with ants should be cemented. They might then take up their quarters in the soil of the borders. You might be able to drive them away by sprinkling raking the soil infested by them; and by sprinkling the ground with paraffin and water at the rate of one gallon of the former to six of the latter. Another method is to get fairly deep jars into which you should put sugar and water or even strong smelling molasses and water so as to attract them. If you sink the jars to the rim in the soil near their haunts, or place pieces of wood by way of ladders against the jars, the ants will climb to the edge of the same and fall in trying to get at the strong smelling liquid. By these means large numbers will be drowned. Should you consider the jars unsightly you can cover them with pieces of slate or cardboard, raised sufficiently above the jars so as to admit the ants to get beneath.

Caterpillars rolling the Leaves of Roses.—*A. G. B.*: The use of insecticides might be the means of killing a few grubs rolled up inside the leaves of Roses, but many would escape unharmed for the simple reason that the insecticide cannot get at the caterpillars nor the leaves they may be feeding upon. Paris Green, at the rate of $\frac{1}{2}$ lb. to 150 gallons of

water might be tried on the bushes or standards, but the most effective remedy, even if the most tedious, is hand picking. The Rose leaves of all valuable kinds should be unrolled and the caterpillars caught and destroyed. While opening the leaves be careful that the grub does not let itself down by a thread and so escape, for some of them are very lively, particularly the caterpillars of the Rose Tortrix, a small species of moth. The bundle of leaves might even be squeezed between the finger and thumb before opening them, as many of the caterpillars would be prevented from escaping.

Names of Plants.—*J. Benbow*: *Montia fontana*, the popular name being Blinks.—*L. L.*: *Oxalis Acetosella subpurpurea*, a variety of the Wood Sorrel, whose name in the Celtic tongue is given as *Seamrag* or *Seamrog*, meaning Shamrock. It is a variety of the plant we mentioned in March; but a number of plants we have since seen from Ireland as the true Shamrock turn out to be *Trifolium minus*. Would you kindly state where it was growing?—*R. M.*: 1, *Erigeron philadelphicus*; 2, *Potentilla argyrophylla atrosanguinea*; 3, *Veronica longifolia rosea*; 4, *Phlox ovata*; 5, *Potentilla fruticosa*; 6, *Geranium Endresii*.—*A. C.*: 1, *Nycteria selaginoides*; 2, *Helianthemum vulgare* var.; 3, *Ranunculus amplexicaulis*; 4, *Robinia Pseudacacia*.—*A. Buist*: 1, *Iris variegata* (with claret-purple and yellow flowers); 2, *Senecio Doronicum*; 3, *Iris versicolor* (with claret-purple flowers). We give the colour of the Irises as some of the labels had dropped off the plants coming through the post.—*Philomathus*: 1, *Chaerophyllum sylvestre*; 2, *Poa annua*; 3, *Dactylis glomerata elegantissima*; 4, *Rosa indica*, and being spineless agrees with the variety *R. i. cruenta*; 5, *Chrysanthemum Leucanthemum*.

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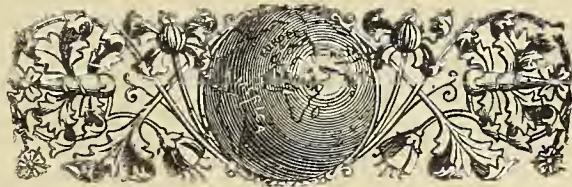
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As come it will for a' that,
For a' that and a' that—
It's coming yet for a' that."—BURNS.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JULY 7th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 10th.—Wolverhampton Show (3 days); Harrow Rose Show.
WEDNESDAY, July 11th.—Rose and Horticultural Shows at Stevenage and Brookham; Royal Caledonian Horticultural Society's Summer Show.
THURSDAY, July 12th.—Rose and Horticultural Shows at Cambridge, Brentwood, Wimbledon, Eltham, Salterhebble, and Woodbridge.
FRIDAY, July 13th.—Rose Show at Ulverston.
SATURDAY, July 14th.—Rose and Horticultural Shows at Manchester and New Brighton.

WEXHAM PARK, SLOUGH.—This ancient family seat is situated about two miles from Slough, from which it is easily reached by good roads. There is a good deal of wood in this neighbourhood, though more of an open character, of the nature of park rather than forest planting. The mansion of Wexham Park is surrounded by large trees of Cedar of Lebanon, Holly Oaks, British Oaks, Elms, Limes, Grey Poplars, Beeches, and others of that character, independently of the smaller trees and shrubs planted for ornamental effect. Sir Charles Pigott and Lady Pigott are both fond of the garden, Lady Pigott herself being particularly enthusiastic about plants and flowers of a very varied character, and spending a considerable amount of time amongst them at all seasons of the year. The hothouses receive particular attention during winter and spring.

Very pretty views of the mansion may be obtained from various points of the grounds, the best of all, probably, being that from the far side of the pond, in which white, pink, and other Water Lilies are grown. The margin has clumps of Sedges, Bulrushes, Reed Mace, Yellow Iris, Sweet Flag, and other plants. Rhododendrons and Arundinaria japonica are planted on

the banks. The summer flower garden occupies one front, and one of the first things to draw the visitor's attention is the frequent use that is made of Heliotropes, grown either in standard or pyramidal form. Something like fourteen varieties are grown, including Swanley Giant, President Garfield, and other good types. The first named is notable for the dark colour of its flowers and large panicles. Several varieties are used in the flower garden, the bulk of them being in the form of standards, which do not interfere with the bedding plants proper. Tuberous Begonias are largely employed and usually make a grand display later in the season. The fibrous rooted Princess Beatrice is also grown, being already very floriferous. Some of the beds consist of Yellow Calceolarias. A striking bed consists of Amaranthus melancholicus ruber on a ground of Lobelias. Violas form the groundwork of a dark-leaved Begonia. Pelargonium Flower of Spring is interspersed with Lobelia ramosa. Very handsome also is a bed of the richly-tinted tricolor Pelargonium Mrs. Harry Cox, which is far superior to the old Mrs. Pollock in every way. Ivy-leaved Pelargoniums in pillar form also serve to relieve the flatness of several beds, none of which are without tall plants of some kind. The Rose garden consists of beds of varied outline, almost like scroll work. The Roses were lifted last autumn, and replanted after the beds had been trenched and greatly enriched. Hybrid Perpetual and Tea Roses are grown in great variety, and will flower freely presently, but particularly those that previously occupied some of the beds. Some chains and pillars are occupied with Crimson Rambler, Ayrshire Rambler, and other climbing sorts which thrive admirably here. The lifting and replanting were accomplished in order that the soil, which is gravelly and light, might be ameliorated. In another direction a large sub-tropical bed is filled with Cannas, Fuchsias, Campanula pyramidalis, variegated Maize, Ricinus Gibsoni, Perilla, Heliotropes, and other subjects. Leading off from one side of the house is a long border and walk, having a Rose wall on one side and a hedge on the other. Roses in great abundance are now flowering finely on the wall. A rustic arch at either end has just been put up for climbing Roses. Herbaceous plants are also a feature of this pleasant walk.

The fruit garden is also largely occupied by Roses all round the borders, backed up by Sweet Brier hedges and edged with masses of white Pinks. Carnation Raby Castle and Old Clove are making fine growth in some of the borders. The fruit trees are in the form of bushes and pyramids both here and in the kitchen garden. Apples and Pears bear a good average crop of fruit all round. Here again are richly planted herbaceous borders, backed with Rose hedges, the old Monthly making a grand display of bloom. One cross walk is bordered with annuals in great variety. They are sown in clumps or patches of a kind, and will come into bloom during the present month, when a grand display is expected. Sweet Peas, Chrysanthemums, Clarkias, Nemophilas, and all the most popular and useful subjects are included. A bed of old plants of zonal Pelargoniums near the gardener's house is thickly planted with standard and pyramidal Heliotropes, in great variety, and alternating with Fuchsias. Some old lights stood up against an otherwise open Peach wall will bring on the fruits almost as quickly as those inside. Tomatos along the front of this improvised Peach case are now ripening.

The conservatory is built against the mansion and contains a tall Tree Fern in

the centre, and a large Phoenix, the ground beneath being carpeted with *Aspidistras*. The side shelves are occupied with *Pelargoniums*, *Fuchsias*, *Gesnera fulgens*, and other flowering plants. The fernery was at one time a vinery, but plants are more popular than fruit with her ladyship. Some of the largest and finest plants of their kind here are *Adiantum farleyense*, *Davallia hirta cristata*, *D. mooreana*, *Nephrolepis davallioides furcans*, and others which make their presence felt at flower shows. The adjoining house is a stove having a collection of twenty to thirty varieties of *Caladiums*. *Gloriosa superba* is flowering upon the roof. Palms occupy the centre, and behind them is a plant of the Flower-fence (*Poinciana pulcherrima*) about 12 ft. high, and which has been producing its glorious red and orange flowers at the end of the shoots since Christmas last. A cool house close by is filled with Indian *Azaleas* of various sizes, which make a grand display in spring. These will presently be stood out of doors and the house filled with *Humeas* and *Campanula pyramidalis* to be followed by *Chrysanthemums* in the autumn. The side shelves are occupied with *Fuchsias*, including Countess of Aberdeen (white), Champion (red and purple of huge size), and many others. *Lilium Harrisii* and *L. speciosum* are also doing well. Another cool house is gay with show and regal *Pelargoniums* in great variety, brightness being also afforded by *Celosia pyramidalis*, *Francoa ramosa* and *F. sonchifolia*. The zonal *Pelargonium* house is 65 ft. long, contains a collection of thirty-five of the best modern varieties, and at present is a mass of rich colours that amply demonstrate the beauty and decorative value of this old-fashioned class of flowers. Some that took our fancy were *Renommée Lyonnaise*, *Lady Candahar*, *King of Denmark*, *Dr. Nansen* (large pure white), *Cynthia* (double white, and of dwarf habit), *Mrs. Gladstone*, *Violet Daniel*, *New Life* (a great curiosity), and *Edith Strachan*. All the best are procured as they come out. *Lady Pigott* is very fond of this house in winter and spring, on account of its cool and pleasant atmosphere. The *Malmaison* *Carnation* house is well stocked, but the flowers are now getting past their best. The old blush, the pink, and several scarlet ones are grown. Other varieties are represented by *Duchess Consuelo*, *Germania*, *Yellow Queen*, and *Pride of Great Britain* (all yellow), and the pink *Reginald Godfrey*.

Orchids are not overlooked, for in one house *Aerides crassifolium*, *Ae. Fieldingi*, *Phalaenopsis amabilis*, *Angraecum falcatum* (popular with her ladyship), *Oncidium flexuosum*, *Cypripedium Stonei*, and other species are flowering at the present time. Large pans of *Coelogyne cristata* are making fine growth. The same may be said of *Cattleyas* in the *Cattleya* house, as well as of *Calanthe Veitchii*, *C. Turneri*, and *C. vestita*. The cases of the propagating pit are filled with all sorts of subjects being rooted. Batches of *Begonia Gloire de Lorraine* and *B. Gloire de Sceaux* are being brought along. The house was a Melon pit at one time. The early *Cucumber* house is at present devoted to *Poinsettias* and the second batch of *Gloxinias* from seed, the old plants having flowered in March. *Crotons* are grown in a great number of varieties, of all sizes, from table plants to exhibition specimens. *Pancratiums* in quantity keep up a succession of bloom all the year round. Being very popular, plants are sent into the house when in bloom. *Begonia Corallina* and *President Carnot* are flowering grandly upon the roof. Large specimen *Ixoras* flower twice a year. The scarlet *Episcia*

fulgida is very fine at present. *Toxicophlaea spectabilis* flowers earlier. *Gardenias* from cuttings are coming along strongly. A large number of heated frames are very useful for the raising of a great variety of subjects, including Chinese *Primulas* and *Humeas*, the latter being a strong feature of this establishment. Mr. J. Fleming, the gardener, is very successful with this troublesome plant, and develops graceful, branching, pyramidal specimens, 6 ft. to 9 ft. high. He is much encouraged by his employer, and makes sowings in May, June, and July, the latter batch being the principal one, as the plants generally do best. The first two batches are more in the nature of experiment. He has grown plants in peat and leaf mould; also in loam, burnt ash, and silver sand, but finds they are not particular as to soil. Water is considered to be a more important factor to success than soil, as the roots are tender. Rain water is always preferred, or water from the pond when the former fails. The plants must also be kept cool at all times. The first sown batch is over 6 in. high already. At present a roomy lean-to house, on a northern aspect, accommodates the remainder of last year's plants in bloom, though later plants will presently be potted up to take the place of the others. *Brugmansia Knightii* is flowering freely on the back wall. *Fuchsias* and *Campanula pyramidalis* will presently be mixed with the *Humeas*. The scent of the latter is remarkably strong as one enters the house.

Cucumbers and *Melons* are grown in heated frames during the summer months to relieve the houses for the more popular flowering subjects. The crop in the Melon house is now being harvested. The fruits of *Sutton's Triumph*, *Royal Jubilee*, and *Invincible* are very fine. *Royal Jubilee* is a variety that sets well. There are two trees along the front of the Peach house, and two along the back. They are reckoned to be about 50 years old, yet the foliage and the crops are excellent, both *Peaches* and *Nectarines*. It being no vandalism to dismantle a fruit house at Wexham Park, one house of *Peaches* was destroyed and converted into a vinery which is to have the border made up and planted presently. *Tomatos* in pots are grown on the back wall, and bear an excellent crop.

Tulip Picotee.—When making out your bulb order do not omit the above; it is a lovely Tulip. *Golden Crown* is another gem.

The R.H.S. and R.H.S. at Richmond, Surrey.—On the occasion of the Richmond (Surrey) Horticultural Society's show, in conjunction with the Royal Horticultural Society, in the Old Deer Park, Richmond, the two societies lunched together on the opening day (27 ult.). After the usual loyal toasts had been proposed by the chairman, T. Skewes-Cox, Esq., M.P., Sir Trevor Lawrence, Bart., proposed the Richmond Horticultural Society and the Royal Horticultural Society, together with the secretaries of both societies. Sir Trevor referred to the crowded state of the show, notwithstanding the abundance of space in the park. The finances of the Royal Horticultural Society were prosperous, though they had not always been so. This society devoted the whole of its energies to horticulture, and at the previous meeting they elected 120 new Fellows. The horticultural industry was a very large and growing one; and if it were suddenly dropped you might transport the country to the north pole. T. Skewes-Cox, Esq., M.P., stated he was pleased to hear that in the sentiments expressed the two societies agreed. The Rev. W. Wilks and Mr. C. R. King also spoke. "The Judges of both Societies" was proposed by Sir W. T. Thistleton-Dyer, M.A., and replied to by Mr. Owen Thomas, of Windsor, and Mr. Geo. Wythes, of Syon House. A. Chancellor, Esq., J.P., proposed the health of the chairman, who replied. The luncheon was attended by a large concourse of the Fellows of the R.H.S. and others.

Christchurch Burial Ground, Blackfriars Road, has been converted into a recreation ground and public garden, for the benefit of the residents in that thickly populated quarter. It has been laid out with great taste by lady gardeners. The place is full of interesting memories. Near by was the famous Bear Garden, kept by Alleyns, whose name was perpetuated in Dulwich College and other neighbouring educational institutions which owe their existence to his bounty.

Bristol and District Gardeners' Mutual Improvement Association.—The monthly meeting was held at St. John's Parish Room, Redland, on Thursday last, June 28th. A good attendance was presided over by Mr. A. J. Hancock. Mr. W. Staddon, of Cote House, read the paper which was on the culture of "Strawberries in pots." In his opening remarks he spoke of the origin of our present varieties, and named several kinds he thought most suitable for forcing, amongst them being *Royal Sovereign*, which he termed the Strawberry of Strawberries. The method of culture he recommended was to secure good runners as early as possible, layering them in small pots till well rooted, when they should be potted in fruiting pots in a compost of loam and manure, with a little wood ashes, the plants to be kept in an open situation until moving to winter quarters. He urged great care in heating and ventilating when housed, recommending syringing and feeding. A discussion followed and Mr. Staddon was heartily thanked for his paper. Prizes for a dish of Strawberries were secured by Messrs. Ross, Staddon, and Poole. Certificates of Merit went to Mr. White for a Pitcher Plant, and to Mr. Poole for six fine Cauliflowers.

Scottish Horticultural Association.—The annual excursion of the members of this association took place on Saturday, the 22nd ult., when a goodly number of members travelled in two saloon carriages to Bridge of Allan, to spend the afternoon at Keir, and see its famous gardens, and popular gardener, Mr. Lunt. The day was all that could be wished for and a most enjoyable afternoon was spent. The gardens were inspected with great interest and pleasure, few of the members having previously seen the gardens where so many splendid specimens of high cultivation have been produced. Great interest was taken in the vineries, and the general opinion was expressed that if all goes well till the crop is finished the Keir Grapes will still hold their own, and possibly repeat the great Shrewsbury victory. The "Mum" growers were also keenly anxious to see the plants in their present stage; and it would be difficult to even fancy a more promising lot. The Grapes and *Chrysanthemums* are Mr. Lunt's great specialities, but in every department the gardens showed that nothing was being neglected, and it was remarked that Lunt was a specialist all round. The lovers of herbaceous plants were greatly delighted with the beautiful plants of a wide range of subjects, and the robust health they seem to enjoy in the very natural and almost wild manner in which they are arranged. Keir is famous for its trees and shrubs, and these found many admirers in the company. The beautiful specimen of *Cupressus lawsoniana*, *Libocedrus decurrens*, *Thuja gigantea*, *Cryptomeria japonica*, various *Abies*, and *Piceas*, &c., far excelled in beauty and luxuriance any that most of the visitors had ever seen, while the giants of the forest in the shape of patriarchal Larches, Scots Pine, Spanish Chestnuts, Limes, &c., were the subjects of close attention and admiration. The charm of the whole was greatly enhanced by the numerous *coigns de vantage* from which could be had peeps of the expansive and magnificent scenery in the midst of which Keir estate is so beautifully situated. After all had been seen the company returned to Bridge of Allan, where an informal meeting with Mr. Lunt was held in the Queen's Hotel, and a pleasant half hour was spent. Mr. M. Todd in the absence of the president occupied the chair, and proposed Mr. Lunt's health, conveying to him, and through him to the gallant proprietor of Keir, who is now fighting for his country in the Transvaal, the pleasure the members of the association had experienced in their visit; and while congratulating Mr. Lunt on the high position he had already attained, expressed the sincere wish of those present and all his numerous friends, that he would long continue to hold a high place as a practical exponent of all that was best in British horticulture. Several other toasts followed, and the meeting was stirred to enthusiasm by a patriotic recitation from the poet laureate of the association, Mr. Johnston.

American Park and Outdoor Art Association.—We learn that this association assembled in annual convention at the Art Institute, Chicago, on June 5th, 6th and 7th, 1900. Papers were read and discussions on various subjects took place, and visits made to the parks. "Landscape Gardens," "Composition," "National Growth," "Roads" &c., were the subjects discussed.

Fruit at Stover Park.—There is excellent promise in the way of fruit both out of doors and under glass at Stover Park, Newton Abbot, South Devon, the residence of H. St. Maur, Esq., who, we regret to learn, has been invalided home from South Africa. Peaches, Nectarines, Cherries, and Plums, amongst stone fruits, are a heavy crop. In the way of small fruits, Gooseberry and Red Currants are well laden. The Black Currants are so heavy a crop that they are breaking down the bushes. Raspberries also promise well, the moist climate of Devon conducing greatly to their welfare. Apples and Pears are promising a fair crop, but the trees are yet young, they, as well as all of the above, having been planted as recently as the autumn of 1898. Apples and Pears take longer time to develop and come into full bearing than most of the above-mentioned.

Emigrants' Information.—The July circulars of the Emigrants' Information Office and the annual editions of the penny handbooks show the present prospects of emigration. This is the best season of the year for emigration to Canada, there being good demand for farm and general labourers, miners, and domestic servants. Female servants and competent men for farms and vineyards are likely to find employment in New South Wales. In South Australia there is good demand for agricultural labourers in country districts, for men able to work binders and strippers, for boundary riders, and for married couples without children, for stations. Free or reduced passages are being granted to farm labourers and domestic servants to Queensland. In Western Australia also, the demand is for farm labourers. In Tasmania there is no demand for farm labour, unless the men have a little capital. In New Zealand, there is a demand all round for workers in all sorts of trades and pursuits, and unskilled labourers would find sure employment either at rabbit poisoning, scrub cutting, bridge building, road repairing, fencing, or general farm work.

Royal Horticultural Society.—A special general meeting of the Fellows of the society was held at the Drill Hall on Tuesday, July 3rd, at 4 in the afternoon. The purpose of the meeting was to consider and pass, with or without alteration, the re-arranged bye-laws of the society. Sir Trevor Lawrence, Bart., President, presided over the meeting, and was supported by most of those who take an active part in the doings of the society. The secretary was first called upon to read the minutes of the last meeting. The notice convening the meeting of Tuesday was then read, after which the bye-laws were considered. With the exceptions of chapters II., III., VIII., and X. all were carried unanimously. Mr. Alex. Dean proposed and Major Ince seconded that clause 10 in chapter II. be eliminated. The clause stipulated that ladies could not be elected as officers of the society, but considering that there are close on 1,000 ladies who are "Fellows" of the society, which means, according to statistics £1,100 a year, the force of the clause was not apparent. The amendment was carried unanimously. Dr. Masters succeeded in having the word "horticulturist" struck out of clause 16, chapter III., and in getting the words (British) "men of science" inserted. The alterations in clauses 45, 46, 47, and 48 have been thoroughly re-arranged, though the legal draft of them has yet to be drawn. An amendment was passed that, "With respect to any resolutions brought before a general meeting, either on the recommendation of the council or of a Fellow of the society, if the resolution be rejected by a majority, and if the majority is not more than equal to three-fifths of the members voting, it shall be lawful for the minority to demand a poll of all the Fellows of the society." This refers to special cases where the making of bye-laws may require larger majorities. At the end of clause 67 a stipulation to the effect that if a member of council can declare a valid excuse for continued absence from council meetings, he be exempt from the force of that clause. Clause 76 has an addition made to it to the effect that the names of all persons duly nominated for the office of auditor shall be in the list provided for by bye-law 73.

Weather in London.—Londoners are despairing of ever having summer with them. Rain and leaden skies, thunderstorms and blinks of sunshine once in a while, that's the weather that London is having. This last June has been the wettest June for ten years, more than 2-in. of rain having fallen.

Cheap Seed.—According to a United States bulletin, after having experimented with and analysed samples of seed, the statements are made that:— "A sample of seed may contain (1) pure and germinable seed, that is, seed that will grow and produce the kind of plants wanted; (2) chaff, sticks and dirt; (3) weed seeds and field seeds other than those wanted."

"Daniels Bros., Limited."—We have information to the effect that Messrs. Daniels Bros., the Royal Norfolk Seed Establishment, Norwich, have registered their business as a limited company. This will involve no alteration in the management, Mr. B. E. Fletcher, the senior partner, remaining as Chairman of the Board, and Mr. Charles Daniels, the junior partner, as managing director of the company, with Mr. W. Rogers Smith, who for many years has been the accountant to the firm, as secretary. No public issue of shares has been made, the former proprietors retaining their whole interest in the company.

ULEX (THE FURZE).

YOUR correspondent, C. B. G., is at his old offence. Last week, in your issue of June 23rd, page 679, he uses the word "pastural," though no such word exists. This week, June 30th, he replies to my letter. I asked him if he had any authority for saying that Ulex was indicative of all prickles. He shirks this question, for of course he has no authority.

He goes on to state that authorities agree to differ on the etymology of the term "Ulex." Has he the slightest authority for this statement? He states that he accepts the Celtic *ac* or *ec* a point or prickle as the derivation. What authority has he for this derivation? Does he know anything of Celtic? Does he know if either *ac* or *ec* is a Celtic word, and if so can he give any authority for saying the words mean a point or prickle? I know nothing of Celtic, but I have looked up *ac* and *ec* in a Celtic dictionary and I find neither in it.

Pliny, I would state for the benefit of those of your readers who may not know much about him, was one of the greatest, if not the greatest, of the old Roman savants. It is authentic history that he perished in A.D. 79 when rescuing the unfortunate inhabitants of Pompeii and neighbouring towns during the great eruption. He, amongst other works, has left a work on Natural History, where the word Ulex appears, which is to be found on the shelves of the British Museum in thirteen large volumes, and the catalogue there covers under his name eighteen closely printed pages; and yet C. B. G. describes him as "legendary." Can ignorance go further? I would suggest that if C. B. G. writes further he should take Horace's advice, and lock the manuscript up for nine years, after which period let us hope it may never get into the printer's hands.—*J. C. Stogdon.*

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Orchis maculata and O. latifolia.—The most common, perhaps, of all our British species of Orchis (*O. maculata*) is usually very plentiful in chalky districts, but on the chalk itself it is usually very pale. In the heavy clay loams at the foot of the chalk hills, where moisture is more abundant than on chalk alone, the meadows, where undisturbed by the plough, are often covered with a sheet of many shades of darker purple flowers, altogether richer than on the chalk. In districts, too, where the rainfall is heavier than about London, this and other species of Orchis are often very variable in colour and handsome indeed, as well as abundant. These conditions are furnished in the climate of Devon, from whence Mr. A. McDonald, gardener to H. St. Maur, Esq., M.F.H., Stover Park, Newton Abbot, sends us some bunches of *O. maculata* and *O. latifolia*. The former has the lighter flowers, though some of them are richly spotted with dark purple on a lighter ground. Forms of *O. latifolia*

are the more numerous, and have dark purple flowers with still darker spots, though not very conspicuous owing to the dark ground colour of all parts of the flower. They lack the boldness of Continental forms as well as those from north Africa and the Canary Islands. It is a pity that these native Orchids should be so much harried near towns and large villages.

THE PAEONIES.

PASSING away just before the full blaze of the mid-summer flowers arrive and coming after the spring bulbous plants have once again retired, the large, loose-flowered Paeonies are well loved gems of our hardy plant gardens, and have long been cherished. Within comparatively recent years, much has been done by energetic firms to improve and increase every quality possessed by Paeonies, and the good work is still being undertaken.

Messrs. Barr & Sons, King Street, Covent Garden, London, W.C., and Long Ditton, Surrey, as growers of hardy plants, &c., have over two acres devoted to them. On Saturday, June 23rd, notes were made of a number of fine varieties which they largely cultivate in their nursery at the address just given. The names of these distinct and good varieties conclude this article.

It may be taken for granted that along with quality of bloom—so far as colour, size, form, &c., goes, the nurserymen are also directing their attention to the selection of those varieties which exhibit the greatest amount of persistence in a handsome state. It is wonderful what care and time can do and has done.

Among double Paeonies, which, unlike most other double flowers compared with their single brothers and sisters of a genus, are far lovelier than the singles, there is now a fair range of colours. The chief shades embrace reds, creams and whites, with all the varying shades which mixtures of these colours can give. The possibility of having deep yellows, and perhaps, later on, blues, does not appear improbable. We would be well enough supplied even without these additional colours, but still if they can be got then why not?

PLANTING.—A question worthy of consideration is, "Should we plant solitary plants here and there in a herbaceous border, or is the bedding method best?" In nearly every instance it is much better to plant in beds or in borders by themselves. Their greatest beauty is then brought out and easily enjoyed; colours can be arranged either to blend in easy flowing harmony or decided, yet agreeable, contrasts. Where only a small garden is at command, the planting has perforce to be of a mixed nature.

SOIL AND ASPECT.—As a rule Paeonies are not fastidious. Go where we choose, they always seem to do well, even on varying soils. But if a specially good soil would be accorded, let it be deep, cool, rich, moist, but free from stagnant water. On dry sandy soil much sappy manure has to be incorporated with it, and constant heavy mulchings are required. Cold unctuous clays may be improved by deep working and draining, and by incorporating soil and matter of a light character. A shady or half-shady position lends charm to their colouring, seeming to soften it, and the shade also tends to make the plants last longer.

For arranging along with a few blue Irises in large vases, and some Grasses as *Glyceria spectabilis*—few cut flowers lend themselves so well or are so full of rich and delightful forms and colours. The pink varieties are favourites, and a few of them are softly fragrant.

The following varieties are the choicest from Messrs. Barr's very large collection, which are grown in an open nursery, and are thoroughly well treated. The plants were all of sturdy and vigorous appearance, each one flowering very freely.

SINGLES.—The singles are varieties of *Paeonia albiflora*. One of the latest and among the best is Water Lily, having a double row of snow-white petals, neatly rounded at the tips, and disclosing a beautiful array of shining yellow stamens. Cleopatra is certainly a splendid rosy-pink, edged with white. Beauty approaches it in most respects, but is not so large. Dorothy is a rosy-mauve whose golden stamens also contribute to make it more lovely; Dreadnought is a very fine glowing purple; Gertrude is a sweet pink variety; Ivanhoe stands

ont conspicuously. It is a deep violet-purple, large and strong; Kaiserin is a delicately beautiful pink; Venus yields one of the very best, being a bright rose, flaked with rosy-mauve, fading towards the bottom of the corolla, to nearly white. It flowers in clusters. The Moor is a deep crimson-red; while Sir Visto is almost white. These are the pick of the singles.

DOUBLES.—It has been already stated that the doubles are preferable rather than the single Paeonies. This arises from the fact that they are seldom or never formal, but generally very beautiful. When grown in beds as recommended, Lilies and other plants may be grown between them to keep up a succession of bloom. A lovely, and so far as colour goes, well named variety is Delicatissima, which is large, full, and of a soft bluish shade. It is altogether a splendid subject, and ought to be secured by all who delight to have the choicest flowers in their gardens. Conronne d'Or is a lovely thing when at its best, it is then a pale creamy-white. Duke of Wellington opens nearly yellow, but passes to white. Silenus is a very fine rosy-pink; Marshal MacMahon, a full rich purple-magenta, very distinct and recommendable for those who prefer the darker colours; Mikado is a semi-double rosy-red; Alice Crousse is a lovely rose variety with a flesh-coloured centre; Countess of Clancarty may be taken as one of the choicest of the double whites, it is a marvellous thing; Curiosa, a free blooming and tall-growing lilac-pink Paeonia, very fine; Eugene Verdier, a cheery bluish-pink, having also a large amount of rosy-cream throughout the petals. A few deep golden stamens shine out from the centre. In some of the blooms the centremost petals differ from the others in shape, and also in the fact of their being edged like a Picotee. This is said to be the best of all the varieties in this rose-cream section.

Faust has broad guard petals of a lilac-pink, and the central petals are slightly paler. Josephine Parmentier, a deep red with a fainter-coloured centre. Leonie certainly is extra fine. It is, indeed, one of the best, having large well-built flowers of a tender lilac-blush, some of the petals also being edged with crimson, a fact which gives it greater merit. It is charmingly rose-scented. The flowers are of enormous size, borne very profusely, and the habit of the plant and its fine leafage combine to make it one of the best of the double June flowering Paeonies. Lord Salisbury is deep magenta and purple. Madame de Vetry is a fragrant variety with flesh, guard petals, and extra fine. Madame Louise Mère, beautiful bluish-pink, also fragrant; Nobilissima, a finely-formed rose-coloured variety; Sir William Harcourt, a rich glowing crimson; and John Fraser, one of the best doubles there is, of a lovely cerise-rose colour, and capital perfume.—D. K.

WHITE FLOWERING CLIMBERS.

RHYNCHOSPERMUM JASMINOIDES, or to give it its proper name *Trachelospermum jasminoides*, must not be confounded with a Composite bearing the same name. The plant under consideration belongs to the order Apocynaceae, and closely allied to *Nerium Oleander* and common *Vinca*. A native of Japan, it thrives when grown in an ordinary greenhouse temperature, and at the present time is laden with a profusion of chaste and fragrant flowers. Frequently it is grown as a pot plant, trained in balloon or other such form; but as such, it loses an amount of its charm, by reason of the pendulous habit of its flowers, which, like unto maidens fair, hang down their heads from the admiring gaze of ardent admirers. Its culture is simplicity in itself; given copious supplies of water, it will flourish for two or three years in the same pot.

In *Jasminum gracilis* we have, both in fragrance, colour and very nearly identical in form of flower, a worthy partner. A greenhouse containing these two forms requires few additions at the present juncture to make it a welcome retreat.

If further addition in the form of woody climbers of the same hue are desired, *Trachelospermum jasminoides variegatum*, and *C. Plumbago capensis alba* may be enumerated; and in order of merit they are few points behind the two former. Though scarcely woody climbers, *Swainsonia galeifolia alba* and *Solanum jasminoides* may also, for variety's sake, be added where a diversity of flowers of the same hue is desired.—*Alpine*.

MOMORDICA CHARANTIA

Is a plant belonging to the order Cucurbitaceae, to speak more plainly the Cucumber or Gourd tribe. It is also known as the Apple of Jerusalem or Squirting Cucumber. It is an interesting plant, and one that requires no other treatment than that given to Cucumbers and Melons. My first acquaintance with this plant was when residing in Somersetshire. Its native home is India, and it was used in days gone by by the natives as an addition in their curries; but I believe it is now chiefly used for medicinal purposes. Sow in spring, using 60-sized pots in a temperature of 60° to 70°, and growing on. A 16-sized pot for final shift will give good results, or if planted out in a border of a warm house and left to ramble over roof. I have found it very pretty and interesting. I do not think the plant is so widely known as it might be. I advise fertilising the female blossoms; it may be grown pyramid shape. The fruit is oblong in shape, of a reddish orange colour, and when fully ripe it bursts open, and gives to view its cherry-coloured seeds within. To any of GARDENING WORLD readers who may have a blank space to spare I would advise them to give this plant a trial. I have a few seeds in my possession, and should be pleased to send to any one of my brother gardeners if applied to. It also answers to train over an unsightly space in the houses.—*S. Jordan, The Gardens, Frithesden, Berkhamstead, Herts.*

FLOWERING BOUGAINVILLEAS.

To grow and flower this pretty stove climber successfully, so that all shoots put out a profusion of long wreaths of flower, one must understand its culture. It is a plant well worth one's trouble growing it. I will describe the mode of treatment that I can recommend to those who have hitherto been disappointed with it. The most important points are (1st) Do not give it much root room. (2nd) It requires a high temperature during the season of growth, and plenty of light. (3rd) Give full supplies of water at the root, and occasionally doses of liquid manure, for it will not flower on the starving principle. After it is done flowering, remove it to an intermediate house, and keep rather dry for six weeks or so, when it may be top-dressed or re-potted, using a mixture of good fibrous turf, leaf mould, peat, sand, and ground charcoal. *B. Sanderii* not being such a strong grower as *glabra*, yields a good proportion of more bloom, the wood getting better ripened. *B. glabra* is well adapted for a back wall of a lean-to stove, although its pale mauve flowers show best to advantage trained on wires to the roof, and are very much better coloured when fully exposed to the light. The very strong shoots may be cut back, but, like the strong climbing Roses, one will get better results by tying them in if possible. It is a charming flower for cutting, and a favourite with ladies.—*John C. Dick, Champfleurie, Linlithgow.*

MUSHROOM GROWING.

A good supply of this favourite is always welcome, and where a gardener has to keep up a supply, and knows the secret, he need not trouble about a Mushroom house to grow them, if he has got a good roomy stokehole or potting shed. To follow on the bed in our early vinery I have the coke cleared out of our greenhouse stoke-hole, as we use no fire here after the middle of April. The manure and soil having been got ready in one of the sheds, it is brought in the stoke-hole and made up, the bed when finished forming a bank, the bottom 3 ft. wide made up in this way, to every 6 in. of manure sprinkle over a small quantity of sifted soil; beat firmly with a fork; follow on this process until the bed is 3 ft. high at the back. When finished, thrust a pointed stick in the centre of the bed. In from two to three days the bed will be ready for spawning. When doing this, break the bricks into about eight pieces; place them on the bed, about 9 in. apart; make holes with a garden trowel, and press the spawn in the surface, being on a level with the manure. Now cover the bed with 2 in. of soil that has been through a fine sieve, beginning at the bottom of the bed and working upwards. When finished, beat firmly with a clean spade. Do not cover the bed with straw shaken from manure until you see signs of spawn working; then cover lightly, leaving a small heap in corner for woodlice; they will keep to the heap and not trouble the bed. When the surface gets dry

sprinkle with a fine rose, with water about 80°.—*J. Wallace, King's Lynn.*

BEGONIA GLOIRE DE LORRAINE.

OF late, much has been written concerning the propagation of this esteemed autumn and winter flowering plant that makes one a bit shy in again bringing it to notice unless there is something new to chronicle. Well, after reading in your pages from two or more writers that this gem could be so readily increased by leaf propagation, I went in for it rather extensively with the hope of raising a good batch, but I regret to state my hopes were not realised, for out of a batch of four dozen large healthy leaves placed in pans of sand and cocoa-nut fibre respectively, only four plants, or one out of twelve formed a shoot. Many more made lengthy roots but entirely failed to push forth a growth. I must own I had to move the pans from the propagating house proper to a slight hotbed owing to alterations going on in the former. This may have given them a check, but as base cuttings make plants in less than half the time (at least with me), I shall depend upon the latter for my supply. I had three old plants to work from and put in forty cuttings in pure river sand, in large 60-sized pots. *Everyone* rooted, and have been growing freely since, while the four leaf plants are anything but vigorous. It would be interesting to learn if any other grower of this Begonia has been successful with the leaf propagation.—*J. Mayne, Bicton.*

CEANOTHUS FLORIBUNDUS.

It has been remarked, "that blue is the prevailing colour of flowers during the spring and early summer." The prodigality of this colour is assumed to be due to its contrasting effect against the brown hue of the earth; hence, such a contrasting and evident colour, being easily discerned, would undoubtedly be most favoured with insect visitors, the result of which would culminate in the fertilising of their flowers, and the production of seed. If by means of this natural selection, wild flowers of this colour are in preponderance, the same cannot be said of spring flowering shrubs. If, owing to this lack of blue, *Ceanothus floribundus* had no other recommendation, it would be sufficient to secure it a place in our shrubberies. Apart, however, from its colour, this subject, an evergreen—which, when grown against a south wall is quite hardy—is extremely floriferous. During May and June, its branches, protruding from the wall at nearly a horizontal plane, are studded their entire length—frequently 2 ft., with numerous tiny clusters, of sky-blue coloured flowers, which are very acceptable.—*Alpine.*

Kitchen Garden Calendar.

SINCE writing the last calendar we have been favoured with plentiful rains, so that the planting out of all winter green crops should be pushed forward as quickly as possible where space will admit of doing so. Last season there was much difficulty in getting the plants established owing to the soil being so dry, but this summer in most places the soil is sufficiently moist to give them a good start. Where planting out cannot be done at once, do not fail to have the plants pricked out a sufficient distance apart to induce them to grow sturdy and be stronger to plant when other crops have been removed. With such showery weather weeds have grown apace, and rendered it very difficult to keep them under. Every effort, however, should be put forward to destroy them before they commence to seed, otherwise they will be a source of trouble for years to come.

TURNIPS may now be sown in larger quantities, as they will not so soon go to seed, or become stringy. One of the best varieties for sowing at this date is Veitch's Red Globe. The flesh is pure white, crisp and delicately flavoured. Snowball is also a fine quick growing kind. These should be sown in drills not less than eighteen inches apart, and should be thinned out to a foot between the plants, for when grown too close together they are liable to make too much foliage.

SEAKALE.—Look over the plants again, and should there be any that have two or more growths remove all except the strongest, otherwise they will fail to

make crowns strong enough for forcing. Keep the plants free from weeds till the foliage of the Seakale has covered the soil.

RUNNER BEANS.—The last sowing of these should now be made, choosing a sheltered situation. These late sowings often prove very serviceable late in the autumn. Those in bloom should be encouraged by applications of manure water. Do not neglect the staking as soon as the plants commence to run; and where poles are used the growth should be trained round to give them a start. Dwarf varieties, too, should be encouraged in the same manner by affording them manure water whenever the soil appears dry. There is a class of Bean known by the name of Climbing French Bean bearing pods more like the dwarf kinds. Sutton's Earliest of All and Carter's Stringless are two of the best of these. They both turn in very quickly; the pods are thick and fleshy, and the plants very prolific.

CELERY.—Strict attention should now be paid to getting out the main crop of this, and care must be taken afterwards to keep the plants well supplied with nourishment. There is far more art in producing fine well blanched crisp heads of this than many suppose. Being a marsh plant it is naturally a moisture loving subject. This, however, is not all, for in addition to water the roots must have something to feed on; hence the reason so much manure is supplied to the trenches. Growers, however, make a great mistake in having the trenches too narrow, the roots being thus confined where the ground is hard to the limited space of the trench. Where the ground is poor the trenches should be at least 18 in. wide for a single row, and when two rows are planted in them not less than 24 in. wide. In planting double rows 1 ft. ought to be allowed between the plants each way as there is nothing gained by overcrowding; what is made up in numbers is lost in quality. We prefer to plant in single rows and if the plants are well looked after from the time of planting, should by Christmas be at least 1 ft. in circumference, well blanched, double that length, with clean, crisp leaf stalks that one can enjoy when eating. Earthing must not be commenced till growth is well advanced, in fact should be left alone as long as possible.—F. W. J.

THE PLANT HOUSES.

THE main object of the gardener during this, the growing season, is to attend to his plants and their demand for space, for moisture, sometimes for shade, and air in accordance with their nature. He must also keep them clean, a very great factor where beautiful and healthy plants are desired. Prevention is better than cure, and the fact should never be lost sight of, that though it may demand working over hours in the meantime, and constant work even at that, in no case should the stove-plants or any other class of plants be allowed to become badly infested either by disease or insects. The Chrysanthemums form a case in point. If the apical leaves and buds (in which greenflies are very often found) are not investigated every other day, with sometimes a dusting given, the result will be plainly stamped on the foliage when that is fully developed.

The Greenhouse.

Many of the finer annuals or soft-wooded plants are now on the stages lately occupied with the Cyclamen, Primulas, and Calceolarias. Some of the Cinerarias are lasting on. One of the finest plants for a cool greenhouse which is at present flowering is *Centaurea sauveolens*. The flowers are large and bright yellow, just perfect for cutting, and equally as nice for ordinary decoration. Seeds may be sown in August, the young plants being pricked off into small pots and grown through the winter in a cool house. The well-known *Celsia cretica* is also showing up with its tall spikes of fine yellow flowers. This species should be raised from seeds. *C. arcturus* on the other hand is best propagated from cuttings, struck in a cool frame.

A fine little greenhouse pot plant (grown also in the open border) is the Californian labiate *Collinsia bicolor*. The graceful habit and the rose and white lipped flowers are charming.

Many gardeners have not the courage to treat as pot subjects, plants which they also sow in the open air. But it will be found that the pot-grown plants (when properly treated) are infinitely superior

to the grow-as-you-please outdoor batches. Besides being very much better in quality, annuals in pots for the greenhouse can be in bloom, withered and removed before those out of doors have properly begun to open. Thus the otherwise probable antagonism which sometimes arises within us on seeing valuable house room worthlessly occupied, never need be stirred.

Downingia pulchella, a Lobelia-like plant, though really a genus of Campanulaceae, is a highly ornamental annual which forms a capital subject either for pots or baskets. A name that is frequently given in place of *Downingia* is *Clintonia*, but the name which I here use holds the prior origin. If seeds are sown early in the year and the plants carefully brought on in a mild temperature they may be had in flower at this time. Other annual, biennial or perennial plants which are extremely handsome and showy and suitable for June and onwards, include *Torenia Fournieri grandiflora*, the tall growing *Trachelium caeruleum*, *Alonsoa Warscewiczii*, *Scutellaria mociniana*, *Ornithogalum pyramidalis*, *Gladiolus nanus delicatissimus* (Blushing Bride) type and varieties of which there are some wonderfully beautiful ones amongst them,—*Saxifragas*, show and fancy *Pelargoniums*, *Begonias* and other things.

CHRYSANTHEMUMS.—The plants are mostly into their flowering pots now. It is advisable to leave sufficient top space to allow for repeated top dressings. Staking ought shortly to be taken in hand. What has already been said about keeping the plants clean may be enforced again. Keep the lateral growths pinched off, and cut out any but the best shoots, or those which will be required for a good plant.

ZONAL PELARGONIUMS in the open air should receive all the sun and air possible. Keep them exposed right on till September, when they will be taken indoors. Pinch the leading shoots occasionally to secure bushy plants. Syringe them once or twice a day, though never when the sun is on them strongly. Water very freely. The best flowering plants are those which are grown hard in comparatively small pots, and having become pot-bound require liquid manurial nourishment. Good plants ought to completely cover the pots.

CYCLAMENS in frames should be carefully shaded (not densely) with tiffany from the sun's rays. Dew over the plants morning and afternoon. A north site should be chosen for the frame, so that shade and cool conditions may always favour the plants. Be very careful in watering, going over the plants three times a day rather than over water by one daily visit.

ROSES, FUCHSIAS and all greenhouse or stove plants whose roots may be confined, or whose calls for fresh material for growth is great, should receive liquid feeding, and should be kept clean, phrases often reiterated, but nevertheless containing rules or hints which are the basis of successful cultivation. Arums may be placed outdoors, as recommended in other columns of this paper.—D. K.

Gleanings from the World of Science.

THE undermentioned subjects were brought before the Scientific Committee of the Royal Horticultural Society on the 19th ult.:—

Rose leaves diseased.—Some leaves sent by Rev. H. C. Brewster, of South Kelsey Rectory, were attacked by an *Aecidium*. Mr. Plowright reports that it is "The aecidiospore of *Phragmidium subcorticatum*, formerly called *Uredo effusa*, pinque or miniatum of older writers. These aecidiospores are often preyed upon by some mites, as in the present case, which becomes tinged with the orange colour of the spores, which they eat. On some of the leaves the uredospores are beginning to appear."

Potato crop defective.—Mr. F. H. Kepple, of King's Ford, Colchester, forwarded samples, of which he writes:—"The Potato crop in this district is a very uneven one, and various reasons are suggested for it." The specimens sent are *Bressee's Prolific*, and they are typical of plenty of others in the storeroom. The samples were forwarded to Mr. A. Sutton, who reports as follows:—

"In reply to your inquiry, it is quite certain that Mr. F. H. Kepple is by no means singular in his

experience of Potatos coming up very unevenly this season. We hear from all parts of the country that such is the case, and all varieties appear to be suffering more or less from the same cause. Professor Gordon, of the Cheshire Agricultural and Horticultural School, Holmes Chapel, wrote to us recently on the same subject, saying that many of his Potatos had only formed very weak spindly sprouts, no thicker than a knitting needle, and there were a great many blanks in his crop; and his experience is the same as ours, that many of the tubers are quite sound and hard in the ground where they have made the thin weakly sprouts complained of.

"It is remarkable that tubers which were 'boxed,' and very carefully sprouted before being planted, are just as much affected as those which were planted before any sprouts were made by the sets.

"Another interesting fact noticed on comparing the many hundreds of samples in our trial grounds is that the only case where Potatos have started well, with strong and healthy growth, are those which were grown last year in Scotland, where the climate and soil are comparatively moister than in England.

"The only conclusion I can arrive at is that in consequence of the excessive drought last year the Potatos ripened prematurely, and owing to this the sets are not able to develop a healthy and vigorous growth this year. We find this especially the case with Potatos which were grown last year on hot gravelly soils. The tubers affected with us in many cases produced shoots at the crown of the set, but these died off, and the later growth is being made from weakly shoots put forth by the side buds or eyes near the stem end of the set.

"I can think of no possible remedy, and certainly in our experience we can remember no season when crops were similarly affected on so large a scale.

"Mr. H. S. Daine, of Woolfall Hall, Huyton, Liverpool, mentioned at the York Show that his crop was suffering in the same manner, and he had sent tubers to Professor Marshall Ward for examination, and would let us know his reply."

Carnations Decaying.—Plants which had decayed at the base were received from Mr. R. Keeble, of The Pines, Horsell, Woking. Mr. Jas. Douglas reports upon them as follows:—

"It is not an uncommon occurrence to find that Carnations grown under artificial conditions will die as the example enclosed has done. There is no disease, the roots have died owing to over-watering, or else, probably, the plants were allowed to become over dry; in this case the delicate root hairs are desiccated, and thus rendered useless. Too much water is then poured in, which makes matters worse. All plants suffer from this, and some die. Moreover, the dried peaty soil is unsuitable for Carnations. In my own large collection we lose a few every year; the roots perish from some cause not always easily determinable, but I regard it as a matter of watering. The use of artificial manure in the soil will cause deaths in Carnations when grown in flower pots. I dropped the use of it because of this."

Grapes scalded.—Mr. H. Pethick, Trewartha, Weston-super-Mare, sent samples, upon which Mr. Douglas reports as follows:—"The Grapes sent are scalded, caused by insufficient ventilation and probably too much moisture in the house. It occurs if the Grapes are entirely shaded by the leaves, and the Grape that suffers most from scalding is Lady Downe's Seedling. The Vine may be flourishing in every respect, but that does not matter; and it always happens when the berries have just passed through the stoning period previous to colouring. While stoning is going on, that is the hardening of the seeds, the berries do not increase in size, they remain stationary for five or six weeks. At the end of that time the seeds have come to their full development, and the berries increase rapidly in size. This is the time that scalding will happen. It can easily be prevented by throwing open the ventilators to their full extent in hot weather; ventilation to a less extent should also be given at night. I must also add that the berries will scald even if the sun does not touch them."

Rose, variegated.—Mr. G. Rawlings sent specimens of Rose leaves variously spotted with yellow; some leaflets being entirely yellow orange in colour. He writes as follows:—"The leaves sent are from a tree of Baroness Rothschild, a portion of which came variegated last year. I budded a few buds on some named varieties, from which those sent have been cut. They are much more highly coloured than those on the original tree."

Pears, blackened.—Some fruit decayed, black, and attacked by fungi were sent to Dr. W. G. Smith for examination. They were received from Rev. H. W. Fletcher, Bicker Vicarage, Boston.

HINTS FOR AMATEURS.

SOME NOTES ON ROSES.

WITH the advent of July comes the full maturity of the Rose season. In warm and early seasons—not such as this year has given us—one of the earliest and best known of wall Roses, namely, Gloire de Dijon, begins to bloom in May! I have had it in bloom on open walls in Scotland in that month. And from that time onward till the frosts of autumn put a stop to further development, our homes and our gardens are scented with sweet and lovely Roses. The Rose will never be less loved, but will certainly increase in popularity. But there's happily no call to recommend Roses. Still, more might be known about Roses, and that is the object of the following notes.

A Word as to the History of Roses.—In the authorised version of the Old Testament the name of Rose is given to plants which had been supposed to be Roses, though not expressly named so by the old Israelitish writers. In classical times the two chief authorities, quoted as referring to the Rose, are Pliny and Theophrastus; and Pliny even described a number of species well known in Rome at his time. Various other writers, among whom may be mentioned Dioscorides, also at times mentioned Roses, thus showing that even then it was a flower of conspicuous loveliness. All the writers agree in giving elaborate praise to the plant. It was not till 1597 that the Damask Rose was introduced to England, and shortly following this time numerous other species were brought.

Cultural Treatment.—Merely to grow Roses for a few cut flowers is comparatively a simple matter. But when all phases of Rose culture are attempted, then it is especially necessary that the grower be experienced, careful, and thoughtful. Briefly, Rose culture is conducted either under glass or in the open. The first method we will not detail at present, for there is plenty to write of in connection with the open-air needs of this varied subject.

The Planting.—Now, so much depends on the size of the garden, the aspect, and the means of the amateur or whoever is going to plant Roses, that only generalisations and a passing opinion can be given here. To suit all cases would be a hard task, and to be of direct service in most cases each little garden would require a special inspection. In general, wide and extended, natural planting can only be recommended for gentlemen's large gardens. In these gardens scarcely one in a hundred have a special Rose garden. They may possess Rose beds with the soil nicely dug and the bushes hard pruned each year, but the Rose garden, of my mind, is one where species of Roses shower in masses of many yards' diameter from mounds, banks, and dells. There should be broad green paths, pillars of Roses, arches of Roses, maybe walls of Roses along a particular side, and sheltered beds of Roses lying somewhat beneath the higher knolls, and banks of the hardier rambling sorts. Stone-work may be introduced in the planting, but perhaps there is slightly more charm in old tree stumps when these are placed about, with the shoots of the Roses towering up from among them and spreading smother-fashion over them.

Rose gardens or dells rather, should never be flat. To enjoy the greatest pleasure from them one should see a large amount at a time, but not all. The disposition should be such as to lead one on, but should not be upon any confused fashion. Thus there ought not to be too many divergencies. When a person, especially an impatient person, sees something remarkable at another point from where he may be placed, the chances are he will rush off to see it, and if there are features here and there branching away from any other main point, the visitor will soon confuse himself, and, when done, will only have seen the more apparent beauties. I really think a Rosery should only have one central course, a winding, gently dipping path of sward, having on either side the rising banks and the recess-beds of Roses, bending round and perhaps opening out into a wide loop, thence becoming irregularly contracted and rising as the path leads out again to another part of the garden. What might be planted in the Rosery and how they might be disposed will be discussed presently.

For smaller gardens standard Roses are effective and a good collection can be planted without taking up much space. China Roses and dwarf H.P.'s may well be planted in sheltered gardens, the least formal style possible, being always preferable, and the soil which is kept cultivated, may be covered with Mignonette or dwarf annuals, but never leave it bare. The Roses will not suffer because there may happen to be some dwarf plants growing under their shade, and the appearance and yield of the garden will be triply great, and very much more pleasing. The best season for Rose planting is that recommended for trees and shrubs, namely, the month of October. Circumstances, as a rule, compel us to plant whenever we can, and it is well that we can continue planting, weather permitting, till December. Outdoor planting may also be done in March and April. Practically, under careful treatment and given pot plants, Roses may quite safely be planted any time throughout the summer. Still, all this does not destroy the fact that there is one particular period at which the operation may most safely and best be performed. The soil which suits nearly all kinds of Roses, is a rather stiff loam. Light soils require a liberal quantity of manure to be applied. Mulchings are a necessity. Roses enjoy free and pure air, so that a rather elevated position than otherwise should be chosen.

Words on pruning may be left over until a more seasonable time.

Sorts of Roses.—To say "sorts" of Roses is rather vague. By the phrase I mean the sections such as the hybrid perpetuals, the Teas, Chinas, Garden Decorative Roses and Briers. These notes are of little use to anyone who takes a deep interest in Roses or who may even exhibit. He will have mastered all and more than I mean to touch upon; but to those who may see all the varying kinds of Roses in gardens or at shows at the present time and who would like to know further of them, there may be some few hints to glean in the following lines. The much talked of H.P.'s, for instance, are as the first name implies, "hybrid" Roses, and because this class of Rose has great and long continued blooming qualities, the additional designation of "perpetual" has been added. The H.P.'s I believe arose from crossing the hybrid China with the Bourbon, the perpetual Damask and Gallica Roses. The H.P.'s are among the largest and best of Roses and have undergone great improvement at the hands of a host of commercial Rosarians. It is this class of Rose that one sees most abundantly at exhibitions of this flower. They all enjoy an open sunny position, and good sound loamy soil. They are usually mulched in winter and pruned hard back each spring. The more vigorous varieties are employed as standards. It should be noted that only the most vigorous should ever be chosen for standards; weak varieties are almost useless.

The following are typical of really good H.P.'s:—Baroness Rothschild, pale rosy-pink; Beauty of Waltham, bright crimson; Duchesse de Vallombrosa, blush; Duke of Edinburgh, A. K. Williams; Gen. Jacqueminot, scarlet crimson; Capt. Hayward, dark glowing blood-red; Louis Van Houtte, dark claret, and so on. Some of these are known to even the tyro.

The Tea-scented Roses are also prime favourites. One of the original types of the Tea-scented Roses was brought from China close upon a century ago, (*R. indica odoratissima*) and with the old yellow Tea-scented Rose which was introduced slightly later, yielded the offspring which has so multiplied to our gain and pleasure. They are more tender than the H.P.'s, but they do well in sheltered borders even in Scotland. They are also largely employed as pot-plants, and indeed they furnish some of the finest of the indoor varieties. Take as examples the Climbing Devoniensis, creamy; Catherine Mermet, flesh coloured; Anna Olivier, a soft yellow and pinky variety; Gloire de Dijon, the best known and in all respects the best Rose for any garden which I know of, or Innocente Pirola, light yellow; Ma Capucine, Marie Van Houtte and a host of others. Indeed in the artistic sense they furnish the loveliest Roses which are known; and that is as good as saying the loveliest of all flowers.

The Multiflora Rose, which blooms in great clusters of small, but showy flowers is often seen on cottage walls, and it, and its varieties furnish some of the finest subjects which can be used for planting in such a Rosary as the opening notes refer to.

They do well when planted out and left to themselves, forming great hedges and spreading masses. For pillars and to link along as a covering to connecting chains, pergolas, &c., they are invaluable. One of the varieties, the De la Grifferae is employed as a stock to bud less vigorous Roses upon.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Melons and Cucumbers in Frames.—*J. T.*: These two fruiting plants are occasionally grown side by side in the same frame and do as well as can reasonably be expected. It is not the fact of their being together that has caused your Melons to "damp off" or canker rather. This is a Melon and Cucumber disease which experienced gardeners have to guard against during all the growth of the plants and they have to be especially careful at the time when the Melons are nearly, but not quite matured. We know of growers who have "clasping-stocks" made for the purpose of encompassing the base of the stems to keep them guarded against an undue amount of water or lingering moisture. It is the close damp atmosphere and want of careful treatment as a rule, that allows the canker disease on Melons to start first of all. We know of no better preventive of further infection than to rub in quicklime or sulphur to the affected parts, or to have a layer of the dry lime and charcoal at all times around the stem-base of even healthy plants, and to keep it as dry as possible.

Yellow Leaved Shrubs.—*A. K. Johnstone*: *Ligustrum ovalifolium aureum* (Golden Privet), *L. vulgare foliis aureis*, not quite so beautiful; *Sambucus nigra aurea* (Golden Elder); *Catalpa bignonioides aurea*; *Neillia opulifolia aurea*; *Ribes floridum* (*missouriensis*) *aureum*, yellow leaved Currant; *Hedera Helix palmata aurea*; *H. H. chrysolora*; *H. H. foliis aureis*, *Robinia Pseudo-acacia aurea*, or yellow leaved Acacia, which is nice as a standard; *Cornus Spathii aurea*, one of the loveliest of yellow leaved shrubs; *Corylus Avellana aurea*; *Lonicera japonica reticulata aurea*. There is also the yellow leaved Negundo and Jasmine, &c.

Outdoor Tomatos.—*L., Edinr.*: There are two special reasons for your Tomatos having run all to foliage. The first is that you have been too liberal in enriching their site, and secondly, there is no need to water so frequently. Lift the plants with a spade taking care to retain good balls of soil. Place a layer of drainage beneath them, replant, and make them firm. You might with advantage restrict the amount of root room in other respects. When they are thus confined they make firm fruiting stems and are much better plants. Cut away some of the foliage.

Dishudding Wall Fruit Trees.—*W. Nelson*: Three buds on one fruiting shoot is the number usually left; one at the base, one in the middle, and one toward the apex. The top or the middle one may later on be removed. The dishudding system should also provide for the maintenance of fresh extension wood, or wood to cover bare shoots of an older age. Such wood may be allowed to grow, according to its strength, either 6, 9, or 12 in. long. Lateral shoots arising from young wood of the current year, may be cut back. Disbud, or thin out only a little at a time. When the fruits are nearly matured, draw aside any foliage (on wall trees) to allow the sun to have fuller action.

Training young Trees in the Open.—*W. Nelson*: Yes, now that the season's wood has become so long and stout, young espallers and trees for walls may be staked into form anytime from the present. Standard trees may have the growths upon their stems spurred back, but do not cut too severely else the stem will suffer in more ways than one. When a fair thickness of stem has been attained—say next season, these spurs may be removed close to the bark. To leave them simply courts greenfly, "blight," and other pests.

Lilium rubellum.—*W. S.*: Being of a tenderly constituted nature this lovely little *Lilium* succeeds

only after a fashion in most of the gardens in which we have seen it. A bed that suits Ghent and Mollis Azaleas also suits this, but the Azaleas should be close planted to give the Liliun all the shelter and nurse protection possible. It has not been long enough introduced for us to speak with experience about it. The bulbs are not very dear.

Rose Arches.—*Andrew Tait*: Roughly trimmed Larch branchlets, about the thickness of a man's wrist will do well. You need not fear any injury from them upon the Roses.

Liliums going bad.—*A. B. C.*: The portion of apical stem sent proves the plants to have been much neglected during their earlier growth, so much so that the greenflies which have caused them to be as they are have ruined this year's flower display.

Aquatics.—*A.*: Hints on the subject will be given shortly. A small collection of Nymphaeas can be grown in tubs.

DENDROBIUM FIMBRIATUM OCULATUM.

THIS fine Dendrob enjoys a wide distribution from the Khasia Hill in the Himalayas to Burmah and other places. It was sent to Chatsworth in 1837, by a collector named Gibson; and possibly its being sent to Chatsworth at that time would account for its being sometimes found in gardens under the name of *D. Paxtoni*. The flowers are produced in lax, drooping racemes, and being of large size their rich and decided colours make them very handsome indeed, the blackish-maroon blotch on the base of the lip contrasting boldly with the orange-yellow of the rest of the flower. It is dwarfer than the type, being generally 2 ft. to 3 ft. high; whereas *D. fimbriatum* itself grows 4 ft. to 5 ft. high, and has simply orange-yellow flowers. The accompanying illustration represents a plant grown by Mr. G. Wood, gardener to J. Buchanan, Esq., Oswald House, Oswald Road, Edinburgh. Orchids generally are great favourites at Oswald House, a considerable amount of space being devoted to them, while many of the plants are of large size and very old, indicating good cultivation.

BIG BUNCHES OF GRAPES.

IN your review of "Vines and Vine Culture," you mention a bunch of Grapes over 19 lbs. grown at Welbeck as being the largest bunch grown in this country. It may not have come under your observation that at an international show, held in the Music Hall, Edinburgh, on the 15th and 16th September, 1875, there were two bunches of Grapes shown, one bunch of Raisin de Calabre weighing 26 lbs. 4 ozs., grown by Mr. Currer, Eskbank, Dalkeith; the other bunch grown by Mr. Dickson, at Arkleton, Langham, the variety being White Nice, weighing 25 lbs. 15 ozs. Such monsters may be classed in the category of novelties, as they are quite out of place in the requirements of private and market establishments, where the general rule at the present time is to get as many serviceable bunches as possible without over-taxing the Vines.—*Wm. G. Pirie.*

[We were quite aware of bigger bunches having been grown in this country than that of Syrian mentioned, as you will see by the previous sentence in our leader to which your refer; but the Welbeck specimen referred entirely to the *ancient* variety Syrian. The bunch of Raisin de Calabre grown by Mr. Currer at Eskbank was really Trebbiano, which we mentioned as being "notable for the production of big bunches amongst modern varieties." Under the variety Raisin de Calabre you will find a note in *Vines and Vine Culture* stating that this variety has had its name applied though erroneously so to Trebbiano. We had overlooked the case of White Nice, which you quote; and, strange to say, it has also been confused with the ancient variety Syrian. In speaking of Black Hamburg to which we referred on p. 676, we may say that Mr. Hunter of Lambton Castle, has produced the largest bunches of it seen in this country, namely, that which he showed at Belfast in 1874, weighing 21 lbs. 12 ozs., and that he showed at Manchester in 1875, weighing 13 lbs. 2 ozs. These weights were, of course, excelled by Trebbiano and White Nice; but in stating that 19 lbs. was the

heaviest bunch of Syrian produced in this country amongst *ancient* varieties we believe the statement is still correct as far as written record goes. It was the biggest bunch, however, ever recorded in this country of any Grape until 1874, when Black Hamburg eclipsed it, to be in turn eclipsed by Trebbiano in 1875, and by White Nice, the two varieties you mention.—*Ed.*]

PROTOPLASM: THE INSTRUMENT OF EVOLUTION AMONG PLANTS.

IN his lecture of Tuesday, June 26th, in the Great Vinery at Chiswick, Rev. Prof. Geo. Henslow, M.A., V.M.H., confined his remarks chiefly to the subject of heredity in plants, a branch, or phase, rather, of natural science which at present is receiving more than ordinary attention. When seeds year after

Thus it is stated by Bentham that he could draw no sharp line between any one in 90 genera of Asteroideae.

A fact now generally accepted is that all plants have evolved, or descended if you like, from something different from what they now are. One frequently hears the expression that things are "Like as two Peas," but upon minute observation it is found that no two things in Nature are exactly alike. And it is just these minute variations which lay the foundation for greater divergencies and variety. The question arises "When do we get enough difference to satisfy us that we may call it variety, still more to call it a species?" Well, so long as plants grow in the same conditions they do not vary sufficiently in form either to be called varieties or species. You must take it away from its natural habitat. Nature carries seeds away by means of water, or



DENDROBIUM FIMBRIATUM OCULATUM.

year furnish plants alike in all important respects to the predecessors, we say that this is the power of heredity. If we ask what is it which carries this power of heredity, we must go back to the chromosomes (see report of lecture on p. 697). These little bodies are so minute that no ordinary microscope can detect them, and they are contained in the gelatinous protoplasm of living plant cells.

Continuing, Prof. Henslow remarked that botanists have classified myriads of plants for by the power of heredity, the plants known to and described by Linnaeus or any other old botanist, such as *Ranunculus bulbosus*, to take a simple example, are quite recognisable to-day by the descriptions written in reference to them long, long ago. But the links between genera or species are in many cases very close, and the differences are meagre.

birds or winds, and there are thousands of ways in which plants may migrate. It is well known to botanists that species vary but little around a certain restricted local area wherein they are confined, but go out a hundred miles or so to where the borders of the species extend, and there one begins to find "varieties" cropping up. These varieties arise because of the somewhat fresh environs, the contentions for place it may be, that they have to assert against, and other conditions which call up new energies and consequently new developments.

Just as Prof. Henslow said "All plants and animals are 'endowed' (and there is no better word), with the power of response to external conditions." By these is meant light, air, moisture, &c., in other words, their environment. All these changes accrue from the plastic power of proto-

plasm, and its excitability. There are always two lines of evidence to prove anything in Nature; one is accumulative, and the other is inductive evidence. The former is built up by experiment, the latter by observation. On poor and barren soil we nearly always find spiny plants such as the Furze, *Ononis spinosa* and others. But grow them in good soil, give them plenty of water, and what happens? According to Prof. Henslow's personal experiments most of the spines disappear. And there you clinch the argument.

Yet *why* does a plant respond to external conditions? No one can provide an answer. We can go back again to the chromosomes, and, said the lecturer, "all I can say is that these little bodies and the protoplasm, instead of building up tissues which form spines or flowers, simply build up tissue which give them a new character and makes them different." That fact is the most peculiar of all, and the most mysterious. Protoplasm indeed acts as though it were an intelligent being, as though it knew what it was about. The cells divide and divide again and presently take on the new shape according to the circumstances which mould them.

Some convincing illustrations were produced by the Professor to demonstrate how the same plant might vary under opposite conditions. On Rhodes Island near Cairo there grows a Reed much like our common English Reed (*Phragmites communis*) which in very dry places becomes exceedingly dwarf and spiny. When it has its natural conditions of mud and moisture it bears its proper form of a giant Reed. A German botanist has seen and named the dwarf form as a variety of the taller plant, but Prof. Henslow maintains from experience that the plants are the same. The "stenophylla" form produces the broad leaved when grown in water. And so with leaves of *Aralia Veitchii*, broad leaves with fewer segments are produced by grossly fed plants, and fine narrow ones by plants under ordinary treatment. Having grown *Ononis spinosa* for two years in semi-aquatic conditions, Prof. Henslow stated that little difference was noticed the first season, but at the end of the next year the new growth had absolutely no spines. If the plants were grown under the same conditions for many years, the spineless character would become fixed.

A number of comparisons were now made to show how plants growing in quite different parts of the world, but under like circumstances, had all the same character, mimicked each other in fact. The *Ericas* of South Africa, the *Epacris* of Australia, the *Thuyas* and *Junipers* of Europe and America were almost identical in foliage, &c., with the *Tamarix* of Africa, and the *Veronicas* (*V. buxifolia*) of the higher regions of New Zealand, are all much alike. The vegetation of dry zones—the *Euphorbias* of the Soudan, the *Stapelias* of the Cape, the *Cereus* of Mexico—all are similar. If the opposite conditions are looked into we find the Water Crowfoot and the Water Violet (*Hottonia palustris*) belonging to *Primulaceae*—be it noted, not a Violet at all—agree in habit with the *Cabomba* of the tropics.

Professor Henslow has a theory that all monocotyledons have originally descended from aquatic dicotyledons. The whole range of facts go to point such a conclusion. The little *Celandine*, which flowers in springtime, has only one cotyledon, and it has air-chambers throughout just as true aquatics have. *Trapa natans* has only one cotyledon. Many monocotyledons are dicotyledonous in the very early stage, but the second cotyledon is only rudimentary, and becomes abortive as in *Asparagus*.

It is from many characters agreeing in this manner, that we work up "inductive evidence."

One more example of how circumstances alter cases or rather structures. The common Arrowhead (*Sagittaria sagittifolia*) when it produces leaves under water is obliged to elongate them into ribbon shape, but when they are produced in the air they form basal lobes in the well-known way. The reason for parallel venation in many monocotyledons is thus made clearer to us. The "leaves" are not leaves properly speaking, they are phyllodes or leaf-stalks having the properties of leaves.

When the one time aquatic plant becomes terrestrial, as sometimes may be observed, the power of heredity (which is always present) comes in and fixes the acquired character. There is always a fight going on between the power of variation and the power of heredity. Man or nature, or both,

combine to cause variation in plants (mostly against hereditary tendency be it noted), and when variation has been carried far enough heredity steps in and says, "Well you've had your share in the ruling, I'll now have mine." A capital illustration is furnished by the Brassica tribe and which was used by Prof. Henslow. All our garden Cabbage and Cauliflower crops have originated from the wild Cabbage (*Brassica oleracea*) of our coasts, and they remain quite constant though they are so greatly changed from the original type. Other of our garden crops such as Carrots, Turnips and Parsnips are further instances of these ancient natural laws (known to the Greeks long ago) of variation in the first place, and the "fixing power" of heredity in the second place.

VISITS TO NURSERIES.

MESSRS. STANLEY, ASHTON & CO.

THE Orchid nursery of Messrs. Stanley, Ashton & Co. is situated at Chase Side, Southgate, London, N., within easy reach of London, being six and a-half miles from King's Cross. The nursery is about two miles from Palmer's Green station, and may be reached by 'bus or cab. Messrs. Stanley, Ashton & Co. are both importers and growers of Orchids, the growing being an easy matter compared with the risks attached to importing. Of a recent importation of 20,000 *Odontoglossum crispum*, about 16,000 were found to be dead on arrival at their destination. The rest are just beginning to make fresh growth.

In passing through the *Cymbidium* house we noted fine pieces of *C. tracyanum*, *C. hookerianum* and other popular and handsome species. There were also two massive pieces of *Coelogyne cristata alba* now making up any number of young growths. *Cypripediums* are grown in large quantities and in great variety. In this house the various forms of *C. insigne* are located, including the handsomely spotted *C. i. montanum* type, and the yellow varieties, amongst which we noted *C. i. Ernesti*. *Oncidium tigrinum* is found to be a very useful species for autumn decoration and for cut flowers which are largely in request. A house is devoted to this species so that the requisite or proper treatment can be given. The plants continue to bloom from autumn to Christmas. There is also a good demand for plants, as it is one of the easiest species to grow. The house is in three divisions, and large importations are made to keep it filled.

A large house, having various aspects secured by the form and arrangement of the staging, accommodates a great variety of subjects accordingly. There is a fine lot of such things as *Cypripedium spicerianum*, *C. Charlesworthii*, *C. ciliolare*, *C. Milneri*, *C. lawrenceanum* and *C. Curtisii*, the large flowers of the latter being particularly fine. A batch of *Vanda caerulea* in a cool and airy position is now making fine growth. *Cattleya schilleriana* is suspended from the roof in pans, and kept well supplied with moisture at the roots. *Sobralia macrantha* is carrying massive flowers. A fine lot of *Cattleya dowiana aurea* is doing well. In another aspect the beautiful *Cypripedium Evenor superbum* is pushing up its flowers. Other choice things are *C. Gertrude Hollington*, *C. bellatulum*, *C. Parishii* and *C. Morganiae*. The fine plants of the latter are in robust health. *Dendrobium Phalaenopsis schroderianum* is useful and popular for the sake of its cut flowers, and to meet the demand large quantities of it are grown. Other species and hybrids include *D. splendidissimum*, *D. nobile*, *D. n. nobilius*, *D. Parishii*, *D. cooksonianum*, *D. atroviolaceum*, *D. suavissimum* and *D. formosum giganteum*, the two latter being in bloom. Cut flowers of the last named are much in request. Some 500 plants of *C. spicerianum* are also located here.

The *Phalaenopsis* house contains *P. grandiflora*, *P. amabilis*, *P. sanderiana*, *P. Inddemanniana* and others, the two latter being in bloom. *Stanhopea eburnea* is represented by a fine piece in a basket.

THE NEW NURSERY.

This closely adjoins the old one and is laid out on such a plan that each house of a large block is 130 ft. long, span-roofed, and all running parallel with one another. The whole block, not yet completed, is heated from one large stokehole with powerful boilers. Of *Laelia tenebrosa* several hundreds were in bloom the other week, and a great amount of variation was to be seen amongst them. Very fine were the dark varieties having a large black

blotch in the throat. Very curious it was to see *Cattleya labiata* flowering at mid-summer. Being a recent importation, this explains the unseasonable appearance of the flowers. *C. Loddigesii* is evidently a favourite, a large quantity of it being laden with sheaths, while those in bloom carried from seven to fifteen flowers on a scape. *C. Harrisoniae violacea* is also grown in quantity, as is also *Laelia harpophylla*. *L. purpurata* may always be seen in quantity here, and in great variety. *L. digbyana* is now in season, its large flowers and deeply fringed lip being striking and peculiar.

Cattleyas are likewise a strong feature of this same house, some of the forms of *Cattleya Warneri* being very fine. *C. gaskelliana* is also in season and flowering in quantity along the whole length of the staging on one side of the house. *C. Trianaei* is making up its sheaths in preparation for another season. Others represented in this house are *C. gigas*, *C. Mendelii* and *C. Mossiae*, a recent importation of the latter containing a batch of white varieties. Many of the above are always strongly in evidence at the Temple Show from the nursery of this firm.

The next house to this contains a large importation of *Laelia anceps sanderiana* and other nearly white varieties of that type, not yet potted up. This type is said to be getting scarce in its native habitats. One enormous piece has been brought home entire and is to be kept unbroken. Another lot consists of plants supposed to be *Laelia gouldiana*; and *Oncidium varicosum* may be added. A very pretty *Odontoglossum* named *O. crispum Julia* is notable for a group of rich brown blotches on each of the sepals and petals. Here also is located the remainder of the large importation above mentioned. The Southgate firm makes a speciality of *O. crispum*, and this is to continue to be one of the features of the nursery. All their plants are imported from the Pacho district from whence all the finest forms of this, the most popular species comes.

Three other houses entered are almost given up to *O. crispum*, either newly imported or established for greater or less periods of time. A large quantity of the established plants is flowering and show many beautiful combinations of colour. That fine yellow *Oncidium concolor* keeps them company. In the fourth house of *O. crispum* other useful species are included such as *O. triumphans*, *O. Pescatorei*, *O. Hallii*, *O. Rossii majus*, *O. andersonianum* and *O. cordatum*, though *O. crispum* in strong plants constitutes the bulk. *Oncidium macranthum* is doing well, as is the true *Masdevallia elephantipes*, which is by no means a common plant. It has purple-tinted, leathery leaves of great substance.

The *Cattleya Mossiae* house was a fine sight quite recently, for over 4,000 flowers were cut in one week. Choice varieties include such as *C. M. reineckiana*, *C. M. Wageneri*, and *C. M. arnoldiana*. Some large plants of the type carried as many as forty-eight flowers each.

Another house of the same length, namely, 130 ft., gives shelter to a variety of subjects that delight in an intermediate temperature. Amongst them may be noted *Odontoglossum Insleayi*, the rare and pretty *O. madrese*, and *O. Cervantesi*; also *O. citrosum* in great variety, and now in the height of its season. They vary with creamy, rosy, sulphur, and white sepals and petals, the latter being *O. c. album*. The flowers are delightfully fragrant. The true, old type of *Laelia autumnalis atrovirens* is grown in quantity. The *Oncidium*s are well represented by *O. marshallianum* in fine form; *O. ceboletta*, with terete leaves; *O. unicorn*, *O. varicosum*, *O. Forbesii*, *O. sarcodes*, and a beautiful new variety named *O. flexuosum unicolor*, in which the brown spots have entirely disappeared, leaving the flower uniformly yellow. A number of white *Cattleyas* were collected in flower so that their merits are known. *C. Skinneri* is also staged in quantity. A batch of *Laelia autumnalis* was collected in bloom, and their special colours marked. One has the darkest flowers ever seen. There are also variable quantities of *Bifrenaria*, *Miltonia vexillaria*, *Laelia pumila*, the pretty *L. jongheana*, and a splendid lot of *L. flava*, the pick of 2,000. *Epidendrum vitellinum majus*, with its bright orange flowers, represents a colour that is by no means too common amongst Orchids. Being now in season a large batch of plants makes a glow in the house, such as few others could at this season of the year.

The plants are all kept scrupulously clean, and

being placed under suitable conditions, make strong, healthy growth as they get established. Something of note may be seen at any time of the year, but particularly a little earlier than this when the *Cattleyas* and *Laelias* are in bloom.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society at Richmond on the occasion of, and in conjunction with, the Richmond Horticultural Society's show on the 27th ult.;—

Orchid Committee.

ODONTOGLOSSUM CRISPUM DUCHESS OF CON-NAUGHT.—This charming variety possesses good round flowers with incurved segments, making the bloom cup-shaped. The sepals are elliptic with a large cluster of brownish-purple blotches in the centre. The petals are broader with a cluster of slightly smaller, circular blotches. The lip has a round blotch in front of the crest, and smaller ones at the sides. The variety was much admired. (First-class Certificate.) Mrs. Briggs Bury, Bank House, Accrington.

ODONTOGLOSSUM CRISPUM EMPRESS OF INDIA.—The sepals in this case are white, with a large, brownish-purple, lobed blotch on the centre, and a rosy band along the back. The ovate, jagged petals have a group of brownish-purple blotches on the centre. The lip has a large oblong blotch in front of the crest. (Award of Merit.) Mrs. Briggs Bury.

CATTELYA MENDELII ALBENS PRINCESS OF WALES.—The sepals of this delicately coloured variety are white with a trace of purple at the base of the upper one. The ovate, white petals have a blush along the midrib. The lip is white with an orange blotch in the throat, and some crimson lines towards the base of the tube. (First-class Certificate.) Mr. H. A. Tracy, Amyand Park Nurseries, Twickenham, Middlesex.

Floral Committee.

NYMPHAEA GIGANTEA.—The flowers of this Australian *Nymphaea* are of great size and substance, and of a good shade of blue. Even the inner face of the sepals is shaded with blue. Although an old introduction it is still a scarce plant, but well deserving of being brought to the front. The flowers exhibited by Leopold de Rothschild, Esq. (gardener, Mr. James Hudson), Gunnersbury House, Acton, were grown in an open air tank, having a hot-water pipe running through it. (First-class Certificate.)

IRIS MONIERI.—The falls of this stately *Iris* are orbicular and rich dark yellow. The standards are spatulate and slightly paler yellow. The petaloid stigmas are still paler, and recurved over the falls. In good rich soil, near water, this species varies from 3 ft. to 5 ft. in height. (Award of Merit.) Messrs. Barr & Sons, King Street, Covent Garden.

DELPHINIUM SIR GEORGE NEWNES.—The broad sepals of this semi-double variety are arranged in three rows, the inner ones being shaded with purple, and the outer ones of a deep blue. The sepals are white, thus making a fine contrast in the centre of the large flowers. (Award of Merit.) Messrs. Kelway & Son, Langport, Somerset.

CROTON VENUS.—The leaves of this variety are linear, spirally twisted and drooping, though the basal portion frequently widens out greatly, with a lobe on either side, forming a hastate leaf. The colour is often wholly yellow, sometimes with a large amount of green, while all intermediate mixtures of the two may be found on a plant. It is a graceful variety. (Award of Merit.) Messrs. Robert Green, Ltd., 28 & 29, Crawford Street, W.

GLADIOLUS BYZANTINUS.

THOUGH not so brightly hued as many of the other species of *Gladiolus*, such as *G. brenchleyensis*, *G. cardinalis*, *G. psittaculus*, &c., this tall, early flowering rosy-mauve or purple species is all the same a favourite with most of those who grow it. A firm, moderately rich soil seems to answer all its demands, and in parts of the rock garden, or in any warm sheltered border, this handsome corm plant is a strikingly fine subject. It flowers onward till the end of the month.

SOCIETIES.

RICHMOND HORTICULTURAL.—June 27th and 28th.

OUR continuation report deals chiefly with the more important competitive exhibits which neither time nor space allowed us to touch in the issue of last week. Competition was moderately keen, and in all cases the entries were highly respectable.

COMPETITIVE EXHIBITS.

For three vases or stands of natural flowers and foliage suitable for the decoration of a dinner table, Miss N. H. Cole, The Vineyard, Feltham, was first. Mrs. Sutton, Sheerwater, Byfleet, was first in the succeeding class for dinner table decorations. Mr. Wm. Hayward, Fife Road, Kingston-on-Thames, was first for a hand bouquet; Mr. W. Fromow, The Quadrant, Richmond, second; Miss E. M. Tebbutt, Mogden House, Isleworth, third; and Miss C. B. Cole, The Vineyard, Feltham, fourth. For six buttonholes, three ladies' and three gentlemen's (prizes by Mrs. Thorp Becker), Miss Ethel Freshwater, 50, Queen's Road, Twickenham, was first; second, Miss Cole; and third, Mrs. Franks, 34, King's Road, Kingston-on-Thames.

In a class for eighteen distinct varieties of Roses J. Wigan, Esq. (gardener, Mr. F. W. Jones), Cromwell House, Mortlake, was first; and Sir F. Wigan, Bart., second.

For twelve Roses, distinct, three trusses of each, open to all, Messrs. D. Prior & Son, Myland Nurseries, Colchester, stood first; Mr. B. R. Cant, Colchester, second; and Messrs. G. & W. Burch, Peterborough, came third.

For twelve Roses, one variety of H.P., Messrs. F. Cant & Co., Colchester, were first, with A. K. Williams; and Messrs. G. & W. Burch came second with the pink Mrs. Sharman Crawford. For twelve Tea Roses of one variety the order was, first, Mr. B. R. Cant, with superb *Mdme. Cusin*; second, Messrs. F. Cant & Co., with *Marle Van Houtte*; and third, Messrs. D. Prior & Son with the same variety.

Mrs. Hayward (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, was first for twenty-four single trusses of distinct Roses (confined); and R. E. West, Esq., Firth Dene, Reigate, was second. J. Wigan, Esq., again led a class for twelve distinct Roses and also for twelve blooms of Tea Roses.

Henry Little, Esq. (grower, Mr. A. Howard), Baronshalt, East Twickenham, secured the premier place for six Orchids, showing *Vanda teres* and *Laelia tenebrosa* grandly. The second prize went to Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, who had splendid specimens of *Laelia tenebrosa*, *Phalaenopsis grandiflora*, &c.

For six bunches of Sweet Peas (prizes offered by Messrs. A. W. Young & Co., The Nurseries, Stevenage, Herts), the prize went to Mrs. Weguella (gardener, Mr. Thos. Botton), Coombe End, Kingston Hill, with a strong dark blue variety; Sir Edgar Vincent, K.C.M.G. (gardener, Mr. T. Gibbons), Esher Place, Esher, was second; and J. B. Johnstone, Esq. (gardener, Mr. D. Gibson), Coombe Cottage, Kingston, third. The competition was keen.

Miss E. M. Tebbutt was first for an epergne of flowers; Miss E. Freshwater was also first for the most tastefully arranged stand of wild flowers and grasses.

For the best arranged basket of cut flowers and foliage, Miss C. B. Cole, Feltham, was first winner.

Messrs. A. W. Young & Co., The Nurseries, Stevenage, had the best twelve bunches of hardy cut flowers, winning the first prize offered by J. Archer, Esq., of Devonshire Lodge; Mr. C. W. Baynes, Ryedale, Weybridge, came second.

J. B. Johnstone, Esq., was first for six zonal *Pelargoniums*, which were grand.

For six *Caladiums*, distinct, C. M. Bartell, Esq. (gardener, Mr. H. Hicks), The Uplands, East Sheen, was first with massive plants; W. Cunard, Esq., Orleans House, Twickenham, came second. Sir F. Wigan, Bart., Clare Lawn, East Sheen, was first for six exotic Ferns, distinct.

The competition for the finest window box was keen, the first prize falling to Mr. R. Evans, 26, Napier Road, Isleworth; Mr. W. Peasy, 3, Richmond Road, Ealing, came second.

Mr. H. Keene, 3, Stafford Place, Richmond, was

awarded third prize in a class for six kinds of vegetables grown in allotment garden.

Miss Ridge (gardener, G. Lane), Highfield, Englefield Green, was first for three bunches of black Grapes. Mrs. Tulk (gardener, Mr. A. Sadler), Cowley House, Chertsey, came second. For a collection of fruit of six dishes, C. Swinfen-Eady, Esq. Q.C. (gardener, Mr. J. Lock), Oatlands Lodge, Weybridge, was first; W. H. Ellis, Esq. (gardener, H. Ford), Clovelly, Hounslow, came second.

For a dish of thirty fruits of Strawberries, W. H. Wells, Esq., Worton Hall, Isleworth, had magnificent Royal Sovereign; the second prize went to G. Parker, Esq., Providence Cottage, Isleworth. W. H. Ellis, Esq., was first for a dish of Peaches.

MISCELLANEOUS EXHIBITS.

Messrs. James Veitch & Sons, Ltd., Chelsea, had a collection of thirty-two sorts of climbing Ivies, mostly conspicuously beautiful by reason of their coloured or prettily cut foliage. *Hedera Helix caenwoodensis* and *H. H. variegata elegantissima* were noteworthy for form of foliage, white *H. H. chrysophylla* and *H. H. palmata* were very highly coloured. The Ivies were trained to oval convex frames and stood about 4 ft. high. (Gold Medal.)

Mr. J. Bruckhaus, Orleans and St. Mark's Nurseries, Twickenham, set up a collection of *Negundo variegatum*, Golden Privet, *Euonymus*, *Cordylina australis*, standard and pyramidal Sweet Bays, &c. (Silver Medal.)

Messrs. Hayward's floral decorations were few but choice. Here are three of the designs:—A family Bible, an enormous wreath, and a tall cross. The Bible represented "The Book" lying open with a broad scarlet ribbon running down the central seam. From the centre the sides rose up convexly, and were evenly represented by white Mrs. Sinkins Pink. The gold edges of the book were represented to perfection by *Centaurea saueolens*, a beautiful fringed flower. A string of lavender coloured Sweet Peas and two pieces of *Asparagus plumosus* branchlets were taken diagonally from the top to bottom of the left side. It was unique and charming. The wreath was composed of blue Cornflowers with a tuft of white Lilies at the left-hand side. The tall cross on a broad base was made of white pinks, and a fine dispersion of *Cypripediums* at base and from the top.

We regret to have overlooked in our hurried report of the show last week the marvellous collection of vegetables sent by Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, Elstree. It is worth an extended note. The Tomatoes shown were Peach Blow, firm and peculiar red-orange colour, smooth, round, and about 3 in. in diameter; Sutton's Dessert, bright red, smooth, and eatable at two bites; Cutbush's Polegate, very large and fine; Dwarf Gem, canary-yellow, suffused with red, delicious to look at; Carter's Duke of York, a fine, flattish, large red variety; and Sutton's Golden Nugget and Sunbeam, the former one of the best salad Tomatoes in existence. Then there were the Carrots, Veitch's Matchless Scarlet, a fine, long, tapering sort; Carter's Long Forcing, the name not meaning long rooted Carrot for it is one of the stout varieties; and Veitch's Scarlet Model, which measures 3 or 4 in. through at the top, and tapers slightly to the apex. It is short and very stout. The Potatoes included Improved Ashleaf, Sharpe's Victor, and Snowdrop. Cauliflower Veitch's Early Forcing, medium size; Walcheren, enormous size and splendid appearance, fine white; and Webb's Peerless. Peas included Edwin Beckett (new), long, even, large pods with ten Peas; Carter's Daylight, of moderate size, but firmly filled; Carter's Daisy, about 5 in. long, and good size; and Carter's Early Morn, also good. Deverell's Ailsa Craig Onion, White Empress, and Giant Rocca were other varieties. The Cabbages were Ellam's Early, Sutton's Flower of Spring, Carter's Prize-taker, and Carter's Model. Vegetable Marrows were Muir's Hybrid Prolific, Veitch's Selected White, Moore's Cream, and Pen-y-byd. The Turnips were represented by Early Snowball, Early Red Milan, flat and not very pretty looking. There was only one dish of Asparagus, variety Conover's Colossal, beautiful tender green shoots, not an inch or two thick and useless, but comparatively slender, and all usable. A dish of Cucumbers of a new variety raised by the exhibitor and named Ideal, is one which is sure to come to the front. It is 18 in. long, and about 2 in. in diameter, being even all along its length. Beans, Artichokes, Mushrooms

and Lettuces were all shown. Every dish had a ring of green Parsley around it, and all were massive and given 1 ft. of space between each dish. Effect had been considered in the arranging. Lettuces were the only weak thing. (Gold Medal.)

MEDALS AWARDED.

The following awards were made by the Richmond Horticultural Society:—Silver Gilt Medals for groups of plants were awarded to Mr. John Russell, Richmond; Messrs. W. Fromow & Sons, Chiswick; Mr. H. J. Jones, Ryecroft, Lewisham; Messrs. John Laing & Sons, Forest Hill, S.E.; Mr. Wm. Thompson, Sheen Nurseries, Richmond; Messrs. T. Rivers & Sons, Sawbridgeworth; Mr. W. Icton, Roehampton, and Messrs. T. S. Ware, Ltd., Feltham, London. Silver Medals were awarded to Messrs. Wm. Cutbush & Sons, Highgate, London, N.; Messrs. Dobbie & Co., Rothesay, N.B.; Mr. Wm. Spooner, Arthur's Bridge, Woking; Messrs. R. Green, Ltd., 28 & 29, Crawford Street, W.; Messrs. J. Hill & Son, Lower Edmonton; Messrs. Hugh Low & Co., Enfield; Sir F. Wigan, Bart., East Sheen; Mr. Amos Perry, Winchmore Hill, London, N.; Messrs. A. W. Young & Co., Stevenage, Herts; Messrs. Carter & Co., High Holborn, London; W. Cunard, Esq. (gardener, Mr. J. Allsop), Orleans House, Twickenham. And Bronze Medals to Messrs. B. S. Williams & Sons, Upper Holloway, N.; Mr. T. Williams for Fuchsias; Mr. J. Farmer for cottage produce; and Messrs. Paul & Sons.

From the Royal Horticultural Society, Messrs. J. Veitch & Sons, Ltd., Chelsea, obtained a Gold Medal for various groups; and one Silver Gilt Banksian Medal for Carnations, &c.; Messrs. J. Hill & Son, Barrowfield Nurseries, Lower Edmonton, obtained a Gold Medal for Ferns; and Mr. Edwin Beckett, Elstree, a Gold Medal for a collection of vegetables; Messrs. Wm. Cutbush & Son, Highgate, a Silver Banksian Medal; and the same to Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson); Messrs. J. Peed & Sons; Messrs. Carter & Co.; Messrs. Geo. Jackman & Son, and Messrs. Kelway & Son.

WINDSOR, ETON & DISTRICT ROSE AND HORTICULTURAL.—June 30th.

THE annual Rose show of this society was held in the Home Park, Windsor, on the above date, and was acknowledged to be better than any previous one, both in the competitive and non-competitive classes. The day was cool and cloudy, in fact, quite cold at times, but rain kept off and there was a good attendance. The Queen visited the show in the afternoon.

The premier award (The Queen's Cup) for forty-eight distinct varieties of Roses, was won by Messrs. Alexander Dickson & Sons, Royal Nurseries, Newtownards, Co. Down. They had magnificent blooms of Mildred Grant (new), W. J. Grant, Gustave Piganeau, Mrs. Mawley, and Mrs. J. Laing. Lady Clanmorris, Mdme. de Watteville, Kaiserin Augusta, Francisca Kruger, and Comtesse Nadaillac were fine Teas. Mr. Benjamin R. Cant took the second place with grand blooms of Mrs. W. J. Grant, Ulrich Brunner, Suzanne Marie Rodocanachi, &c. Messrs. D. Prior & Son, Myland Nurseries, Colchester, took the third place with smaller blooms, but including Horace Vernet, the best Rose in the show, securing the Silver Medal. Messrs. Frank Cant & Co., Braiswick Nursery, were made equal third. There were eight entries in this class.

Messrs. A. Dickson & Sons also secured the leading award for eighteen Teas or Noisettes, single trusses. Mrs. Mawley, Anna Olivier, Souvenir d'Elise and Comtesse de Panisse were some of his finest blooms. Mr. George Prince, Oxford, took the second place with very fine blooms of Comtesse de Nadaillac, Catherine Mermet, and Muriel Grahame.

For twelve varieties of Roses in trusses of three each, Messrs. Alexander Dickson & Sons again came to the front with magnificent blooms of Mildred Grant, Mrs. W. J. Grant, Mrs. E. Mawley, &c. Mr. B. R. Cant took the second place with a fresh and even lot. Messrs. Frank Cant & Co. came in third with good stands. Competition was good. For twelve single trusses of any H. P. or H. T., Messrs. A. Dickson & Sons again came to the front with their new Tea Rose Mildred Grant, a creamy white tinted flesh and of great size. Mr. G. Prince was second with Mrs. W. J. Grant. Mr. B. R. Cant was third with Mrs. Sharman Crawford. For twelve blooms of any Tea or Noisette, Mr. G. Prince came first with Comtesse de Nadaillac; second, Messrs. A. Dickson & Sons; third, Messrs. D. Prior & Son.

Garden Roses made a fine display. The leading award for eighteen bunches was taken by Messrs. Paul & Son, Cheshunt, who had fine bunches of Polyantha grandiflora, Carmine Pillar, W. A. Richardson, Una, Alister Stella Gray, &c. Messrs. Geo. Cooling & Sons, Bath, were a good second, their bunches being stood wider apart to advantage. Mr. C. Turner, Slough, was a good third.

For twenty-four varieties in single trusses the first prize went to the Rev. J. H. Pemberton, Havering-atte-Bower, Essex, with a very even lot. Mrs. Haywood (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, took the second place with a very good exhibit indeed. P. G. C. Burnand, Esq. (gardener, Mr. A. Humphrey), came in third.

Rev. J. H. Pemberton again came to the front for twelve Roses, showing grand samples. G. W. Cook, Esq., was a good second; and Mrs. Haywood a very good third. G. W. Cook, Esq., came to the front for six Roses of one variety, showing Mrs. W. J. Grant. Mrs. Haywood was second with Mrs. Sharman Crawford; and P. G. C. Burnand was third, but took the lead for twelve Teas. A. G. Gold, Esq. (gardener Mr. W. Mount), was second.

G. W. Cook, Esq., took the lead for six triplets; Rev. J. H. Pemberton was second; and Mrs. Haywood, third.

The lead for eighteen Roses was taken by W. Colin Romaine, Esq. (gardener J. Guttridge), thus securing the Ben. Cant Challenge Bowl presented by Mr. B. R. Cant, Colchester. Arthur Munt, Esq., was second. There was good competition.

Mrs. Geo. Bulteel (gardener, Mr. Jennings) had the best twelve Roses. H. Greenaway, Esq., was first for six Roses. W. Colin Romaine, Esq., took the lead for six trusses of any H. P. or H. T., showing Captain Hayward. N. L. Cohen, Esq. (gardener, Mr. A. Sturt), was first for six Teas. In the amateurs' class for garden Roses the first prize for six bunches was taken by — Irving, Esq. (gardener, H. Elisha). Arthur Munt, Esq., had the best bloom in Comtesse de Nadaillac, shown by an amateur.

Lady Pigott (gardener, Mr. J. Fleming), Wexham Park, Slough, had the finest group of plants, White Lilies, Malmaison Carnations and Francoa sonchifolia being freely used amongst the Crotons, Palms, Bamboos, &c., which Mr. Fleming sets up so deftly. N. L. Cohen, Esq. (gardener, Mr. A. Sturt), took the second place with a more solid group. A. F. Govett, Esq. (gardener, Mr. W. Smith), was third.

A. F. Govett, Esq. (gardener, Mr. W. Smith), had the best four specimen plants. Lady Pigott (gardener, Mr. J. Fleming), Wexham Park, Slough, was second. F. Baxter, Esq. (gardener, A. Eldridge), had the best specimen plant in bloom. Lady Pigott was first for four Ferns and the best ten pots of plants. The Lady Mary Currie (gardener, Mr. F. H. Berey) had the best table decorative plants. The lead for table decoration was taken by Miss Gee, using pink Pelargoniums. Mrs. G. Hegan had the best basket of Roses. W. Colin Romaine, Esq., staged the best display of cut Roses, winning the Duchess of Sutherland's Challenge Cup.

N. L. Cohen, Esq. (gardener, A. Sturt), had the best group of plants and cut flowers. The Lady Mary Currie was first for Sweet Peas, The Dowager Marchioness of Conynghame (gardener, H. White), being a good second.

Miss Ridge (gardener, Mr. G. Lane) had the best black and white Grapes. G. Bulteel, Esq. (gardener, Mr. Jennings), was first for Strawberries; Mr. Irving for Nectarines, and the Lady Mary Currie for Peaches.

MISCELLANEOUS EXHIBITS.

Messrs. J. Veitch & Sons, Ltd., Chelsea, set up a massive bank of herbaceous plants, including grand bunches of Verbascum Chaixii, Paeonies, Delphiniums, Spiraea Aruncus, Heuchera sanguinea grandiflora, Digitalis purpurea grandiflora maculata, Eryngium alpinum, Gillenia trifoliata, English Irises in great variety, and many other seasonable subjects. The front was filled in with Tropaeolum polyphyllum and Asparagus.

Messrs. Wm. Cutbush & Son, Highgate, London, N., had a group of varied outline raised into three conical mounds along the centre. The middle one consisted mainly of Hydrangea paniculata grandiflora and Kalosanthes coccinea, while the end ones consisted of Malmaison Carnations in variety. The pink one was plentiful, as were scarlet, blush, and yellow varieties.

Mr. John Russell, Richmond, Surrey, set up a

group of hardy, ornamental shrubs, including Catalpa syringaeifolia aurea, Prunus Pissardi, pyramidal and standard Bays, Hypericum moserianum tricolor, Fagus sylvatica tricolor, Ivies, Japanese Maples, Rhus glabra laciniata, Bamboos, and other subjects so suitable for making the pleasure grounds and shrubbery borders gay.

Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton, exhibited Strawberries growing in a barrel.

Messrs. Smith Brothers, Clewer Nurseries, near Windsor, set up a group of Carnations, Celosias, Lilies, Palms, and other subjects on a groundwork of Maidenhair Ferns.

Mr. E. F. Such, nurseryman and seedsman, Maidenhead, exhibited 150 bunches of Sweet Peas in 50 varieties. Very fine were Salopian, New Countess, Meteor, Blanche Burpae, Novelty, Celestial, Lady Beaconsfield, Rising Sun, and other popular varieties.

Messrs. Barr & Sons, King Street, Covent Garden, staged an extensive collection of hardy herbaceous plants. Heuchera, erubescens, Lilium colchicum, Iris orientalis gigantea, I. Monieri, I. monspur, Eryngium alpinum, Galega officinalis compacta alba, Aquilegia chrysantha, Heuchera sanguinea splendens, Ornithogalum pyramidalis, Lathyrus latifolius albus, and many others formed an interesting lot. English Irises were also abundantly represented.

Mr. Amos Perry, Winchmore Hill, London, N., also staged a collection of hardy herbaceous plants, including massive bunches of Campanula persicifolia Backhousei, Linaria dalmatica Gillenia trifoliata, Heuchera pyramidalis, Pinks, Calochorti, &c. The pans of Edelweiss were fine.

Mr. Henry Eckford, Wem, Shropshire, exhibited a magnificent lot of Sweet Peas in graceful glass vases. Very handsome were such as Prince Edward of York, Duchess of Westminster, Mrs. Fitzgerald, Lady Beaconsfield, Queen Victoria, Salopian, &c.

Messrs. Geo. Jackman & Son, Woking, Surrey, had a table of Roses and Sweet Peas, intermingled with sprays of Gypsophila. The garden Roses were pretty, and H. P. varieties were good.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, staged a collection of herbaceous plants, including a fine lot of Calochorti, Sidalcea Listeri, Lilium japonicum Colchesteri with large creamy flowers, Iris orientalis gigantea, I. Monieri, Eryngium amethystinum, Alstroemerias, many species and varieties of Lilium, Eremurus Bungei, Paeonies, English Irises in variety, &c.

Messrs. Titt & Son, 24, Thames Street, Windsor, had a table of herbaceous plants, including Sweet Peas, Iceland Poppies, Delphiniums, Lilium longiflorum Harrisii, Canterbury Bells, and many other popular subjects.

Messrs. Hinton Bros., Warwick Nurseries, Birmingham Road, Warwick, staged a large group of Sweet Peas in seventy-five varieties, including all the newest and best varieties brought out within the last few years, and some new selections which have not yet been sent out. F. A. Hinton is a new variety, an improvement upon Mrs. J. Chamberlain. Fine also were Ignea, Queen Victoria, Lovely, Alice Eckford, Hinton's Brilliant (rich carmine-scarlet), and many others.

Mr. Charles Turner, The Royal Nurseries, Slough, had an extensive exhibit of show and fancy Pelargoniums, the only exhibit of the kind in the show. It was arranged in the form of a semicircle in the big tent. Very handsome were Gold Mine, Magnate, and Achievement (show varieties), and the lovely Delicatum (fancy). They also showed Strawberries.

Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham, exhibited a very handsome group of Orchids, amongst which Vanda teres, Odontoglossum crispum in great variety, and handsomely blotched, Cypripediums, Cattleyas, Masdevallias, and Epidendrum vitellinum majus were very conspicuous and effective. Bulbophyllum barbigerrum carried four spikes of its strange flowers.

Mr. C. Turner also set up a large group of Roses in pots upon the grass. The H. P. Roses were most abundantly represented and in many popular varieties. The Tea and hybrid Tea varieties were also represented.

Messrs. Titt & Son also had some very fine floral devices, bouquets, hearts, harps, and the Union Jack done up in red, white, and blue flowers.

Edwardian table and room decorations were

shown by Mr. A. Edwards, Arnold, Notts. They were put up in a great variety of form.

ROYAL HORTICULTURAL.—July 3rd.

ALL available space was occupied in the Drill Hall on Tuesday last, on the occasion of the Rose show held under the auspices of the Royal Horticultural Society. Roses were in greater abundance than we recollect having seen them before, and were much admired by the visitors. The garden Roses made a magnificent display and were present in great quantity. Delphiniums, Gallardias, Lilies, Campanulas, Sweet Peas and other herbaceous plants were also in plenty. Tuberous Begonias were also noticeable. Pineapples were conspicuous. Orchids were less numerous than on last occasion.

Messrs. J. Veitch & Sons, Ltd., Chelsea, had by far the largest and finest exhibit of Orchids. Very conspicuous were *Cattleya Warscewiczii*, *C. Warneri*, *C. Mossiae*, *C. Mendelii*, *Laeliocattleya wellslana*, *Lc. Aphrodite*, *Lc. canhamiana*, *Lc. c. alba*, *Lc. eximia* and *Laelia purpurata*. The orange-scarlet flowers of *Epidendrum vitellinum majus* and *Epiphronitis Veitchi* made their presence felt. They also had fine pieces of *Laelia digbyana*, *Disa kewensis*, *D. Clio*, *D. Veitchi*, *Sobralia Veitchi*, *Oncidium macranthum*, *Oncidium lanceanum*, *Dendrobium velutinum*, and many other useful subjects. (Silver Gilt Flora Medal.)

Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited *Laeliocattleya Henry Greenwood superba*, *Lc. Wiganiae*, *Lc. Wiganiae aurea* and *Sobralia Wiganiae*, a natural hybrid.

Messrs. Paul & Son, Cheshunt, exhibited *Orchis foliosa*, *O. maculata* and a hybrid between them. *Odontoglossum crispum* Gatton Park var. was staged by J. Colman, Esq. (gardener, Mr. W. P. Round), Gatton Park, Reigate. T. R. Cuckney, Esq., Coham Hall, Gravesend, showed cut flowers of *Ophrys apifera*. A. J. Keeling, Esq., Cottingley, Bingley, Yorks, exhibited a raceme of *Dendrobium moschatum*.

De B. Crawshaw, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, exhibited a plant of *Laelia tenebrosa rosefieldensis*, and one of *Cattleya Mendelii rosefieldensis*. J. T. Bennett Poë, Esq. (gardener, Mr. J. Downes), Holmwood, Cheshunt, exhibited the old, beautiful and rare *Broughtonia sanguinea*, grown on a raft and inserted in a pot. A. J. Hollington, Esq. (gardener, Mr. E. Ayling), Forty Hill, Enfield, exhibited the hybrid *Cypripedium General French*. A. H. Smee, Esq. (gardener, Mr. W. E. Humphreys), The Grange, Hackbridge, exhibited *Eulophia euglossa*.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited *Cattleya Mossiae reinckeanae*, *C. M. Duke of Teck* and *C. M. Disipeno*. J. W. Potter, Esq. (gardener, Mr. W. H. Young), Elmwood, Park Hill Road, Croydon, staged *Odontoglossum crispum* Lady Jane. J. G. Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford, exhibited *Cypripedium Curtisii* × *praestans*. Dr. F. Pritchard Davies (gardener, Mr. W. Keylock), Kent County Asylum, Maidstone, exhibited *Cattleya granulosa buysoniana*, having yellow sepals and petals.

Messrs. H. Cannell & Sons, Swarley, Kent, proved that they were second to none in double and single flowered tuberous Begonias. They set up a fine collection of choice varieties, nearly all of which were of exceptionally good form, variety of colour, and fine substance, such as *Lady Meatb*, a large pure white; *Lady Gerard*, lemon-yellow; *Lady Donald*, a tawny yet bright dun yellow; *Lady Scarboro'*, salmon-rose; *Lady Alice Beaumont*, rosy-pink; and various other new and good doubles. Their list of large flowered single varieties was also exceedingly fine. (Silver Banksian Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, showed how handsome our hardy herbaceous flowering plants are, and what a wealth of them there is to pick and choose from. Their collection at the Drill Hall showed an amazing profusion of Delphiniums, Antirrhinums, English Irises, Lilliums, Nymphaeas, Gladioli, Lychnis, Malvas, *Phlox russelliana*, and dwarf alpines. The following were of special notice:—*Coronilla rosea alba*, *Geum chilense* fl. pl., *Heuchera micrantha*, *Lilium pardalinum parviflorum*, *L. croceum*, *Iris Monierii*, *Gladiolus nanus delicatissimus*, *Iris monspuriensis*, *Dorothy Foster*, *Coreopsis grandiflora*, *Inula hirta*,

Day Lilies in varieties, and Sea Hollies. They also exhibited Barr's Best of All Cauliflowers and Herald, Duke of York, Captain Cuttle, Boston, Stratagem, Duke of Albany, Telephone, and other culinary Peas. (Silver Banksian Medal.)

The Duke of Rutland (gardener, Mr. W. H. Divers), Belvoir Castle, Grantham, set up a group of 100 sorts of hardy herbaceous cut flowers. The most effective of these included the ever handsome *Heuchera sanguinea*, *Lychnis Viscaria* fl. pl., *Dic-tamnus Fraxinella*, *Polemonium caeruleum*, *Achillea mongolica*, *Tropaeolum polyphyllum*, *Verhascum olympicum*, *Gentiana lutea* (fine as a tall foliage plant), *Irises*, *Linums*, and *Alstroemerias*. (Bronze Flora Medal.)

Messrs. James Veitch & Son, Ltd., Royal Exotic Nurseries, Chelsea, exhibited a collection of rather rarely seen shrubby plants. These were *Magnolia macrophylla*, *Rosa wichuraiana variegata*, *Clematis erecta*, a pretty white flowered dwarf shrub, *Deutzia californica*, *Polygonum chinense*, *Andromeda speciosa cassinaefolia*, *Cytisus scholopkaensis*, *Escalonia philippiana*, and seedling *Rose Electra*.

Messrs. Sutton & Sons, The Queen's Seedsmen, Reading, exhibited a group of a bright pink coloured variety of Sweet William named Sutton's Pink Beauty. This is a showy and pretty little thing, having large heads of bloom.

Percy Waterer, Esq., Fawkham, Kent, showed a little group of lovely Sweet Peas, the best of which were New Countess, Lady Marie Currie, Queen Victoria, and Lady G. Hamilton.

A collection of Sweet Peas also came from Messrs. J. Veitch & Sons, Ltd., Chelsea, who showed the bunches in glasses on a white paper grounding. The best varieties were Boreatton, dark purple; *Mdme. Carnot*, deep blue; *Gorgeous*, orange-red; *Captivation*, heliotrope-violet; *Lovely*, pink, and others.

Messrs. H. Young & Sons, Windmill Lane, Cheshunt, Herts., exhibited a collection of new Pinks, of which Young's Doris, Ladas, and Cheshunt Beauty were the best.

Mr. M. Pritchard, Christchurch, Hants, had a large and magnificent collection of hardy herbaceous cut flowers. Very fine was *Delphinium Belladonna*, bright blue, *Centaurea macrocephala*, *Catananche caerulea*, *Gladiolus Colvillei alba*, *Coreopsis grandiflora*, *Clematis erecta*, *Paeonia Marie Lemoine*, large and pale creamy in colour; *Iris laevigata*, *Dianthus Napoleon III.*, *Scabiosa caucasica*, and other things. (Silver Flora Medal.)

Messrs. T. S. Ware, Ltd., Hale Farm Nursery, Feltham, London, had alpine plants in pots; also Lilies and cut herbaceous flowers. *Sempervivum Pittoni* is very cheerful, *Campanula garganica hirsuta*, which is so fine on rockeries, was also seen; *Saxifraga Filipendula flore pleno*, *Campanula Scheuchzeri alba*, *Lychnis vespertina flore pleno*, *Heuchera sanguinea*, *Eremurus Bungei*, and *Campanula urticifolia flore pleno* were the more select of the things shown. Besides these there were *Astrantias*, *Liliums*, *Leontopodiums*, and Sea Hollies (*Eryngium*). A very fine collection. (Silver Banksian Medal.)

Messrs. Kelway & Son, nurserymen, &c., Langport, Somersetshire, made a magnificent show of very fine Delphiniums and Gaillardias. The expressed opinion of the visitors was unanimous in declaring these to be of special quality, and "quite extraordinary indeed" some were heard to say. The fact of their being mostly new was also in their favour. There was Sir Wilfred Laurier, W. B. Child, Seneca, Mrs. Rushton, Mrs. Toms, and others, all of which are strikingly distinct in their different shades of light or dark blue. (Silver Banksian Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, had a choice exhibition of Lilliums, *Alstroemerias*, *Irises* and this splendid class of hardy flowering plants. The Lilliums included *L. thunbergianum sanguineum*, *L. t. alantaceum*, *A. t. a. grandiflorum*, *L. t. Alice Wilson*, the lightest coloured of all; *L. t. Orange Queen* and *L. t. Van Houttei*, a capital dark variety. Besides these there were *Mariposa Lilies* (*Calochorti*), *Paeonies*, *Delphiniums*, *Irises*, *Gladioli* and *Ornithogalum arabicum*. (Silver Banksian Medal.)

Messrs. Wm. Paul & Sons, Waltham Cross, Herts, set up a magnificent group of decorative Roses, including Teas, H.T.'s, Polyantha Roses and the like. Of the latter "The Garland," *Felicite Perpetue*

and the pink Roamer, were very finely represented. Of Teas and other Roses, *Perle d'Or*, *Paul's White Lady*, *Mdme. Hoste*, *Mdme. Jules Groler*, *Sulphurea* and *Empress Alex. of Russia*, were very choice and good. (Silver Gilt Banksian Medal.)

Lord Llangattock (gardener, Mr. Thos. Coomber), Hendre Gardens, Monmouth, sent fourteen splendid "Queen" Pine Apples, which, for their perfection, were worthy of a gold medal. (Silver Gilt-Knightlan Medal.)

C. Bayer, Esq. (gardener, Mr. W. Taylor), Tewkesbury Lodge, Forest Hill, had a very creditable nine dishes of Peaches and Nectarines. (Silver Gilt Banksian Medal.)

Messrs. Laxton Bros., Bedford, exhibited their new Strawberries "Fillbasket," Laxton's Maincrop, a cross from McMahon × Sir J. Paxton and Perpetual Strawberry St. Joseph.

Messrs. J. Veitch & Sons, Ltd., sent Veitch's Prolific, an excellent Strawberry for forcing, and one which obtained a First-class Certificate.

Leopold de Rothschild, Esq. (gardener, Mr. G. Reynolds), Gannershury Park, Acton, W., showed a small collection, but exceedingly good, of Strawberries and Cherries. The Strawberries were the British Queen, and the Cherries, Bedford Prolific, Empress Eugenie, Early Rivers, Bigarreau Napoleon, Emperor Francis, Bigarreau noir de Schmidt, and Black Eagle, &c. (Silver Knightian Medal.)

Messrs. T. Rivers & Son, Sawbridgeworth, had a very fine collection of the Peach Thomas Rivers, from trees grown in pots ten years old, and forced successively. They also showed "The Czar" Plum, a round, deep blue variety, and Early Rivers' Cherry. (Silver Banksian Medal.)

For a collection of very superior Peaches in the varieties Dr. Hogg, Dymond, and Royal George, Miss Adamson (gardener, Mr. Geo. Kelf), South Villa, Regent's Park, succeeded in obtaining a Silver Knightian Medal. These were grown almost in the heart of London.

Leopold de Rothschild, Esq. (Mr. Jas. Hudson), Gunnersbury House, showed a handsome boxful of Cherry Bigarreau de Schreken, obtained from an open air south wall. These were of extraordinary size, black, and luscious. (Cultural Commendation.)

ROSES.—In connection with this meeting special prizes were offered for classes of Roses. The body of the hall was entirely filled with these, and the quality all round was of high excellence. In Class I., for twenty-four single trusses of H.P. and Tea Roses, the first prize fell to Messrs. D. Prior & Son, Colchester, whose best blooms were those of Marie Beauman, Alfred de Colomb, Mme. R. S. Sharman Crawford, Ernest Metz, Ulrich Brunner, and Mrs. J. Laing. The second prize went to Mr. B. R. Cant, Colchester, who came very close upon the first twenty-four. The finest blooms were those of La France, Jean Soupert, Ulrich Brunner, Mrs. John Laing, and Mme. Gabriel Luizet.

For eighteen single trusses ditto, Mrs. Haywood (Mr. C. J. Salter), Woodhatch Lodge, Reigate, was first with smaller blooms than in the nurserymen's class, but they were otherwise of grand quality. Beauty of Waltham, Mrs. J. Laing, Capt. Christy, and others were best. Rev. J. H. Pemberton, Havering-atte-Bower, Essex, came second, but his lot was not quite up to the excellence of the others.

Mr. Charles Turner, The Royal Nurseries, Slough, led for eighteen trusses in Class III. Caroline Testout, Mrs. J. Laing, Ulrich Brunner, and Her Majesty were choice. Messrs. G. Cooling & Sons, Bath, came second.

For twelve Roses, G. W. Cook, Esq., The Briars, Torrington Park, N. Finchley, was first, and second, Rev. A. Foster Melliar, Sproughton Rectory, Ipswich. His lot was very fine, especially Kaiserin Augusta Victoria, Mrs. Sharman Crawford, and White Lady. Harcourt P. Landon, Esq., Shenfield, Brentwood, was equal second. He had a very fine specimen of Louis Van Houtte.

Miss B. H. Langton, Raymead, Hendon, N.W., was the winner in the class for six distinct trusses of Roses. R. Cook, Esq., Stonebridge Park, N.W., came second. In the class for nine blooms of a single variety, Mrs. Haywood was again to the fore, having Mrs. John Laing. Mrs. S. G. Crawford was shown by P. C. G. Burnard, Esq., Hill Grange, Reigate, who came second.

For six blooms of a single variety, G. W. Cook, Esq., again led, having also Mrs. J. Laing. E. M.

Bethune, Esq., Denne Park, Horsham, was second with Mrs. S. Crawford.

For eighteen trusses Tea Roses, O. G. Orpen, Esq., Hillside, West Bergholt, Colchester, was a good first, having lovely specimens of Amazone, Anna Olivier, The Bride, Medea, Mdme. Hoste, and Hon. Edith Gifford. Rev. Allan Melliar came second, with Comtesse de Nadaillac, Catherine Mermet, and Bridesmaid.

In class nine, for a further collection of eighteen trusses of Tea Roses, Mr. Geo. Prince, Rose Grower, Oxford, won first, having capital Golden Gate, Marechal Niel, Mdme. Cusin, and others. Messrs. D. Prior & Son followed next.

For twelve single trusses, E. M. Bethune, Esq., Denne Park, Horsham, was first, and Alfred Tait, Esq., Downside, Leatherhead, second. For six ditto, G. A. Hammond, Esq., Cambrian House, Burges Hill, Sussex, was first, and H. P. Landon, Esq., second. E. M. Bethune, Esq., was first for six blooms of a single variety of Tea Rose, having Comtesse de Nadaillac. Miss B. H. Langton was second.

For thirty-six distinct varieties of garden Roses, Messrs. Paul & Son, The Old Nurseries, Cheshunt, was first with a marvellous collection. Messrs. F. Cant & Co., Braiswick Nurseries, Colchester, came second; Messrs. Geo. Cooling & Sons, Bath, were equal second.

For eighteen distinct trusses of ditto, Alf. Tait, Esq., was first; Rev. J. H. Pemberton, second.

For nine distinct varieties in trusses, Mr. B. R. Cant led the way, having splendid blooms of Mrs. Sharman Crawford, Fisher Holmes, Mrs. J. Lalng, Capt. Hayward, Gen. Jacqueminot, La France, &c.

For six distinct ditto, O. G. Orpen, Esq., came first; followed by Rev. J. H. Pemberton and Arthur Pearson, Esq. (gardener, Mr. W. J. Prewett), Frenshaw Place, Farnham.

For six distinct trusses of Teas, Mr. B. R. Cant led the way; Mr. Geo. Prince, second; and Messrs. F. Cant & Co., third.

Mr. B. Ladhams, The Shirley Nurseries, Southampton, had a miscellaneous collection of Pinks and Brier Rose trusses.

Mr. Will Taylor, Osborn Nursery, Hampton, Middlesex, had a small collection of garden and H.P. Roses.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Grower, for his article on "Humea elegans," p. 693.

QUESTIONS AND ANSWERS.

Peach Leaves Blistered.—L. H.: The leaves you sent us show that your trees are very badly affected with Peach Blister, caused by a fungus named *Exoascus deformans*, which often proves very troublesome, particularly, we believe, in gardens that are too much and too closely sheltered by trees. You can only check this disease by prompt measures. It is not sufficient merely to pick off the affected leaves, though that must be done promptly whenever they are seen to be affected. The disease really lives in the branches and shoots from year to year, and give rise to fresh disease on the leaves. The diseased shoots should also be cut off as well as leaves, and the whole burned at once. The spring time is the best to do this, and the work should be carried out regularly and persistently till the disease gets exterminated. Sometimes the trees are so bad that it is a better plan to grub them up and plant afresh than try to cure them. If you would overcome the disease you must attack it constantly by the above methods till it is overcome. If there are no fruits on the trees you could syringe them with the Bordeaux Mixture at intervals of three weeks to kill all spores and prevent them spreading. If you do not know how to make it let us know, and we will describe the same.

Black Currants with Swollen Buds.—A. Grigor: You can tell Col. Allardyce that the Black Currants are very badly affected with the Currant Gall Mite (*Phytoptus Ribis*), a small mite that lives upon the young leaves in the bud state causing them to grow abnormally during the winter months, but so injuring them that they never open but die during spring or early summer. When the buds are few they should be picked off and burnt immediately. If numerous it would be advisable to cut off the branches as far as affected and burn them. Sometimes a fair advantage is gained by cutting down the bushes and allowing them to grow up from the roots again, thus losing a year's crop at least. Plantations sometimes get so badly affected that it is unprofitable to battle with them. In such cases the best way is to grub the bushes up and burn them, making a new plantation at some distance from the old. Before doing this you might select clean young shoots and raise young plants before destroying the old, and burning any swollen bud at once, if such should make its appearance.

Strawberries with Grubs in them.—C.F.: We are not surprised that you did not consider the Strawberries very tempting morsels to eat, because, on examination, we found them to be swarming with the Spotted Snake-millipede (*Julus guttatus*). Other authorities name this animal the Beautiful Snake-millipede (*Julus pulchellus*) in allusion to the beautiful red spots on either side of the body of the creature. It is not strictly speaking a caterpillar nor grub, as it does not give rise either to a moth, butterfly, fly, beetle nor any other insect whatever. It belongs to the class Myriapoda, or Snake-millipedes. As to remedies, the ground should be kept thoroughly clean for sometime previous to the planting of Strawberries upon it. Before the plants come into bloom in early summer, the ground should be well dusted with lime at intervals of a week or ten days. Lime-water is believed to destroy them. Sprinkling nitrate of soda over the ground and then watering it, or watering the same with a solution of nitrate of soda is said to be a good remedy. Soot spread over the land is also said to drive the creatures away. After the plants are ripening their fruits, remedies are hopeless.

The Carrot Fly (Psila Rosae).—A. L.: If the natural soil is unsuitable for the rapid growth of the Carrots you should during next winter trench it 2 ft. deep, adding a large quantity of peat, leaf mould, sand or sandy soil from beneath the potting benches. If you do not wish to raise the level of the soil remove a portion of the old material before you begin. It is worth all this trouble to improve a piece of land for Carrots, because by trenching and enriching it every year the Carrots may be sown year after year on the same ground. In the meantime you could water the beds heavily with liquid manure or nitrate of soda at the rate of $\frac{1}{4}$ oz. to the gallon of water. This will induce the Carrots to make rapid growth, and so get over the danger of destruction by the fly.

Propagating Aubrietia Leichtlinii true to Name.—T. R.: We presume that you have only a few plants at present. If so, we advise you to increase them by cuttings. The present should be a good time to take the first batch of cuttings, provided you can get short, lateral shoots with a firm base. The present wet weather should be causing a rapid growth; and under those conditions the cuttings will root much more freely than if you were to take them off during dry weather when the tissues are hard and making little or no progress. Put them into pots of very sandy soil and cover them with a hand light or frame. Shade them from bright sunshine during the heat of the day. After you have got up a stock of plants you can next year increase them by division of the tufts.

Names of Plants.—G. C.: 1, *Diervilla grandiflora*; 2, *Brassia verrucosa*; 3, *Veronica amoena* of gardens, a white variety of *Veronica longifolia*; 4, *Lunaria biennis*; 5, *Corydalis lutea*; 6, *Lychnis dioica flore pleno*; 7, *Linaria Cymbalaria*.—J. Whitton: Not *Meyenia erecta*, that being *Thunbergia erecta*. It is *Petreaa volubilis*, belonging to the Verbeina family.—Nash: A species of *Medick* (*Medicago turbinata*), a native of South Europe.—T. M.: 1, *Orchis foliosa*; 2, *Geranium argenteum*; 3, *Geranium wallichianum*; 4, *Oxalis valdiviana*; 5, *Oxalis floribunda*.—H. J.: 1, *Oncidium concolor*; 2, *Oncidium flexuosum*; 3, *Campanula Hostii alba*; 4, *Scilla peruviana*.—R. M.: 1, *Olearia Haastii*; 2, *Kerria japonica flore pleno*; 3, *Papaver orientale*; 4, *Trachelium caeruleum*; 5, *Saxifraga rotundifolia*; 6, *Centaurea Cyanus*.—A. D. W.: A variety of *Iris laevigata*, often named *I. Kaempferi* in gardens. The name of the variety would have to be determined where a large collection of named sorts is grown.

Communications Received.—T. Lees.—Worcester Pearmain.—Omega.—T. E. Henwood.—W. Gardiner.—N. N. Sherwood.—J. Carter & Co.—R. T. Howell.—A. N. C.—H. W.—Angus Brown.—R. H. S. Council and Secretary.

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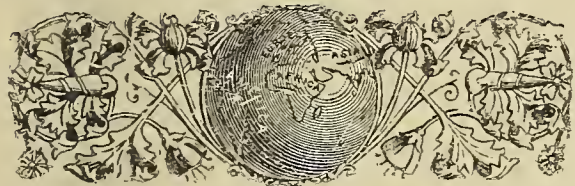
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JULY 14th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 17th.—R.H.S. in Drill Hall, James Street, Westminster; Carlisle Rose Show; Paris Exhibition (Temporary Show).
WEDNESDAY, July 18th.—Cardiff Horticultural Show (2 days).
THURSDAY, July 19th.—National Rose Society's Show, at Birmingham.
FRIDAY, July 20th.—Bicentenary Exhibition of Sweet Peas, at the Crystal Palace (2 days).
SATURDAY, July 21st.—Rose Show at Newton Mearns.

THE 1900 ROSE SHOW AT THE CRYSTAL PALACE.—For some time past there has been an impression amongst growers that the Roses would not be sufficiently advanced by the time of the annual exhibition of the National Rose Society at the Crystal Palace, to furnish the best blooms, and that the best show of the season would occur in some of the more northern towns. That remains to be seen, but the capabilities of the 1900 show at the Crystal Palace were realised on the 7th inst. Experts are generally agreed that the Roses were many points behind the average, including last year, in relation to size, quality and colour. To the north of Lon-

don at least the hybrid perpetual Roses were not at their best, so that a much better display might have been presented a week later. All the same it was a good show, with plenty of Roses for the general public, which is not sufficiently expert to discriminate the points of a good Rose; and the attendance during the afternoon was surely sufficient to please all parties concerned. The tables were so crowded by unbroken lines of people that it was difficult to get a satisfying glance of the blooms on the stands.

There were many fine blooms on the tables, and various theories might be advanced to explain why the general standard was not higher. The season has been relatively sunless, unsettled, and consequently about ten days later than usual. There have been cloudy days, light showers and heavy thunderstorms, locally and generally; yet growers maintain that these showers have not been sufficient to damp the soil to any great depth below the surface, and that the Roses are suffering the effects of drought at the roots while the cold and dashing showers overhead have not been to the advantage of the blooms. Certainly a great many of them showed injury to the outer petals which had a deteriorating effect upon the expanded blooms. Several also complained of the bad effects of late spring frosts which damaged the young flower bearing shoots. Well, after all, the British horticulturist must enjoy the prerogative of the British agriculturist, of the right to grumble. Where hail has damaged and cut the petals, the right to grumble would be apparent, especially to those who have expended the labour of a year to get their favourites to perfection, and then had their blooms destroyed, it may have been, in one *mauvais quart d'heure*.

Some of the Irish growers, particularly Messrs. A. Dickson & Sons, Newtownards, have taken a leading part, not only at the Crystal Palace, but at several other shows in the south of England this year, including Windsor, London, and Salisbury. Many of the blooms we understand were grown in England, namely at Didsbury, Lancashire, where they are earlier even than in the north of Ireland; but there were first prize collections also from Mr. H. Dickson, Belfast. The Colchester Rose growers, including Messrs. R. Cant & Co., and Mr. B. R. Cant, sometimes one, sometimes the other, came in second and third so that they were not far behind in point of merit. The lack of sunshine, and the drier and colder climate of the east of England as compared with the west would probably explain the present position. In very warm, early summers the northern growers generally succeed in capturing many of the best prizes, but on this occasion they were conspicuous by their absence amongst the winning stands at least. All the same we have seen them take leading prizes with smaller Roses than those in the leading stands on the 7th inst. The Champion Trophy with the Gold Medal for seventy-two varieties, and the premier award for forty varieties in triplets went to the Newtownards firm above mentioned; while the leading prize for forty-eight went to the Belfast firm already mentioned. The second prize in the latter case went to Messrs. Burrell & Co., Cambridge. Mr. Will Tayler, Hampton, and Messrs. J. Townsend & Co., Worcester, took the leading awards in the two classes for twenty-four varieties of Roses, so that the home counties did not stand high at this show.

The Tea and Noisette Roses were quite equal to the hybrid perpetuals in average merit, but at the same time many of the

blooms, otherwise fine, displayed considerable damage to a few of the outer petals, as a result, no doubt, of the driving showers and the wind. The leading prize for twenty-four blooms went to Mr. Geo. Prince, Oxford, who usually stands high in this particular class of exhibit. He also had the best stands of eighteen varieties; and the leading award for twelve also went to Oxford. The American style of showing exhibition Roses in vases brought out some attractive exhibits; but curiously enough in one of the two classes for this arrangement of the flowers nearly all the exhibitors and those the winning ones, showed Tea and Noisette Roses exclusively; while in the larger of the two classes, the bulk of the Roses, were hybrid perpetuals with a few of the others. The Roses shown in vases were cut with long stems and their own foliage, similarly to the exhibits of Chrysanthemums.

The garden or decorative Roses were undoubtedly one of the standing features of the 1900 show, whatever the future may have in store in this line. Both nurserymen and amateurs seemed to vie with each other in their respective classes to win the approbation of the visitors as well as to win prizes, and the result was a showy and most attractive display. A few years ago the exhibits of these ornamental or decorative types of Roses, both single and double, seemed to have a struggle for a place in the exhibition, but the number of growers is evidently increasing as the exhibitors are. The number of varieties that may be pressed into the service seems unlimited, but certainly a large number of them are of recent origin, while beautiful old varieties have been rescued from oblivion and brought into prominence. Amongst doubles the smaller varieties, so charming in the bud or half-opened state, are most in demand, though many of them are decidedly beautiful even when fully expanded. The single Roses and Sweet Briers, hybrid or otherwise, are in many cases particularly attractive, and many of them are notable for the profusion of blossoms they produce in a bunch. Crimson Rambler was not present in any quantity, the fact being the blooms are still in the bud stage, except, perhaps, on walls. In the largest of three classes, that for thirty-six bunches, in as many varieties, open to nurserymen, the leading award was secured by Messrs. Paul & Son, while Messrs. Cooling & Sons ran them very close, as has been the case at several other shows already held. Both of these firms now possess very fine collections. Very charming were such varieties as Mdme. Falcot, Mdme. Pernez, W. A. Richardson, L' Ideal, Ma Capucine, Cameons, Dawn, Cooling's Yellow Noisette (like a miniature Marechal Niel), Anna M. de Montravel, Macrantha, Cooling's Himalaica, &c. The last named is a charming single white with entire petals and in that respect remarkably different from the bulk of single Roses, which have the petals more or less deeply notched at the end.

The Penzance Sweet Briers hold their own, but there seems to be no increase of really distinct and decided new varieties. The further they become removed from the old type the less interesting they become; and semi-double ones do not seem to take the fancy, either of the experts or the multitude. The type or anything near it is still good; and amongst the hybrids we noted nothing that surpassed Lady Penzance, with the yellow centre, and Brenda, a large and beautifully refined pink one. The old Austrian Yellow and Austrian Copper are still exceedingly choice in their way. It must not be forgotten that many or most of the singles are ephemeral in their duration; but large bushes continue to expand

a succession of blooms in great plenty. The best nine blooms of any new Rose brought Alice Lindsell to the front, a beautiful hybrid Tea of large size and fresh colour. The best twelve Roses introduced since 1897 included Bessie Brown, Rev. Alan Cheales, Mrs. Edward Mawley, and Countess of Caledon, all very handsome Roses in their way. New Roses not distributed before last autumn were conspicuous by their absence. There were no monster Roses for size on this occasion, though the premier blooms in the show would have taken a lot of beating. Susanne Marie Rodocanachi, the best H.P. in the nurserymen's section, was certainly a magnificent bloom. That and Mildred Grant, the best hybrid Tea, were both shown by the Newtownards firm. Bridesmaid, the best Tea, shown by Mr. G. Prince, was also a charming bloom. The best blooms in these three sections respectively, shown by amateurs, were Ulrich Brunner, Mrs. W. J. Grant and Muriel Grahame. The Roses shown by Mrs. Haywood (gardener, Mr. C. J. Salter) were notable for their colour. The falling away in quality was more notable in the amateurs' than the nurserymen's classes. E. B. Lindsell, Esq., never won the Challenge Trophy in this section with so weak a lot. All the same the blooms stood high in the amateurs' section.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday July 17th, in the Drill Hall, James Street, Westminster, 1—5 p.m. A lecture on "Lilies" will be given by Mr. R. Wallace at 3.

Mr. A. Macrae, for the last four years and a half head gardener and manager to A. F. Burke, Esq., of Adderley House, Monifieth, Forfarshire, owing to the estate of Adderley being sold, has gone with his present employer to Lawton House, Arbroath, to serve in the same capacity.

Weather in London.—Up until Tuesday, the 10th inst., the weather was very changeable and generally cold in the evenings. There has been no rain, though cloudy skies have been constant enough. Tuesday was real Queen's weather, and no matter what the weather may have been previous to Her Majesty's coming, the Queen always gets good weather when in London. She was in London on Tuesday. The temperature at Kew was 80° in the shade.

Nicoticide.—A sample of this insecticide was put at our disposal for trial in order to determine its effect and value as an insect destroyer. We resolved to put it in the hands of a practical gardener who has had much practice in hantling with insects; and accordingly sent it to Mr. A. Wright, The Gardens, Bucklebury Place, Woolhampton, Berks, who writes as follows:—"I duly received your letter and parcel. I put the insecticide to the test and found it did all that was said about it—even the mealy bug had to give way to it. It seems a more powerful and penetrating substance than the usual insecticide vaporising compounds. It did its work without injury to anything in the house, and, with its use, fumigating becomes easy, and the cost considerably reduced."

Loss of interest in forestry education.—Even in Scotland where forestry has the reputation of being much more carefully studied than in any other division of the Kingdom, the interest taken in the subject from an educational point of view does not seem to be very keen. At the examination of the Highland and Agricultural Society held in April, only one candidate sat, and he failed to satisfy the examiners for a certificate. Such a turn of affairs comes to us as most surprising, for two or three years ago there was quite a number of students both at the Edinburgh Botanic Garden and at the Heriott-Watt College, and the enthusiasm was strong. We hope the depression is only temporary. As it is, the council of the Highland and Agricultural Society have been asked to consider whether the examination in forestry should be held annually or only every second year.

Mr. Erric Druce has, we understand, been appointed to the position rendered vacant at the Agricultural School, Holmes Chapel, by the appointment of Mr. J. S. Gordon, B.Sc., to an Inspectorship of the Dept. of Agriculture and Technical Instruction for Ireland.

Appointment.—Mr. Wilson, formerly steward and gardener to Major Donville, D.D., Loughlinstown House, Co. Dublin, has been chosen for a similar position by W. Pallin, Esq., Athgarvan Lodge, Curragh, Co. Kildare. Mr. Wilson is a well known exhibitor both of farm and garden produce.

Officials of the American Rose Society.—In the *Weekly Florists' Review* for June 14th appear photographs of the president, Mr. Benjamin Dorrance, and the secretary, Mr. Leonard Barron, of the American Rose Society. Mr. Barron is the son of the late superintendent of the R.H.S.'s garden at Chiswick, and is well known both in England and in America.

Resistance of Seed to Cold.—Some experiments were recently carried out by Sir W. T. Thiselton-Dyer, Director of Kew Gardens, with the assistance of Dr. Dewar, the eminent physician. The seeds placed under experiments included Wheat, Barley, Gourd, Mustard, Pea, and Mimulus, so that there might be difference both in composition and bulk in the individual seeds. It had previously been ascertained that all the seeds employed possessed good germinating faculty. From these experiments it was proved that seeds preserve their germinating faculties after having been subjected to 25° C. of cold. The most intense cold that occurs in a state of nature is, therefore, without action upon seeds, so that the embryo lies dormant, as do the seeds of weeds scattered in the soil.

Ealing Horticultural Society's Exhibition.—This society's summer show took place on Wednesday, July 4th. The exhibition was interesting inasmuch that it is one of the largest local shows round London. Such shows ought to be encouraged, for while big prize shows attract big growers they frighten small men and amateurs. Of course there were a few exhibits open to all comers, notably for cut Roses. Messrs. Cant, Colchester, Chas. Turner, Slough, and G. & W. Burch, Peterboro', sent some splendid specimens. In greenhouse plants Messrs. Dixon and M. Hulbert (both local gentlemen) deserve special mention, their exhibits being particularly fine. The fruit was not quite so fine as usual, Strawberries in particular not having that rich tint one likes to see. Messrs. de Rothschild sent some beautiful exhibits not for competition, as did also Mr. C. Turner who had some good specimens of Pelargoniums. One speciality of the show was the Cottagers' Classes, and to judge from the exhibits great care must be taken with their gardens. The exhibition was a great success, the weather being all that could be desired.

National Chrysanthemum Society's Annual Picnic.—The annual picnic and outing of the above society will take the form of a visit to Halton, Bucks., by kind permission of Alt. C. de Rothschild, Esq., when the grounds will be open to inspection. The date fixed for the picnic is Wednesday, July 25th, and the cost, inclusive of railway fare, conveyance to and from Halton, dinner and tea, will be seven shillings. Ladies are specially invited. The order of the programme for the 25th is as follows:—10.10 a.m., assemble at Baker Street Station; 10.25 a.m., train leaves for Wendover; 10.33 a.m., train calls at West Hampstead; 10.59 a.m., train calls at Rickmansworth; 11.25 a.m., train reaches Wendover; 1.30 p.m., dine at Halton in tent; 2.30 p.m., inspect grounds and ascend to Swiss Chalet, from which there are magnificent views of the surrounding country. Mr. A. Payne, who supplies the conveyances, will drive parties around the neighbourhood at one shilling to two shillings per head, according to distance, but such trips are not included in the charge for the day. Then, 5.30 p.m., tea in tent; 6.15 p.m., inspect glass houses and kitchen garden; 7.30 p.m., assemble for departure to Wendover; 8.21 p.m., train leaves Wendover, calling at Rickmansworth 8.47, West Hampstead at 9.13; 9.21 p.m., train reaches Baker Street. Mr. R. Dean, V.M.H., Secretary, Ranelagh Road, Ealing, London, W., will furnish any further particulars.

Oncidium Forbesii is a very handsome cool-house Orchid, quite suitable for an amateur's collection.

Fruit Growing in Australia.—Mr. Peter Barr, V.M.H., is now in Melbourne, and has been discussing fruit and fruit culture with orchardists there. They have a School of Horticulture at Burnley, which Mr. Barr mentions with praise.

Midland Carnation and Picotee Society.—A committee meeting of this body was held on the 5th inst., for the purpose of fixing the date of the forthcoming exhibition of Carnations and Picotees. On account of the lateness of the season the date was postponed to Thursday and Friday, August 9th and 10th.

Ealing District Gardeners' Society.—The annual excursion of this society has been arranged for Wednesday, July 18th, 1900, and will take the form of a river trip to Margate. Tea and saloon fare, including rail from Ealing, for members is 7s.; non-members, 7s. 6d. inclusive. The boat has been timed to leave Fresh Wharf Pier at 9.35 a.m., arriving at Margate at 2 p.m. The return journey starts at 4 in the afternoon, reaching Fresh Wharf at 10 p.m. The latest available train leaves Ealing Broadway 1s 8.22 a.m. for Monument. For further particulars apply to Mr. W. Roberts, Hon. Sec., 55, Haven Lane, Ealing.

Hamilton and District Gardening and Forestry Association held their monthly meeting in the Y.M.C.A., on Tuesday, 3rd July. There was a fair attendance of members to hear Mr. D. Dewar, curator of Glasgow Botanic Gardens, read a most interesting paper on "Alpine Plants and a trip to Switzerland," which was most interesting and instructive. Mr. Dewar, in his usual way, had a good many quiet sayings, which added much to his lecture. At the close he was awarded a very hearty vote of thanks, and in reply he gave all the members a kind invitation to visit the Botanic Gardens, and he would personally wait on them and conduct them through all the different departments, which is to be taken advantage of on July, the 21st inst.—J.M.

Wolverhampton Floral Fete.—A very fine exhibit was made by Messrs. Webb & Sons, the Royal Seedsmen, of Wordsley, Stourbridge. It consisted of a bank of their Excelsior strain of Gloxinia which, for colour and form, was not excelled by any in the show. Webb's double Begonias were also represented by some magnificent plants carrying blooms of large size and rich colours. The collection of thirty-six varieties of Sweet Peas, grown at Messrs. Webb's Kinver Seed Farms, produced a charming effect, whilst the vegetables on this stand included Webb's new varieties of Tomatos in growth; Webb's new Pioneer Pea, and many other novelties of great merit. The judges awarded a Gold Medal to this exhibit.

Holidays on the Continent.—The Great Eastern Railway Company have issued another of their pretty little booklets illustrative of the choice features to be found in a holiday tour through the Continent. The company's route is the route of the Royal Mails to Holland. The journey from Liverpool Street, London, E.C., to the Hook of Holland is most comfortable and the speediest line of travel. It is also the cheapest of the first-class routes to Germany, Switzerland, and Norway, and has a daily service. Further information can be obtained at the booking offices of Midland, North of England, and Scottish towns, or by direct application to the Continental Traffic Manager, Liverpool Street Station, London, E.C.

A "Gardening Chart."—Messrs. Frederick Warne & Co., London and New York, have just published a "Gardening Chart," which is meant to serve as a guide to the cultivation of the year's vegetables. Mr. H. C. Davidson is the author of the novel idea, at least novel to be carried to such an extent. The chart measures 2½ ft. by 2 ft., and is divided into vertical and horizontal columns. The names of the vegetables are printed down the left, and the months along the top. When a vegetable is in season the marked-out sections are coloured blue, otherwise it is left blank, or hints as to what operation should be performed is detailed. It is sold at 1/-, and is certainly very convenient for reference.

Chrysanthemum Exhibition.—The special exhibition of Chrysanthemums at Paris Exposition is scheduled for November 3rd and 4th.

Scottish Horticultural Association.—On Tuesday, July 10th, the Scottish Horticultural Association held their annual Rose and Strawberry meeting in the Freemasons' Hall, George Street, Edinburgh. Roses seem to have been behind in quantity and quality, but with the chief Scottish nurserymen and some of the leading gardeners having made exhibits the show on the whole was good. For want of space we are obliged to hold over our detailed report.

Orchids at the Sale Rooms.—On the 6th inst., an importation of Phalaenopsis violacea made its appearance at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside. The plant is said to be getting scarce in a wild state. Certainly those that made their appearance were very small pieces, single crowns, in fact, with two or three leaves each. The finer crowns fetched from 10s. to 14s. each, but others went at lower figures. The present is undoubtedly an excellent time to commence making a collection, as the prices are more reasonable than at any other period of the year. At a previous sale a beautiful and choice Cattleya, namely, Cattleya Mendeli alba, was quickly run up to 29 gs.

Weekly Half-holidays for Gardeners.—Gardeners as a rule enjoy regular hours, though by no means in all cases, and they have whole time; but that is about the extent of the privileges they have. Their hours in summer are long, and the attendance upon fires in winter ties up gardeners almost as closely as in summer. The giving of a half-holiday each week would entail no hardship upon employers as a rule, but such a privilege has not yet fallen to the lot of many gardeners. We are pleased to know, however, that Messrs. Stanley, Ashton & Co., Southgate, N., allow their employees a half-holiday every Saturday afternoon. Those who take duty on Sunday also attend to the houses on Saturday afternoon, so that everything goes on smoothly, without any loss of time being felt by the employers. Other firms might well adopt the system, and let their men free on the afternoon of the most suitable day of the week according to convenience.

Reading and District Gardeners.—The July meeting of the Reading and District Gardeners' Mutual was held, by kind permission, in Messrs. Sutton & Sons' Trial Grounds on Monday last, when nearly 100 members assembled to hear a paper on the "Sweet Pea," by Mr. G. Stanton, of Park Place Gardens, and at the same time to inspect the 244 varieties of this popular annual Messrs. Sutton are growing this year. Mr. Stanton, in introducing the subject, remarked that Sicily is said to be the native home of the Sweet Pea, from whence it was introduced in 1700. We are now keeping its bicentenary, and therefore the year 1900 must be a very memorable one in the history of this, the most beautiful of all annuals. We hear little or nothing about the Sweet Pea from 1700 until 1731, when Philip Miller mentions it in his Gardeners' Dictionary. In "Mawe's Gardener," published in 1800, five varieties are mentioned, this shows the position of the Sweet Pea at its centenary. A striped variety was mentioned by Page in 1817, bringing the number up to six, and as only six were known in 1842 no addition was made for twenty-five years. In 1860 nine varieties were recorded, and about 1865 the Invincibles came out. During the year 1878 or 1879 the great improvement in Sweet Peas began, whilst in 1890 this flower was taken up in America and soon became very popular. The lecturer briefly touched upon the culture, then passed on to note some of the peculiarities about Sweet Peas, such as are found amongst the blooms, seeds, &c., and adaptability of the flowers for the decoration of the house and table. Referring to varieties it would be too great a task even to describe the best of them, but he would name the following as a few of the very best that would not disappoint any who may feel disposed to try them, viz.:—Blanche Burpee, Prince Edward of York, Black Knight, Lady Grisell Hamilton, Prima Donna, Salopian, Navy Blue, Gorgeous, Gala Beauty, Mrs. Dugdale, Duke of Westminster, Duke of Edinburgh, Emily Eckford. Mr. Stanton illustrated his lecture in a forcible manner by some splendid bunches of the varieties he referred to. On the proposition of Mr. Woolford,

seconded by Mr. Neve, a hearty vote of thanks was accorded to Mr. Stanton for his interesting paper and to Messrs. Sutton & Sons for so kindly allowing them to hold the meeting in their grounds and for their kind hospitality. The party then proceeded to view the trials of Sweet Peas, and, needless to say, great interest was manifested in the wonderful collection the Reading firm has got together. The trials of other flowers and vegetables were closely examined, and only darkness put an end to a meeting which was not only pleasant but educational.

CRICKET.

HURST & SON C.C. v. ALLENBURY'S.

Played on the ground of the former at Wodham Lodge, on Saturday, July 7th (the hundredth match of the club), and ended in a draw. The total results of the hundred matches played are as follows:—Won 40, 29 lost, and 31 drawn.

HURST & SON.

Squire, c Norden, b Flack	65
Portch, not out	56
Sampson, c and b Watterton	24
Main	
Jerry	
Duggleby	
A. Cox	
Payne	
Thake	
F. Locke	
Foster	
Extras	7

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ALLENBURY'S.

H. Norden, b Main	0
Wood, b Sampson	5
Walton, c Jerry, b Sampson	6
Flack, b Sampson	0
Chesterton, c Squire, b Sampson	3
Owen, b Sampson	0
Goldman, not out	42
Munt, b Main	11
Graves, c Squire, b Sampson	0
Watterton, b Sampson	3
Taylor, not out	2
Extras	5

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PANDANUS VEITCHII (SCREW-PINE).

IN this we have one of our best table plants, graceful in habit, its narrow serrated leaves usually having a band of green in the centre (sometimes a narrow line of white runs in the centre of this green), and the outer part of the leaf edged with white. As the plant can be grown in quite small pots of 2½ to 5 inch in diameter, it makes a valuable decorative subject for the stove, as well as for the dinner table. Where fair-sized plants are at command, at this time of year, nice little plants or suckers can generally be had with roots attached, if care is taken in twisting or pulling them off, and if inserted in 2½-inch pots, using as a compost loam and a little fine peat with a dash of sand and plunged in a case for three or four weeks, they will make charming little plants in three months' time, and be found of great service to the decorator. A little discretion is needed in choosing the offsets; those showing much white and scarcely any green in the leaf are useless, as they never make good plants and are subject to a sort of scorching or decay of the leaf; while on the other hand those that show more green than white should be discarded, as it is seldom these have enough of the silver band to make them of decorative value. A slight shade is necessary during summer.—J. Mayne, Bicton.

CALCEOLARIAS.

Sow now in a shallow pan, using small cinders for drainage. Soil should consist of turfy loam, chopped fine, well decayed manure, leaf soil and sand well mixed. Sow the seed on even surface; press with bottom of pan; do not cover with soil. Place the pan in the lower part of a frame away from sun. When the seedlings are ready, prick them out into pans, using soil as for seed; water with fine rose pot; replace in the frame; shade from sun; and give air if bright in the middle of the day. When the plants are large enough, pot them into 60's. Place

a small piece of turf in the bottom of the pots over crocks; replace in frame on ash bottom; and water carefully not to wash the soil from the roots. Pot on into larger pots as the plants fill the compost with roots. Take care as the season advances to give plenty of air; and when watering do not wet the leaves, but give a good supply so as it goes through the soil. When frost appears cover up with mats. Care must be taken not to coddle the plants but give air in all favourable weather, removing any leaves that are decayed. Lay a few pieces of tobacco cloth between the pots to keep down fly. They can be had in flower from February until May by removing a few into a cool house. Fire should be used only to keep out frost. They will stand a few degrees, but they are best without it; and very few plants make a better display for the conservatory.—*J. Wallace, King's Lynn.*

THE FUTURE GARDENERS.

WE read and hear about how to cultivate this and that plant or plants, but to be successful in our calling may be put in two words with eight letters—"Hard Work." An American saying is, "If a man would be wise let him think, think, think; and if a man would be successful, let him work, work, work." I hope some of our young gardeners who read this paper may take a hint from this saying, and not bestow all their spare time on footballing, bicycling, and such like, as we cannot afford nowadays to waste all the precious time on pleasure. There is so much competition for the best openings that one must study and practice the different branches of his trade to be able to do things well, so that his employer in time puts full confidence in him. Another hint I would venture to give to our young men is "not to be too proud to do rough outside work, as they generally call it, for much is to be learnt both in the way of growing hardy fruit and flowers, and keeping up a good succession of vegetables for the supply of a large establishment throughout the year." Keeping a diary, and taking note of all the different kinds of work going on in their seasons, both inside and outside, will prove to be of great help to the gardener when once he has the management of a place on his own shoulders.—*John C. Dick, Champflewie Gardens, Linlithgow.*

HARDY FRUIT.

THIS season requires much attention in the way of thinning out its fruit. Especially is this the case among a good many of the Apples and Plums, whose branches are clothed similar to a rope of Onions in many cases, and if allowed to remain small, indifferent fruit will be the result. Apples in bunches of six and seven should be reduced to one, two, or three, according to variety and size of fruit required. Of course, I have in my mind bush and espalier trees to be operated on, but if time could be given to many of the standards it would be well spent, as it is quite certain that fruit of all kinds are much better in flavour when allowed to swell up to its normal size, which cannot be done when over-cropped. Several varieties of Plums are laden, especially Victoria, Pond's Seedling, Czar, and Magnum Bonum (white). A free hand should set to work here at once, and where crowded let each fruit stand clear of its neighbour. The fruits so left not only swell to a large size, but colour much better. After this thinning has been done, by letting in sun and air, both (especially the latter) important factors in aiding colour, all later growths, except any required to fill in, should be shortened back to the third or fourth leaf from the base, preserving all leading shoots if extending the tree is contemplated.—*Grower.*

CRASSULAS.

OF this family only two species are recommended for general greenhouse culture. These are *C. coccinea* (also known as *Kalosanthes coccinea*) and *C. jasminea*. Plants well furnished with large trusses of bright scarlet tubular flowers present a very showy appearance, and well-rounded specimens are particularly attractive. Propagation is effected by cuttings, formed of either short lengths of firm growth, or, preferably, of the top in June or July. As *Crassulas* are of a succulent nature, these

cuttings should be exposed to the sun for a day or so for the cuts to dry. Insert them thinly in well drained pots, filled with a mixture of loam, leaf mould, and sand, and place on a greenhouse shelf. Water sparingly till the cuttings are rooted. If five or six strong tops are rooted together early in the summer, these need not be separated or pinched, but should receive a shift into a larger sized pot, and be grown in the full sunshine. Thus treated each plant ought to produce a fine flower head the following May or June. Neat little plants can be formed from cuttings in one season by not pinching them; but these young plants will not flower the following year. It is the same with old plants. If they flower freely one season, forming few or no stout flowerless growths, there will be no flowers produced the following year. Two sets of plants should be grown, flowering them alternately, a practice worthy of general adoption.—*W. Hogarth, Norton Gardens, Ratho, Midlothian.*

THE SCOTCH ROCKET.

THIS must not be confounded with the French varieties, which are much more easily managed. The true Scotch Rocket is a very much superior plant in every respect, except that it is more difficult to grow. I have had a good deal of disappointment with it, but have now, I think, fully mastered it. Some growers recommend lifting every year; this, I think, is hardly right. I would, however, lift every second or third year. My reason for objecting to the annual lifting is that they do not get time to develop into handsome plants under that treatment. If lifted in March or April, the plant may be increased by division. This, however, is hardly so satisfactory as cuttings. As soon as the flowers are over, cut off all flower stalks carefully, and encourage the plants to make new growths; these as soon as long enough to handle, should be taken off with a heel, and inserted in 4-in. pots of sandy soil, three or four round the edges. Give a good watering to settle the soil, and stand the pots on a shady shelf in a cold greenhouse. They should not be disturbed until spring, when the little plants may be potted singly into 3-in. pots, gradually hardened off and planted where they are to bloom, as soon as the weather is suitable. Do not on any account coddle them, they do not like fire heat, nor getting dry at the root.—*Chas. Blair, Binny, Uphall, N.B.*

PANSIES FROM OXFORD.

A BOX of Pansy flowers reached us the other day from Mr. R. T. Howell, The Gardens, Middle Aston House, Oxford. Amongst them were several named *Violas*, including *Jessie Prestwell*, *Ada Fuller* (both striped), *Butterfly*, with a purple border; *Iona*, plum-purple, with its flowers quartered by light blue; *Commander*, a fine violet flower in the way of *Archibald Grant*; *Bobby Craik*, similar to *Butterfly*; *Lizzie Barron*, a large purple in two shades; *Stobhill Gem*, purple and white; *Florizel*, light mauve; and *Blanche*, a beautiful rayless white. He also sent a number of seedlings, including a very good dark plum-purple, purple and white, a clear, bright yellow, and a good striped variety similar to a sport which we have seen arise from York and Lancaster, being closely striped with purple on a rosy ground.

Mr. Howell is also an exhibitor, and gained the leading award for twenty-four blooms of Pansies at Oxford the other week. Many of the blooms sent us were fancy varieties. Some of those which took our fancy as the most handsome were *J. Thornley*, *Mrs. R. G. Molr*, *Mary Travir*, *Lord Salisbury*, and *J. Gillespie*, all having well defined blotches of various shades of violet. The purple top petals of the last-named were also handsome. A lovely flower of smaller size was *J. Myles*, having blackish-violet blotches and a red border to the top petals. *G. Stewart*, *C. K. Pooler*, and *Provost White* were yellow ground varieties of good form. *Colin Pye* was notable for its immense size and indigo blotches. The colours of *The Baron* were a bit "run." Mr. *J. Currie* is a good maroon variety with reddish-purple edges. The plentiful rain and the absence of burning sunshine has been greatly in favour of Pansies and *Violas* this year.

Mr. Howell gives the following as his method of "Propagation of *Violas* for Spring Blooming":—"All who intend having *Violas* for spring blooming should now take cuttings 2 in. to 3 in. long, with a heel or from the roots. Make a bed behind a north wall, raised a little from the level ground. Stand a cold frame upon it, put in a mixture of loam, leaf soil, peat, and a little sand. Press the compost moderately firm, insert the cuttings 3 in. apart, label them, water well with a rosed can, keep close for a week, then gradually admit air. In a month they will be rooted, and will require more water. Take the sashes off altogether. Syringe with soft soap and water to keep down greenfly. They will make nice sturdy plants. Put them into permanent quarters, which should be during September and October. I always find medium-sized plants stand the winter best, and the beds look best if only one variety is grown in it. I have never had *Violas* do so well as they have this season."

THE TERM ULEX.

MR. STODDON'S disingenuous criticisms on this and kindred subjects necessitate repudiation and rejoinder. I do not feel disposed, however, to comply with his request for my "authorities"—not because I "shirk" the question or am unable to comply, but because Mr. Stoddon's transcendentalism would preclude his acceptance of anything of which he did not want to approve. Moreover, judging by Mr. Stoddon's previous attitudes under similar circumstances, I have a right to assume that if I supplied the suggested information the discussion would degenerate, as hitherto, into a mere quibble as to what constituted an "authority." I regret to have to withhold this information, but the readers of the *GARDENING WORLD* can rest assured that I have not concocted anything for their especial consumption; while my critic, who appears to be privileged to overhaul the shelves of the British Museum, can repair to that institution and consult the local Floras, in several of which he will certainly find the derivation as recorded by me. It is, however, scarcely necessary to visit the British Museum for information on such an elementary matter; and so to this end I would recommend Mr. Stoddon to add to his library, say Chambers' *Primer on "Etymology"* and Mrs. Humphrey's little work on "*Manners for Men*." He will find these very useful; they contain a lot of sound advice. And if I may make a further suggestion, it would be that in future communications, when he is writing about the former he will not entirely overlook the instruction of the latter.

His other reference to a palpable error is beneath contempt.

Concerning Pliny, however, and his fabulous accounts of plants and animals—and a host of other things, no one, I should hope, would attempt to distort the meaning of such a phrase as "legendary Pliny," and upon such a distortion to found a charge of the flimsiest pretence. Ignorance, I am prepared to admit—I am always struggling against it; and Mr. Stoddon will doubtless see, on reflection, why it is that I dare not look in his direction for enlightenment. I submit, therefore, that a "legendary" is "a writer of legends"—that is the only interpretation. As such I regard Pliny, and as such many of his biographers and commentators so regard him. The *Encyclopaedia Britannica*, for instance, says of this man that "he was an industrious compiler," that "he had a great store of ill-digested knowledge, not only imperfect in itself, but put together on no consistent plan," etc. And yet he is considered by some as "one of the greatest, if not the greatest of the old Roman savants." Save us from the Roman savants! And yet I do not desire to decry old Pliny; I dip into him occasionally for amusement; he is very interesting; his fabulous stories are often related with "truly infantine simplicity." I only want to know why he should be mentioned in connection with *Ulex*, and placed on a pedestal he ought not to occupy. In conclusion, I beg our courteous editor will not see fit to suppress these too voluminous lines—will not, in fact, adopt Horace's advice *this time*, because it would seriously interfere with Mr. Stoddon's right of reply. Personally, I do not envy Mr. Stoddon's state of mind, for I would rather be dubbed an ignoramus any day, than be stigmatised by this same Horace as a *sapientum octavis*.—*C. B. G., Acton, W.*

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Orchids from Fairfield, Aberdeen.—A box of Orchid blooms, chiefly Cattleyas, reached us recently from Mr. Alex. Grigor, gardener to A. O. Gill, Esq., Fairfield, Aberdeen. The Cattleyas were by far the most bulky and conspicuous, on account of the great size of the blooms. Very fine was *Cattleya gigas*, owing to the great breadth of its elliptic petals. *C. g. sanderiana* had slightly narrower petals, but the rich crimson-purple of the lip more than compensated for the deficiency, if such it might be called. Accompanying the others was a good average form of *C. Mossiae*, and a large and richly-coloured bloom of the summer-flowering *C. Warneri*, which strongly recalls some colour varieties of *C. labiata* if it were not for the different seasons of flowering. By the time *C. Warneri* and *C. gaskelliana* have done flowering, only a few weeks will elapse before *C. dowiana aurea* again takes up the thread of continuity. A long and well-flowered spike of *Laelia cinnabarina* was notable for the rich and bright scarlet colour of the blooms. A large bloom of *Sobralia macrantha* had its lip of a rich, dark, rose-purple. Accompanying it was a smaller bloom of another species. Mr. Grigor has a short-spiked form of *Oncidium macranthum*, which should be convenient where space to display the ordinary form is not very plentiful, particularly in the matter of head room. There is a considerable range of colour in *Odontoglossum nebulosum*, and the flower sent on this occasion was of large size, and richly spotted with clear brown markings on a pure white ground, and, therefore, a good one of its kind.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

ON the evening of Tuesday, July 3rd, the members of the National Amateur Gardeners' Association held their midsummer flower show, and in conjunction with it a conversazione in the Great Hall, Winchester House, Old Broad Street, E.C. The Right Hon. the Lord Mayor of London had promised to patronise the meeting, but unfortunately important civic duties necessitated his presence elsewhere. In all respects the meeting of Tuesday, the 3rd inst., was an unqualified success. The show was good, the two halls which the exhibits required being comfortably filled; and the classes were both effectively and conveniently disposed, thanks to the presence of Mr. T. G. Swales, the energetic show superintendent. If we may be allowed to pass the remark, we would say that the two halls at Winchester House were infinitely more suitable than the monster tent away up in Regent's Park. Most of the interested members of the association lent their presence to the function. The following were noted: Mr. T. W. Sanders, president, Mr. and Mrs. D. B. Crane, Mr. Percy Waterer, Mr. Thos. Bevan, Mr. H. T. Wooderson, Mr. and Mrs. H. A. Needs, Mr. and Mrs. Geo. and Miss Gingell, Mr. and Mrs. A. Taylor, Mr. and Mrs. A. Hoyles, Mr. and Mrs. H. J. Jones, Mr. and Mrs. Hobbs, Mr. and Mrs. G. W. Cook, Mr. and Mrs. Hatting, Mrs. H. W. G. Morris (Thame), Mr. and Mrs. Volkes (Southampton), Dr. and Miss Shackleton, Mr. and Mrs. Dudley Benda, Miss Davis, Messrs. J. T. Dolby, Wm. Logan, H. Day, H. N. Collier, C. T. Green, W. D. Barnes, C. H. Alder, H. A. Smith, and others. A programme of instrumental and vocal music was rendered during the evening, while fruits and refreshments in liberal amount were distributed freely at intervals.

The artistes one and all acquitted themselves to the fullest satisfaction of the audience, but indeed everyone was determined to enjoy the evening wily nilly, and in this universal frame of mind, concord and harmony, laugh and joke from friend to friend, went round the large hall. It was in verity, a conversazione. The South London Quartette sang a number of glees which were greatly appreciated; Messrs. H. J. Jones, Geo. J. Blunden, T. G. Swales, D. B. Crane, Gurney Russell, W. A. Hobbs, rendered songs; while instrumental music came from the Misses Bruty, Mr. W. E. Bunclark, and Master Harry W. Comfort. Miss Ruby Forbes recited "The Baby Witness," and Misses L. Goodfellow, and

Emmie Dunn, F.C.L., gave songs. Mr. Pennyston Miles as usual performed the duties of accompanist with great credit.

The show, of course, was chiefly remarkable for the exhibits of hardy cut flowers, Sweet Peas, Violas and Roses. For nine trusses of any class of Rose, Mr. C. Smith came out first with a stand that would have been creditable to the largest growers. Mrs. J. Laing, Capt. Hayward, Mrs. J. W. Grant, and Suzanne M. Rodocanachi were models. Mr. J. Bateman was second. Tea Roses were poor. A Silver Medal was recommended to Mr. G. W. Cook for an exhibit of six blooms of Mrs. John Laing. Mrs. D. B. Crane was first for table decorations, showing a sweetly dressed table of Violas, Fern fronds, &c., in small glasses, over a white cloth. Mr. H. W. G. Morris was first for six bunches of Sweet Peas; Mr. G. W. Cook had the finest vase of Tea Roses. For a collection of ornamental grasses Mr. F. M. Vokes was first, having a fine lot of *Bromus sterilis*, *Briza*, *Glycerium*, *Lagurus ovatus*, *Festuca*, &c.; Mr. H. W. G. Morris followed second. Mrs. Taylor had the prize for the most tastefully dressed hand basket. Mr. H. A. Needs won Mr. R. Sydenham's Sweet Pea trophy. There were three exhibits in this competition. Mr. D. B. Crane excelled himself in his exhibit of Violas. His stand included a number of seedlings, the best of which was Jessie Cottee, a very large decided yet soft coloured yellow variety, having a deeper hued lip. Of this we are likely to hear more. Mr. H. J. Jones was another good seedling. Mr. H. A. Needs was first for a collection of cut flowers arranged for effect; second, Mr. H. W. G. Morris, and third, Mr. A. Taylor. These were very creditable. Mr. F. M. Vokes won for a collection of six sorts of vegetables.

The officers of the society, including the president, Mr. T. W. Sanders, and hon. sec., Mr. V. Stacy-Marks, and those already specially mentioned, deserve all the credit they get, though, of course, the fact of success after labour is their greatest satisfaction and reward.

The Orchid Growers' Calendar.

VANDAS.—It is not an easy matter to flower these freely annually, and at the same time keep the plants clothed to the rim of the pots with foliage; in fact, the more they flower the greater the loss of leaves, so that in time they become leggy and unsightly, and you have to cut them down.

They are just now rooting freely and also pushing up their flower spikes, so that we feel constrained to leave them until later before cutting them down. Yet we think if the operation is done now it would be more successful, and there would be no further loss of leaves, as is the case when done later. The reason is not far to seek, for just now no fire heat, or but very little is needed, and the atmosphere can be kept charged with moisture so necessary to the production of roots, &c. Of course, if done now it is imperative to the future welfare of the plants that the most forward of the spikes be removed.

The compost may consist of live sphagnum moss only with an admixture of bits of crocks broken up fine, or silver sand. We ourselves prefer to place a layer of peat as a base over which we place only a thin layer of moss.

AERIDES are treated in a similar manner, baskets being used in preference to pots.

There is a tiny brown scale that attacks both these species, and is very difficult to dislodge without damage to the foliage. A good insecticide is made up as follows:—Take a piece of soft soap about the size of a Walnut, place in a can and add half a gallon of boiling water. Into this put a small wine glassful of petroleum; when cool enough thoroughly mix by drawing up a syringe and shooting it into the can again with as much force as you can. Repeat the operation until it is like milk, when it will be ready for use. Apply with a sponge, wetting the parts of the foliage affected. Do not attempt to remove the scale at this first dressing of the insecticide, but leave it until next day, when it can be easily removed if sponged with clear soft water. This will leave the foliage clean and bright, and free from any traces of soap and petroleum.

VANDA CAERULEA.—This beautiful introduction from the Khasia Mountains has hitherto baffled all attempts to keep it in good condition for long.

There is one thing certain in their culture, and that is, they cannot stand a stuffy atmosphere. If you notice, the foliage on imported plants is short and stiff, suggesting that high winds and fluctuating temperatures prevail in their native habitats, and those that study the structure of plants most will most likely succeed best.—S. C.

Gleanings from the World of Science.

At a meeting of the Linnean Society of London, on the 21st ult., the undermentioned subjects were discussed.

Mr. Walter Percy Sladen.—The chairman announced with deep regret the loss which the society had sustained by the death at Florence, on June 11th, of Mr. Walter Percy Sladen, a former vice-president of the society, and Zoological Secretary from 1885 to 1895. Mr. B. Daydon Jackson, for ten years his colleague, bore testimony to Mr. Sladen's untiring devotion to the interests of the society, to his willing co-operation in all that concerned its welfare, and to his amiability of disposition which had endeared him to all.

Seedlings of *Abutilon*.—Prof. M. Hartog, F.L.S., exhibited and made remarks on flowers of new *Abutilon* seedlings, recently raised by him, and pointed out the extreme variability shown in the form of many of the leaves.

Species of *Trapa*.—Dr. O. Staff, A.L.S., exhibited fruits of various forms of *Trapa* from Europe, China, and India, and discussed the differentiation of the genus into species. He was inclined to recognise five species which inhabit fairly well defined geographical areas; but as the discrimination of these depends chiefly on the armature and sculpture of the mature fruit (the flowers being in some cases unknown, and in others very poorly represented in herbaria), he found it at present impossible to define the species satisfactorily. Unpublished drawings of Indian and Chinese species in the collections at Kew rendered it probable that certain differences in the fruits would be found to be correlated with differences in the structure of the flowers. Some remarks were made by Mr. C. B. Clarke, Dr. Rendle, Mr. C. Reid, and Sir George King.

Plum Stones from Silchester.—Mr. Clement Reid, F.R.S., F.L.S., exhibited a series of Plum stones recently found in a drain of the Roman baths, and in a rubbish pit, at Silchester. The species identified were Cherry (*Prunus avium*), Damson (*P. domestica*), Bullace (*P. insititia*), Sloe (*P. spinosa*), and Portuguese Laurel (*P. lusitanica*). Besides these, there was a large variety of Plum, and a very small Sloe, the species of which had not as yet been precisely determined.

Dried British Orchids.—On behalf of Dr. O. St. Brody, Mr. B. Daydon Jackson exhibited a small series of British Orchids dried by a new process, by which the flexibility of the plant and the natural colours were in great measure retained.

Rush Baskets, Ropes, &c.—Mr. R. Morton Middleton, F.L.S., exhibited several rush baskets, plaited ropes, and dredgers made from *Rostkovia grandiflora*, Hook.f.; and a crab catcher, and limpet detacher made from *Berberis ilicifolia*, Forster, all used by the Yahgans south of Beagle Channel Tierra del Fuego. A discussion followed in which the zoological and botanical aspects of the exhibits were commented on by Dr. Günther, Mr. J. E. Harting, and Dr. Rendle.

Revision of the Genus *Najas*.—Dr. A. B. Rendle, F.L.S., referring to his recently published "Revision of the genus *Najas*" (Trans. Linn. Soc. 2nd ser., Bot. vol. v. part 12), read a supplementary paper on the same subject, in which he gave additional information gained from a recent examination of specimens in eleven continental herbaria, particularly those at Paris, Geneva, Vienna, and Berlin. Some new forms were described (notably a new species from Senegal), and some fresh notes were added on the geographical distribution of several imperfectly known species. Since the publication of the paper referred to, the author had had the advantage of examining a number of specimens which had been collected in south-eastern Russia and the Malay Archipelago, and were forwarded from the Museum at St. Petersburg.

HINTS FOR AMATEURS.

Roses.—The Provence or Cabbage Roses (*R. centifolia*), the Moss Rose, and the China are known as Summer Roses, for they flower early and have nearly run their course by the end of July. They, in their several species or sub-species, contain some of the most brilliant and fragrant of all dwarf free-flowering Roses, as for instance the China Fellenberg which is a ruddy, glowing crimson variety, capital for a bed. In fact it is another of those gems which even amid a host of other fine things stand out as unique. I strongly advise anyone even with only a small garden to get half a dozen plants to start with, and to plant them not singly but in a group. In this section also comes the Austrian Brier (*Rosa lutea*) *R. Harrisonii*, and Austrian Copper, all of which should be planted in liberal masses as has been advised for the forming of a Rose dell. The common China Rose, which is pearl-pink, and the ordinary Moss Roses are favourites everywhere. Maiden's Blush Provence Rose is also well known. Nurserymen now-a-days are also in a position to offer splendid varieties of the old Japanese Rose (*Rosa rugosa*) or Brier. They embrace a number of distinct and good shades, including pure white and reds. But I must leave over what is to be said about the climbing Roses, and the Penzance Briers. There is much to be gleaned from the show reports even though we know that these are hurried and superficial as a rule.

The month of July is probably not so urgent a month as its immediate predecessors, for now we are receiving a return for the work which the past four months have taken or required from us. There are still sowings to be made but these are principally for the furnishing of certain classes of plants for winter planting, and to secure stock for an early spring display.

Antirrhinums.—For instance there are the Antirrhinums, otherwise known as Snapdragons, and these may be sown in drills, or broadcast on spare corners, or among the chinks and meagre earth surface to be found on dry rocky banks. Very few plants are so worthy of liberal sowing and planting in the amateur's garden as these varied, hardy and brilliant flowering plants. When once a good collection of them has been tried the colours which please the individual taste most will be discovered and of course the seeds from the plants bearing the chosen colours should be saved for future sowing. For myself I like the decided colours, the rich glowing shades of orange and yellow, the deep velvety amaranth, and the spotless, beautiful white. A sowing made at this time just after a good day's rain should be successful in yielding a stocky lot of plants to stand the winter just where they are sown. On warm sandy soils they often seed themselves and grow in all respects like the untended plants which we designate as weeds. In colder districts, that is, districts where dampness and continued severe or sharp frosts are usual, it would be safer to sow Antirrhinums in frames at a later date, or the sowing may still be made in the open now, and the seedlings transplanted into nice frames later on.

Primroses and Polyanthus.—It often happens that during excited times in the political world, a great flood and variety of thoughts, schemes and precautionary measures are advanced, all specially intended to meet the difficulty which causes the trouble. But should the crisis pass, we do not always find the remedial or precautionary measures adopted. The crisis passed by—so passes most of the thoughts which the crisis engendered. So it often happens in the realm of horticulture and simple gardening. Our work, though quiet and devoid of great responsibility, is at the same time immensely important and in fact may also in a virtual sense mean the life and health of a great nation. Much that tends to brighten, enrich, ennoble, and to develop a loftier and lovelier character is derived from gardens and parks, and the sweet influence of fine plants and flowers. When the Primroses and the Polyanthus were in their full vigour and splendour, nearly all of us had thoughts of growing larger quantities in another season, of the choicer kinds of each, or perhaps even of forming a Primrose garden with selections of reds, crimsons, dark chocolate ones, whites, yellows, and the gold-laced

Polyanthus with some of the finer species of Primulas, in groups by themselves to present an appearance of classified order, though not to be formal. The chances are that the season wears on and on, and the plans which in spring time were so full of promise are left to incubate for yet a little while longer. However, it is not too late to get seeds and sow them on a shady border, thinning out the young plants when they have formed a few seed leaves. Where long borders of Apple or other fruit trees exist, an edging can be formed on either side of such border, to be later on planted with Polyanthus and Primroses. Basket loads of blooms can be got from such pieces of land when planted in this way.

Dahlias.—The earlier of the Dahlias are now in flower. I saw a large bed of Dahlias in a sheltered part of a sunny garden on the 1st of July, and here and there a bloom was expanded to the scarce sun blinks. The bulk of the Dahlias, however, are only about 2½ ft. high. So far the season has been a good growing one, and few failures are on record. The plants, too, are clean. On the earliest appearance of greenfly ply the syringe with soapy water. They should be easy to keep clean now, for the leaves are firmer, and the plants having got a good start are far more resistant to attack. Later in the season a mulch of sappy dung may be placed over the roots both to help the flower display and to plump up the tubers previous to lifting them for ripening. Soil may be placed over the dung to retain the ammonia, &c. Staking ought not to be forgotten. This injunction applies equally to all other tall, open air herbaceous plants whose height exposes them to the influence of winds and heavy rains. Hollyhocks, Delphiniums, Aconitums, tall Mulleins, Chrysanthemums, &c.

Campanulas.—It may be well to point out that care should be taken to look after and save seeds of the finer Campanulas. The Campanulas are glorious ornaments of the garden, and can be had in great variety. Preparations should be made for the sowing of a collection of annuals and biennials at the beginning of next month. The time soon slips past and when plans are "cut and dry," as the saying goes, half the business is already accomplished.

Chrysanthemums.—While the pot Chrysanthemums are making their growth they require full exposure to the sun, atention to watering, and liberal feeding. At the present time, however, they have not yet progressed far enough to necessitate much feeding. In cases where mildew may make its appearance dust the leaves with flowers of sulphur. This ought to be done when the leaves are dry, and only very lightly then. Bush plants will soon have to be staked out. The triple stemmed Chrysanthemums (single stemmed ones are rare) should have their lateral shoots pinched, and each plant must have freedom to light and air all around it. Where the ground is soft level planks should be set down, and upon these place the plants. Besides being steadier it prevents worms from gaining access to the pot, and it also looks cleaner. The present weather is splendid for growth, and the repeated showers keep the plants clean. But even though it may have rained a fair amount it is always advisable to go over the pots and tap them, and so make sure that none are really in need of further watering. For the amateur grower who may not have much leisure to bestow on watering, the practice of plunging the pots in ashes is recommendable.

Window Boxes, &c.—It is just the same thing with pot plants placed on window ledges. The window box is preferable to pots, simply because the plants' roots are not half so much liable to exposure to extremes. Where a box for one reason or other cannot be utilised there should be some provision made by which drying up of the moisture in the pots may be prevented. If a board be placed along the front of the window sill some sort of packing, such as fibre or moss, could then be placed among the pots, and if this is kept damp the plants will grow and flower a great deal better. Some amount of pinching, staking, and training is necessary with the subjects in the window boxes. Where the soil of the boxes may not have been changed for a number of years, there will be a greater need to water with liquid manure. Any of the advertised artificial manures, such as Canary Guano, Clay's, or Thomson's, may also be occasionally employed.

Plants near the windows indoors sometimes get burned up from the sun having shone too powerfully

through the glass. The beauty and flowering qualities of such plants as Fuchsias, Hydrangeas, and even Gloxinias which are sometimes used in windows may be greatly preserved by lowering the window blinds at those times when the sun is strongest. It also is advisable to place Palms, Aspidistras, Draecenas, and the like out of doors during a time of rain.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Crinum culture.—*A. Melville, N.B.*: No doubt your GARDENING WORLD for June 30th, had not reached you before your question was sent off. Mr. J. Wallace, of King's Lynn, has a reliable note on the treatment of Crinums which may now be of service to you. Use a good quality of loam and a liberal proportion of sand. Turn out the bulbs and examine the roots, removing all that are decaying. Supply good drainage, and place the plants on a wooden base or stage and so prevent worms from getting into the pots. Be careful in watering to start with, but liberal quantities may be given when growth is going on in full. Only slight shading is ever required. The bulbs must be well ripened in autumn and the plants kept dry in winter.

Pay for pulling Black and Red Currants.—*Angus Brown*: For a pint of 2 lbs. weight, pay one halfpenny. In Kent, sixpence for a basket of 24 lbs. is allowed to pickers.

Weeds on Shady Walk.—*J. Sheppard*: Mr. J. Sheppard made a path through a grassy glade last year, but finds the grass seeds are too free in germinating on the path, and asks a cure. Well, a number of more or less effective remedies might be mentioned, but in all respects we think that the best plan would be to use a good weed-killer such as the "Acme" or "Climax" liquids, which may be got through a seedsman.

Irises after Flowering.—*L. M.*: German Irises, and in fact all except the rarer kinds, do not, as a rule, receive any special attention after flowering. The removal of the flower spikes in both German (and all of the section), English, and Spanish Irises, &c., when the flowers have withered is certainly beneficial to them. To help the developing of real good rhizomes in the one case and the bulbs in the other apply liquid manure for a while. On warm, sandy borders English and Spanish Irises are as often as not left in such position for about three years without being disturbed. They may then in autumn, when growth has finished, be lifted, and the young bulbs having been sifted out they can be held over till the following springtime, whence the ground having been manured and well dug they may again be planted and left for another three years. They are quite hardy. The rhizomatous sections do best when they are left undisturbed. A dressing of a fertiliser may be forked in amongst them with a hand fork. Water Irises, *Iris versicolor* and *I. sibirica* flower freely when once they become established. They may be propagated by division of the crowns in April.

Raspberry Leaves Curled.—*T. Welb*: The greenflies, as you surmise, are the cause of the curling of the leaves. Now that the bushes are in fruit it is not advisable to do anything at all. If they show signs of becoming very injurious, you may have to go over the leaves and squeeze them, thus killing most of the insects.

Incarvillea not Growing.—*J. W.*: It is somewhat strange that your plant should have failed to grow this year, seeing it has done so well in previous years. There must be something amiss at the roots; probably they are decayed through having penetrated bad soil. Lift the plant and ascertain this point, and then replant in good mellow loam in a warm position. Give water, but shade the plant until it becomes somewhat established.

Sweet Cicely (Myrrhis).—*F. S.*: Your note allows us an opportunity to recommend what is a favourite plant with us, *Myrrhis odorata*, the Myrrh or Sweet Cicely. It grows "like a weed" anywhere,

though never better than in a damp yet thoroughly well-drained, half-shady position. In such a place it forms large spreading Fern or Hemlock-like leaves beautifully marked with white on either side of the midrib and pinnules. The odour emitted is very pleasant, and reminds one of liquorice. A few plants should be grown in all gardens. It is easily raised from seeds sown in springtime, or by division.

Rumex Patientia.—*F. S.*: The Sourick, or Sorrel, is *R. Acetosa*; the specimen you send is *R. Patientia*, a much taller and very ornamental plant which will grow under the same conditions. As you say, these species of *Rumex* are not half well enough known. We hope to have a note on these shortly.

GREY FRIARS

Is the name of the residence of F. Hollins, Esq., J.P., and is situated on the west side of Preston, three-

hundreds of loads of bog peat having been got in the neighbourhood for the carting. Most of the commoner plants are planted in groups with here and there a Conifer having groups of three to seven *Pinus insignis* in the background. The yellow Austrian Brier played a conspicuous part near the front; also *Kalmia latifolia*, *Weigela* of sorts, as well as Barberries, *Sambucus nigra aurea*, *Spiraeas*, *Philadelphus*, *Prunus Pissardii*, a large plant in a portion of the old shrubbery; *Hemerocallis*, *Eryngium alpinum*, Oriental Poppies and *Bambusas*. A large clump of Metake having been moved last year from the old shrubbery to a conspicuous corner of a bed, was throwing up shoots nicely from the base. I hope at some future time to have an opportunity of visiting these interesting grounds again and report on the behaviour of the choicer subjects. There are numbers of large beds at the lower part of the lawn which serve to hide the walk from the upper

should like to know where another can be seen. Mr. Ings planted it three years ago, when quite a small piece from Messrs Veitch & Sons, Chelsea. Veitch's hybrid *Aquilegias* were a treat to see in the vacant spaces in one of these beds, and in the centre of another was a plant of *Eremurus robustus* with numbers of seed vessels. Crossing the lawn eastward, past the front of the mansion, we pass a wall covered with *Laburnum* treated as a climber, and near are three well built span-roofed glass houses, each crowded with plants suitable for house and table decorations with Cucumbers and Tomatos overhead, the latter a heavy crop. Like many others Mr. Ings has one of his own selection, which he has named Ings' Invincible. It had as many as a score of fruits in a truss, with very small space between the trusses. Adjoining these is a glass covered cricket shed 100 ft. long and 30 ft., wide, heated with hot water and furnished with



CYPRIPEDIUM SPECTABILE AT GREY FRIARS, PRESTON.

quarters of an hour's walk from Preston railway station, but the distance is shortened, though in point of time there is not much gained by taking the tram from the Town Hall to the Withy Trees, Fulwood. Arriving there one evening at the end of the third week in June, I was fortunate in meeting with Mr. Ings, the gardener, at the lodge entrance and we were not long before we were in the well kept pleasure ground, which was a meadow three years ago. It slopes pleasingly to the south, the mansion being at the extreme north. Round the outskirts is a wide border planted with shrubs and herbaceous plants of all kinds, many of them seldom risked in the north. This is flanked by a belt of grass of varying width, and next to this a walk 600 yards long.

The natural soil here is sandy and rather poor; but where required suitable soil has been added,

part, as it winds its way round. One is planted with about fifty plants, 3 ft. to 4 ft. each in diameter, of John Waterer Rhododendrons; a similar one with Mrs. John Clutton and a third with Lady Lonsdale. Dotted amongst them are Sweet Peas and Hollyhocks, edged with Ghent Azaleas. A little further on we come to a clump of the Penzance Roses. As a continuation of the border there is on the west side near the mansion a splendid bank of Rhododendron banked by a plantation. On the opposite side on the lawn there are beds of the same plants edged with broad masses of Violas in patches of various sorts. These were remarkably fine. In a corner of one of these beds facing north was a clump of *Cypripedium spectabile* with thirteen flowers, two twins, the first of the kind I have seen in the north; but then I am not a great traveller and I

electric light. Lawn tennis and other games enacted on the lawn can be played here in the stormiest of weather, as well as cricket, and it is also suitable for a ball room.

After a hasty glance at this we pass through a doorway leading to the back of the premises overlooking a deep dell, which must have been a perfect Chaos before Mr. Ings took it in hand; and now it is a delightful spot, as ornamental as any part of the pleasure ground.

Proceeding along the upper part we reach the newly-made kitchen garden, an irregular piece of ground sloping east and south. Chelsea Gem and Sutton's Model Peas sown in pots and planted out were a fortnight in advance of those sown in the open. Strawberries were an enormous crop, twenty sorts having been planted for trial. Louise Gautier

bore the heaviest crop. The two favourites with Mr. Ings are Royal Sovereign and Leader. It is many years since I have seen The Old Keen's Seedling doing so well, in fact I never recollect seeing it in such good form. I reluctantly had to discard it a dozen years ago, for even treated as an annual it was very disappointing, and it became useless for pot work. I never had much faith in the deteriorating of varieties, but must confess that there has been something in the behaviour of Strawberries that would almost lead one to believe that there was something in it. Probably, if fresh plants had been procured matters might have been different. There is a heavy crop of fruit on most of the young trees, and everything is in a thriving condition except the Asparagus, which had been destroyed by wireworm. Judging from some excavations that were going on for a pit to grow Violets in, the subsoil is rather stiff clay, but being on an eminence it is, perhaps, better than one more porous.—W. P. R.

EXAMINATION IN HORTICULTURE, 1900.

THE annual examination in the principles and practice of horticulture was held on April 25th: 236 papers were sent in.

Three hundred marks were allotted as a maximum, and all candidates who obtained 200 marks and upwards were placed in the First Class. The total number was 141, or nearly 60 per cent.

The highest number of marks (300) was awarded to Miss E. Welthin-Winlo, from the Horticultural College, Swanley, Kent.

Those who secured 150 and less than 200 marks were placed in the Second Class. The number was 61, or nearly 26 per cent.

Those who obtained 100 and upwards were ranked in the Third Class. The number was 30, or nearly 13 per cent.

Four candidates, obtaining less than 100 marks, were not placed.

Comparing the results with those of the last two years* the entry has greatly increased; viz., from 190 in 1898, and 165 in 1899, to 236 in 1900. It will be observed that the percentage of the First and Third Classes is much higher than in previous years.

The Second has remained about stationary.

The questions were, as a rule, very satisfactorily answered. We observe, as might be expected, that the students from colleges are in some cases better prepared in the elementary principles than in practical horticulture; many were unacquainted with the importance and meaning of respiration in plants.

* See JOURNAL OF THE R.H.S., vol. xxiii., p. 64.

The candidates were well versed in practical horticulture, and showed greater knowledge in minor details than heretofore. Many of them in their answers branched off into extraneous matters not required in reply to the question at all. It is important that they should keep strictly to the text of the questions.

GEORGE HENSLAW, }
JAMES DOUGLAS, } *Examiners.*

FIRST CLASS.

	No. of Marks gained
1. Miss E. Welthin-Winlo, Horticultural College, Swanley	300
2. Miss Helen Draper, Horticultural College, Swanley	290
2. Mr. Christopher Richards, Horticultural School, Holmes Chapel	290
2. Mr. Bernard N. Wale, County Technical School, Stafford	290
5. Miss E. Wright, Horticultural College, Swanley	285
5. Mr. Alfred William Day, 29, Turnford Villas, Turnford, near Broxbourne, Herts.	285
5. Mr. Edward T. B. Reece, The College, Reading	285
5. Mr. George Underwood, Municipal Technical School, Leicester	285
5. Mr. F. C. Walton, The Gardens, Lower Hare Park, Newmarket	285
5. Mr. George Wassell, Stretton House Gardens, Alfreton	285
11. Miss Emily Boorman, Horticultural College, Swanley	280
11. Mr. Charles H. Buck, Horticultural College, Swanley	280

11. Miss Dora Fearnley, Horticultural College, Swanley	280	46. Mr. H. Smith, County Technical Laboratory, Chelmsford	255
11. Miss Amy M. Foster, Horticultural College, Swanley	280	46. Miss Gwendolin R. Tudor, The College, Reading	255
11. Miss Isabel T. Hopkins, The College, Reading	280	61. Miss Tilly B. Baker, Horticultural College, Swanley	250
11. Miss J. Marsh, The Grove, Dedham, Colchester	280	61. Mr. Alfred Elisha, Claremont, Esher	250
11. Miss Frances Meadmore, Horticultural College, Swanley	280	61. Mr. Henry R. Farmer, The Castle Gardens, Cardiff, S. Wales	250
11. Miss Mabel Rayner, The College, Reading	280	61. Mr. Harry L. Jones, Standen Gardens, Clitheroe	250
11. Mr. B. Smith, County Technical Laboratory, Chelmsford	280	61. Mr. John W. Molyneux, 39, Hargwyne Road, Stockwell	250
20. Miss Grace d'Arcy, Horticultural College, Swanley	275	61. Mr. Robert Neish, 16, Turnford Villas, near Broxbourne	250
20. Miss Edna M. Gunnell, 13, High Street, Skipton	275	61. Mr. A. J. Pye, County Technical Laboratory, Chelmsford	250
20. Miss Isabel E. Dymond, The College, Reading	275	61. Mr. William Henry Waite, Royal Botanic Gardens, Edinburgh	250
20. Mr. A. Sowman, 102, Cauldwell Hall Road, Ipswich	275	69. Mr. James W. Bamber, Technical School, Accrington	245
24. Mr. E. M. Bear, Royal Horticultural Society's Gardens, Chiswick	270	69. Mr. William Easson, Heathfield, Wimbledon Common	245
24. Mr. A. A. Butcher, County Technical Laboratory, Chelmsford	270	69. Mr. Howard P. Glaister, Royal Horticultural Society's Gardens, Chiswick	245
24. Mr. Alfred E. Say, Horticultural College, Swanley	270	69. Mr. D. McGregor, The Palace Gardens, Dalkeith, Midlothian	245
24. Miss Marguerite Dowding, Horticultural College, Swanley	270	69. Miss F. D. Sandford, F.R.H.S., Horticultural College, Swanley	245
24. Miss Ella M. Ebbutt, Horticultural College, Swanley	270	69. Mr. Leonard Scott, Horticultural School, Holmes Chapel	245
24. Miss C. E. Dunham-Massey, Horticultural College, Swanley	270	69. Miss Elsie D. Varley, Horticultural College, Swanley	245
24. Mr. Francis E. Tremain, Horticultural College, Swanley	270	69. Miss Kate Wilkinson, Horticultural College, Swanley	245
24. Mr. C. J. Yates, County Technical School, Stafford	270	77. Mr. Arthur Bettesworth, Elvetham Park Gardens, Winchfield	240
32. Mr. Edward Wilson, County Technical School, Stafford	265	77. Mr. W. Brown, Cally Gardens, Gatehouse, Kirkcudbright	240
33. Mr. B. Ashling, Southwood Hall Gardens, Highgate	260	77. Mr. G. A. Fryer, Horticultural School, Holmes Chapel	240
33. Miss Amelia M. Clough, Horticultural College, Swanley	260	77. Mr. James J. Graham, Breynton, Penarth, S. Wales	240
33. Mr. James Donald, Royal Botanic Gardens, Edinburgh	260	77. Mr. Charles F. Hughes, Horticultural School, Holmes Chapel	240
33. Mr. Louis Farrand, Horticultural College, Swanley	260	77. Mr. George H. Larnder, Horticultural College, Swanley	240
33. Mr. C. W. Gale, 183, Cranbury Road, Eastleigh, Hants.	260	77. Mr. Henry R. Quinn, Technical Institute, Cambridge	240
33. Mr. J. H. Groves, Sunnyside Cottages, Caterham Valley, Caterham	260	77. Miss Ella Read, Horticultural College, Swanley	240
33. Mr. Henry Hand, Horticultural School, Holmes Chapel	260	77. Mr. Albert Richardson, Horticultural School, Holmes Chapel	240
33. Mr. Richard Lewis, Horticultural School, Holmes Chapel	260	77. Mr. Harry Tomalin, Milton Heath Lodge, Dorking	240
33. Mr. Daniel Massey, Horticultural School, Holmes Chapel	260	77. Mr. W. A. Ward, County Technical Laboratory, Chelmsford	240
33. Miss Ena Powell, Horticultural College, Swanley	260	77. Mr. Gurney Wilson, F.R.H.S., "Mayfield," 21 Christchurch Road, Streatham Hill, S.W.	240
33. Mr. Arthur Salt, County Technical School, Stafford	260	89. Mr. D. G. McIver, County Technical Laboratory, Chelmsford	235
33. Mr. William Warburton, County Technical School, Stafford	260	89. Mr. William Jones, County Technical School, Stafford	235
33. Mr. Joseph Williamson, Horticultural School, Holmes Chapel	260	89. Mr. G. Scourfield, Oakwood Gardens, Tidenham, near Chepstow	235
46. Mr. Reginald Ashley, Horticultural School, Holmes Chapel	255	89. Mr. John P. Watson, Municipal Technical School, Leicester	235
46. Miss Saydie B. Bond, Horticultural College, Swanley	255	93. Mr. Timothy J. Adnitt, Technical Institute, Cambridge	230
46. Mr. F. W. Brow, 22, Thomas Street, Annan, Dumfries	255	93. Miss Florence St. Barbe, Horticultural College, Swanley	230
46. Mr. Arthur Broughton, Horticultural School, Holmes Chapel	255	93. Mr. Maurice Field, Newnham House, Wallingford	230
46. Mr. K. G. Burbridge, County Technical Laboratory, Chelmsford	255	93. Mr. W. B. Sanday, 165, Knights Hill Road, West Norwood, S.E.	230
46. Miss Maud Culleton, The College, Reading	255	93. Mr. John Sibley, The Grove, College Road, Dulwich Common, S.E.	230
46. Mr. William Good, Royal Horticultural Society's Gardens, Chiswick	255	93. Mr. Ernest W. Wakeham, Dawson Park Gardens, Bexley Heath	230
46. Mr. John Potter Holt, Horticultural School, Holmes Chapel	255	99. Mr. Oliver Berry, Horticultural School, Holmes Chapel	225
46. Mr. R. G. King, Horticultural College, Swanley	255	99. Mr. William Lewis, County Technical School, Stafford	225
46. Mr. A. Mason, County Technical Laboratory, Chelmsford	255	99. Mr. Frederick Peaples, Hardy Mill House, Harwood, near Bolton	225
46. Mr. William Saunders Patey, Halewood, Liverpool	255	99. Mr. Thomas Simpson, Enville Gardens, Enville, near Stourbridge	225
46. Mr. William Stephen Sharp, Ness, Neston, Cheshire	255	103. Mr. Esau Buck, Technical Institute, Cambridge	220
46. Miss Dorothy Shove, Horticultural College, Swanley	255	103. Miss Mabel Y. Carlyon, The College, Reading	220

103. Mr. William Dear, Inverlochy Castle Gardens, Spean Bridge, Inverness-shire	220
103. Mr. Richard Timmis, County Technical School, Stafford	220
103. Mr. James Good, Falkland Park Gardens, South Norwood Hill, S.E.	220
103. Miss Marion Hitchfield, Horticultural College, Swanley	220
103. Mr. Jos. McGowan, Horticultural School, Holmes Chapel	220
103. Mr. Frank G. Storrs, 13 Heathfield Gardens, Chiswick	220
103. Mr. Frank Watson, Municipal Technical School, Leicester	220
112. Mr. H. C. Chapelow, Royal Horticultural Society's Gardens, Chiswick	215
112. Mr. C. P. Cretchley, The Honeys, Twyford, Berks	215
112. Mr. John Pillington, Horticultural School, Holmes Chapel	215
112. Mr. Cyril Sausmarez Carey, Twyford, Winchester	215
112. Mr. Arthur Usher, Municipal Technical School, Leicester	215
112. Miss Margaret Walker, Horticultural College, Swanley	215
118. Mr. H. P. Appleton, Municipal Technical School, Leicester	210
118. Miss Lilian Gibbs, Horticultural College, Swanley	210
118. Mr. Henry Hewitt, County Technical School, Stafford	210
121. Mr. Frank Briggs, Cragdale Gardens, Settle, Yorks.	205
121. Mr. Henry Corlett, Woolton Wood, Woolton, Liverpool	205
121. Mr. E. H. Crisp, County Technical Laboratory, Chelmsford	205
121. Miss Jessie S. Davies, The College, Reading	205
121. Mr. Thomas Dent, Howbery Lodge, near Wallingford	205
121. Mr. Arthur Kirkman, 303 Stinchmy Lane, Bolton	205
121. Mr. Alex. Paterson, 18, Kingswood Road, Wimbledon	205
121. Miss Lucy Powell, Fyning, Austen Road, Guildford	205
121. Mr. G. W. Pyman, Royal Horticultural Society's Gardens, Chiswick	205
121. Miss Annie Smit, Horticultural College, Swanley	205
121. Mr. John Walker, The Gardens, Fairfield, Cobham, Surrey	205
132. Mr. John Botley, Blythewood Gardens, Maidenhead	200
132. Mr. Thomas Brown, Technical Institute, Cambridge	200
132. Miss C. M. Carylton, F.R.H.S., Horticultural College, Swanley	200
132. Mr. F. W. Harvey, County Technical Laboratory, Chelmsford	200
132. Mr. James Hutchinson, Royal Botanic Gardens, Edinburgh	200
132. Mr. Frank Johnson, 71, Brompton Road, Attercliffe, Sheffield	200
132. Miss B. M. S. Niederhuber, Horticultural College, Swanley	200
132. Mr. Percy W. Philpott, Brine Baths Park, Droltwich	200
132. Miss Grace Robinson, The College, Reading	200
132. Mr. Sidney Sparkes, 54, Richmond Place, Bath	200

(To be continued.)

SOCIETIES.

CROYDON HORTICULTURAL.—July 4th.

ON Wednesday, July 4th, the Croydon Horticultural Society held their annual show in the grounds of Percy T. Reid, Esq., Brickwood House, Addiscombe Road, Croydon. In every section of the show the exhibits were of the highest order of merit. Roses always are a strong feature, and the present occasion brought out thousands of splendid blooms. Among the great amount shown there were very few really weak blooms. Specimen foliage and flowering plants are scarcer than usual but other entries made up for this deficiency. The table decorations formed

quite a feature of the show, and groups of plants arranged for effect were all very creditable. Fruit and vegetables, except in the amateur's section, cannot be said to have occupied much space, but the few there were stood high in merit. Sweet Peas, one way and another, were numerously disposed. Full credit is due to the judges, and their duties must have exercised all their knowledge, especially in awarding the Rose classes, for in nearly every instance the competitors were neck and neck together. The day was bright and warm, and with the band of the Scots Guards in attendance the visitors could not but be satisfied.

COMPETITIVE CLASSES.

ROSES.—The National Rose Society's Silver Gilt Medal and 45/- for four dozen distinct varieties of Roses were on this occasion carried off by Mr. B. R. Cant, Rose Grower, Colchester. The second and third prize collections fell respectively to Messrs. D. Prior & Son and Messrs. F. Cant & Co., both of Colchester, both of which were very closely on a level with the first prize exhibit. Mr. B. R. Cant's collection included Ulrich Brunner, Helen Keller, Alfred Colomb, Marchioness of Londonderry, Gen. Jacqueminot, Her Majesty, Charles Lefebvre, Kaiserin Augusta Victoria, White Lady, La Fraicheur, Le Havre, Mrs. Sharman Crawford, A. K. Williams, Muriel Grahame, Dr. Andry, Souv. d'un Ami, Fisher Holmes, Duchesse de Morny, and Mme. Gabriel Luizet. Mrs. John Laing, Marquise Litta, Medea, Baroness Rothschild, Duke of Wellington, Mme. Hoste, Thos. Mills, and Marie Verdier were also included. They were a splendid lot. Almost the same varieties were to be found in the other two collections.

For twenty-four Roses, distinct, three trusses of each, Mr. B. R. Cant also scored first. He had exquisite blooms of Kaiserin Augusta Victoria Bridesmaid and Mrs. S. Crawford. The second and third prizes were awarded as for the forty-eight. Messrs. Prior & Son had a dozen trusses of Roses, Mrs. John Laing being in splendid condition. Madame de Watteville and Francois Michelin were also good. Marie Beauman was weak. Messrs. D. Prior & Son were first for eighteen Tea or Noisettes, the finest among which were Marechiel Niel, White Maman Cochet, Souvenir d'un Ami, Madame de Watteville, Souvenir de S. A. Prince, Caroline Testout, Muriel Grahame, &c. Messrs. F. Cant & Co., came second with a nice lot but which lacked the substance of the first batch. Their Mrs. James Wilson, Madame de Watteville, Madame Cusin, Maman Cochet, Niphotos, and Madame Lambert were exquisite. In class III. (confined), Mr. Will Taylor, Hampton, Middlesex, was first. These fall a long way back from the classes already reported. Medea was good, and so was Mrs. John Laing. The class called for twenty-four blooms, distinct.

Messrs. D. Prior & Son were first for twelve of any one variety of Tea or Noisette Rose. They had charming specimens of Souvenir de S. A. Prince, soft, strong and pure in their expanded state. Messrs. F. Cant & Co. were second with bright blooms of Madame de Watteville, but the stand was not so even as in the premier lot. Messrs. F. Cant & Co., however, had the best dozen of any other kind of Rose, stalling Mrs. W. J. Grant, the blooms being large, strong, of fine form and deep colouring. Mr. B. R. Cant followed in the second place with the same variety, and Messrs. D. Prior & Son, third, also with this Rose.

For twelve bunches of garden or decorative Roses, Mr. Will Taylor stepped in first. He had Dr. Rauge, Chendane Guinoisseau, Cramoise Supérieure, Boule de Nieve, L'Idéal, Camoens, W. A. Richardson, Reine Olga de Wurtemberg, Common Moss Rose, and Gustave Regis.

AMATEUR ROSE CLASSES.—In the competition for thirty-six distinct Roses, Mrs. Haywood (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, was the happy winner of the first prize of 25s. and the Challenge Cup which she retains for the year. These Roses were of exquisite quality, and considering that Mrs. Haywood exhibits at nearly every show at this time of year, they were certainly very creditable.

Some of the varieties would have been even better had they been cut a day later. E. M. Bethune, Esq., Denne Park, Horsham, was second, but on the whole was clearly behind the first prize batch. This exhibit, however, included the premier bloom of the show, a superb bloom of Mrs. John Laing,

tender, yet pure in colour. This bloom won two Silver Medals, one awarded by Messrs. J. Laing & Sons, for the best Mrs. J. Laing bloom staged; and one from the society for the premier bloom of the show. A Slaughter, Esq., Jarvis Villa, Steyning, was third.

Ed. Mawley, Esq., Rosebank, Berkhamstead, was first in the class for twenty-four Roses. His lot was very even, including a very fine bloom each of Mrs. W. J. Grant, Ulrich, Brunner, Gustave, Pigan-eau, Mavourneen. A. Slaughter, Esq., came next him, and had a good bloom of Mrs. J. Laing, but this was just past its best. R. E. West, Esq., Reigate, was third.

A. Slaughter, Esq., beat Mrs. Haywood, who was second, and E. M. Bethune, Esq., third, in the class for eighteen Tea or Noisette Roses. There was remarkably little to draw between these three exhibits, though the first prize lot had slightly the larger blooms. All three were very close, even, and of high merit.

Mrs. Haywood showed a very brilliant exhibit of six distinct varieties in trusses of three blooms each, scoring first. Ulrich Brunner in this stand was exceedingly fine. R. E. West, Esq., followed second. For twelve blooms of one variety, Mrs. Haywood won with Mrs. John Laing, and A. Slaughter was second with the same variety. E. M. Bethune, Esq., was third, with Caroline Testout.

The class for six bunches of garden or decorative Roses had two entries only, but they were good. B. W. Langton, Rosemead, Hendon, was first, and E. Mawley, Esq., second. Every bunch in these two exhibits was extra superior. Gustave Regis, Reine Olga de Wurtemberg, Gloire des Polyanthes, Macrantha, Mme. Alfred Carriere, W. A. Richardson, Flora McIvor, Splendens, and others were good.

P. Burnand, Esq., Hill Grange, Reigate, was first for twelve Roses distinct (open to growers of not less than 2,000 Rose plants). These were of high excellence; E. M. Bethune, Esq., was second; and B. H. Langton, Esq., third. E. M. Bethune, Esq., was first for twelve Tea or Noisettes in this division, and P. Burnand, Esq., held the premier place of honour for four trusses of Roses, distinct.

In smaller classes B. H. Langton, Esq., came first for nine distinct Roses; also for Teas and Noisettes. B. W. Bowyer, Esq., Hertford Heath, Hertford, was first for six distinct Roses, having extra fine blooms of Margaret Dickson, Kaiserin Augusta Victoria, Mrs. J. Laing, Mrs. W. J. Grant, &c.

In the local Rose classes, open to growers residing in the Borough of Croydon, there was not great competition, though in the first prize exhibit for twelve Roses, distinct, which wins a Challenge Cup for the year, and N. R. S. Silver Gilt Medal, there was some very fair blooms. This award fell to M. H. Lascelles, Esq., Middleheath, Sydenham Road, North Croydon. F. W. Amsden, Esq., 22, Chichester Street, was second, also winning a Silver Gilt Medal; and Miss Thrale, Shirley Hurst, third.

CUT FLOWERS.—The competition here brought forth quite a number of exhibits, and these, like the Rose competitions, were of superior merit. For the most tastefully arranged dinner table, E. D. Martin, Esq. (gardener, Mr. F. Bishop), Bagbie House, Croydon, won the highest award with a well disposed table, mostly of pink and white flowers. Helipterums, Liliums, Sweet Peas, Gypsophilas, Cornflowers, and Fern fronds, were employed; "Roma" (gardener, Mr. A. C. Robinson), Stafford Road, Wallington, came second with a far heavier table. Exhibitors in this direction should note that light arrangements are always sure to score. The third prize fell to W. H. Still, Esq., Castle Hill, Addington; W. H. Still, Esq., also won for six gentlemen's buttonholes; and E. D. Morton, Esq., came second. The twelve best table decorative plants were shown by E. W. Coles, Esq. (gardener, Mr. C. Lane), Berntwood, Caterham. One of his finest plants was a dwarf but very lovely *Cyperus alternifolius variegatus*; Philip Crowley, Esq. (gardener, Mr. J. Harris), Waddon House, came second. In a class for six plants, open only to amateurs, Mrs. Fuller, Duppas Hill, was successful in winning the Silver Medal award; J. Glaister, Esq., F.R.S., Shola, Heathfield Road, Croydon, second. For a table group of decorative plants arranged for effect, E. D. Morton, Esq., was first, followed by R. V. Burrows, Esq., J.P.; "Engadine," Park Hill Road; and Percy T. Reid, Esq., Brick-

wood House, Addiscombe, third. All three groups were smartly arranged, and the plants of good quality.

SWEET PEAS.—There was a good competition for bunches of Sweet Peas. In a class for twelve bunches of these lovely flowers, W. A. Amsden, Esq. (gardener, W. J. Knapp), was first; Percy T. Reid, Esq., came next with strong and good bunches, having plenty of foliage and stem; and Mrs. Crowley (gardener, Mr. J. Johnston), Bramley Oaks, Bramley Hill, third.

BEGONIAS.—For twelve cut blooms of double Begonias, F. W. Amsden, Esq., deservedly obtained first prize.

GROUPS AND PLANTS.—H. Butcher, Esq. (gardener, Mr. J. Galvin), Russell Dene, Purley, took off the first prize for a group arranged for effect; T. Peacock, Esq. (gardener, Mr. A. Dyer), Chichester Road, Croydon, second; and third, J. Glaisher, Esq., F.R.S.

Phillip Crowley, Esq., had the best six *Dracaenas*, extra good plants. E. H. Cole, Esq., held a like position for six *Caladiums*. P. Crowley, Esq., was also first for six *Selaginellas*, having one of the finest pans of *S. graeca* we have ever seen. For a specimen plant in flower (*Rynchospermum jasminoides*), he also stood first. T. B. Barron, Esq. (gardener, Mr. W. Collins), Park Hill Road, was second with a massive plant of *Hydrangea hortensis*, having large deep pink blooms.

Philip Crowley, Esq., also won the first prize for a large group of choice stove foliage and flowering plants, including *Cattleyas*, *Masdevallias*, *Ixoras*, *Begonias*, and *Liliums*, together with the usual foliage plants. E. H. Coles, Esq. (gardener, Mr. J. Lane), was second with a much brighter group, but the centre was too flat, and the composition of the group rather loose.

FRUIT AND VEGETABLES.—Mrs. Eversfield (gardener, Mr. H. Harris), Denne Park, Horsham, was successful in securing the first award for three bunches of black Grapes, having very creditable bunches of Black Hamburg. W. Greenwell, Esq. (gardener, Mr. W. Lintott), Marden Park, was second with smaller bunches of the same variety. In the competition for three bunches of white Grapes the order was reversed, W. Greenwell having beautiful bunches of Buckland Sweetwater; the third prize fell to E. D. Morton, Esq.

Mrs. Haywood was first for one Melon, having a very small, but deliciously-flavoured specimen of The Countess; W. Greenwell, Esq., was second with Blenheim Orange; and E. D. Morton, Esq., third. For fifty Strawberries of one variety, Percy T. Reid, Esq., was first with a splendid dish of Royal Sovereign; W. Greenwell, Esq., was second; and Mrs. Blake, third.

J. Glaisher, Esq., F.R.S., won for a brace of Cucumbers.

For a collection of nine sorts of vegetables (to be grown from seeds supplied by Mr. T. Butcher), Mrs. Crowley, of Bramley Oaks, came in first. This was a fine exhibit. For a collection of six sorts, Mrs. Fuller (gardener, Mr. C. Perrett), Duppas Hill, was first, and J. Glaisher, Esq., F.R.S., came second. This latter gentleman won first for a collection of salads, having a very full representation. Mrs. Blake (gardener, Mr. G. Lewry), Duppas Hill, made a good second.

MISCELLANEOUS EXHIBITS.

Mr. Thomas Butcher, The Nurseries, South Norwood, shewed a number of floral designs, the most attractive of which was that of a cannon with its muzzle composed of white pinks, its length being about 4 ft., and otherwise proportionate.

Mr. John R. Box, West Wickham and Croydon, showed a group of coloured shrubs, Ferns, and greenhouse plants, including some extra good double Begonias. He also had a massive collection of cut herbaceous flowers, Roses, Sweet Peas, and herbaceous *Calceolarias* (the latter in pots), all of which were of first-rate merit.

Mr. M. Pritchard, Nurseryman, Christchurch, also arranged a large and exceedingly select group of cut herbaceous blooms. His English Irises were very large and fine. *Clematis erecta*, *Galega officinalis*, *Iris laevigata*, *Eryngium alpinum*, *Gladioli*, *Oenotheras*, *Delphiniums*, *Paeonia Marie Lemoine*, and *Coreopsis grandiflora*, were fine.

Messrs. J. Carter & Co., High Holborn, London, N., made a very interesting exhibit of Japanese

Ferns. These were composed of *Davallia* rhizomes trained in various shapes.

Messrs. E. W. and S. Rogers, 62, High Street, Croydon, arranged an exhibit of garden sundries.

Messrs. John Laing & Sons, Forest Hill, S.E., set up a fresh and attractive group of tree Ivies in various trained forms. These embraced all the finer varieties, coloured leaved, green leaved, palmate, dissected, and entire leaved sorts being there. (Silver Medal).

Messrs. J. Cheal & Sons, Crawley, had a select collection of hardy herbaceous cut flowers, including groups of *Violas* and *Roses*. The group was choice and obtained admiration all round.

HANLEY HORTICULTURAL.—July 5th.

THE officials of the Hanley Horticultural Society have again to record a great success in their show this year. The weather was fine, the exhibits good, and the attendance numerous, including many of high standing. Groups of plants play an important part in the features of this show as a rule. Orchids and cut flowers are generally numerous and good, and fruits, plants, and vegetables are well represented. The show was opened by Lady Angela Forbes, and others attending this ceremony and the luncheon included the Mayors of Hanley, Stoke, Longton, and Newcastle, Messrs. T. Spierpoint, Councillor O'Keeffe, E. V. Greatbatch, John Burn, W. Thompson, Bardney, and P. Weathers. Along with the show there were other entertainments.

ROSES.—Messrs. A. Dickson & Sons, Newtownards, came off first for forty-eight distinct Roses, and were also first in classes for thirty-six, twenty-four, twelve, twelve Teas, and twelve of one variety of H.P.'s.

CUT FLOWERS.—For a collection of cut hardy flowers, Mr. C. Waterhouse, Prestbury, was first. In the floral decoration competitions, Messrs. Jenkinson & Son, Newcastle; Mr. J. Kirk, Heaton Chapel; Mr. W. Vause, Leamington Spa; Messrs. Hodgkins & Co., West Didsbury; Mr. H. Deverill, Banbury; Mr. T. Blair, Trentham; and Messrs. Hinton Bros., Warwick, were the chief prize-winners. For a dinner-table decorated the order was, first, Earl of Harrington, Derby; second, Sir J. Pease, Bart., and third, Messrs. Hodgkins & Co.

PLANTS.—Mr. J. Cypher, Cheltenham, beat Mr. W. Vause, Leamington Spa, for a group of plants arranged for effect. W. Thompson, Esq., Stone, however, beat him for Orchids.

For a group of Malmesbury and other Carnations arranged for effect in pots, Mr. P. Blair beat Mr. Goodacre. Mr. J. Cypher was first for six Palms, and Mr. Vause, second. Mr. W. Thompson beat Mr. J. Cypher for six exotic plants. For twelve *Caladiums*, Mr. R. G. Howson was first; Mr. J. Maddock, Alsager, second; and Mr. P. Blair, third. The best six hardy Ferns were shown by Mr. W. Pyatt, Newcastle; and second, Mr. E. Deaken. Mr. Lovatt had the six finest fancy *Pelargoniums*, though Mr. Pyatt again led for six zonals. Mr. T. Bolton exhibited and secured the first prize for six stove and greenhouse plants, beating Mr. J. Thornburn, who stepped in before Mr. Dalksey, of Talke.

Mr. Bolton beat Mr. A. S. Dix, of Shelton, in a class for six exotic Ferns. Mr. R. G. Howson, of Hanley, was first in the gardener's class for a group of effectively-arranged plants. Miss Wright came second.

FRUIT AND VEGETABLES.—For a collection of nine dishes of fruit to include black and white Grapes, the Right Hon. Lady Beaumont, York, was placed first; Lord Bagot, Rugeley, second; the Earl of Carnarvon, Burton, third; and fourth, Sir J. Pease, M.P., Guisborough. For a collection of six dishes, Pines excluded, the order was thus:—Sir J. Pease, Bart., M.P., first; Earl of Harrington, second; and Lord Bagot, third. Lady Beaumont, York, was first for two bunches of Black Hamburg, and also for four bunches of Grapes. For two bunches of White Muscats, Sir J. Pease was first, while Lady Beaumont led for two bunches of any other white variety. Mr. P. Blair won for six Peaches, and the Earl of Carnarvon had the best six Nectarines. The above winners also had the prizes in various positions for Melons, Cherries, Strawberries, &c. The Earl of Carnarvon had the best collection of six distinct kinds of vegetables; Lady Beaumont, came second; and Mr. T. Bolton, third. The Earl of Carnarvon also won

Messrs. Webb & Sons' prize for a collection of six kinds of vegetables. For the best exhibit of Grapes or other fruit in the show grown with the aid of Messrs. Pearson & Sons' manures, Sir J. Pease won, and Lord Barnard obtained second prize.

Mr. John Forbes, Hawick, was the only exhibitor from Scotland, and as usual his samples of Pentstemons, Phloxes, Carnations, and Pansies well sustained his reputation and that of his country. The crowds who hung round this exhibit seemed agreeably surprised to see the above flowers so well shown at this date. The Phloxes and Pentstemons were shown in pots, with huge spikes of large well formed flowers, many of them being over 4 ft. high, the varieties shown were all of recent introduction and were to many an eye opener. In front of the above were specimen blooms of Carnations and Pansies, to the tune of about 200, including that grand scarlet perpetual Yule-tide Carnation which is now such a general favourite. The other Carnations were all border varieties of the newer sorts. Teviotdale (twenty blooms) was really magnificent, it is a white ground slightly marked rosy scarlet, and very large and well formed. The exhibit as a whole was undoubtedly a feature of the show. (Large Silver Medal.)

AWARDS FOR MISCELLANEOUS EXHIBITS.—Gold Medals were awarded to Messrs. J. Hill & Son, Edmonton; Messrs. White; and Mr. Hartland. Silver Medals to Messrs. Dicksons, Ltd., Chester; Messrs. Webb & Sons, Wordsley; Mr. R. Sydenham, Birmingham; Messrs. Edwards & Son, Nottingham; Messrs. Hinton & Son; Messrs. Pattison & Son; Messrs. Hewett & Co.; and Mr. F. Foulkes, of Birmingham. Messrs. J. Peed & Sons, London, also obtained a Silver Medal and Certificates for new Begonias; and likewise Messrs. W. & J. Birkenhead, of Sale, near Manchester.

NATIONAL ROSE.—July 7th.

THE annual exhibition of the National Rose Society at the Crystal Palace, has again run its course; and though the blooms were considerably below the average in size and quality, many fine flowers were shown, and the exhibition, as a whole, was highly attractive. The day was a little overcast and cloudy, but otherwise fine, and there was a great crowd of visitors during the whole of the afternoon.

NURSERYMEN.

The Champion Trophy, Gold Medal and money prize for seventy-two distinct varieties of Roses were won by Messrs. A. Dickson & Sons, Newtownards, Co. Down, Ireland. They had splendid blooms of Suzanne Marie Rodocanachi (Silver Medal for the best hybrid perpetual), Oscar Cordell, Francois Michelon, Gustave Piganeau, Gladys Harkness, Mrs. R. G. Sharman Crawford, Ulrich Brunner, Mrs. J. Laing, Captain Hayward, Robert Scott, Her Majesty, Etienne Levet, Horace Vernet, M^{me}. Prosper Laugier, Marquise Litta, Oscar Cordell, &c. Good Tea and H. T. varieties were Bessie Brown, Kaiserin Augusta Victoria, Ernest Metz, The Bride, Niphetos, Souvenir d'Elise, Muriel Grahame, Maman Cochet, La France, Caroline Testout, Daisy, and Mildred Grant. Mr. B. R. Cant, Colchester, was a very good second, showing grand blooms of Ulrich Brunner, Madame Gabriel Luizet, Mrs. W. J. Grant, Mrs. Cocker, Marchioness of Londonderry, Lawrence Allen, Marie Finger, Clio, White Lady, Golden Gate, M^{me}. Hoste, Cleopatra, Kaiserin Augusta Victoria (finely coloured), Comtesse de Nadaillac, and others. The third prize was taken by Messrs. D. Prior & Son, Colchester, who had fine blooms of Alba rosea, Her Majesty, Rubens, &c.

The leading award for forty distinct varieties, three blooms of each, was again secured by Messrs. A. Dickson & Sons, who had a splendid array of blooms. Some of the finest included Mrs. J. Laing, Her Majesty, Francois Michelon, Gustave Piganeau, Suzanne Marie Rodocanachi, White Lady, Mrs. R. G. S. Crawford, Marquis of Downshire, and Horace Vernet. Fine Teas, and hybrid Teas were Mildred Grant (Silver Medal for the best Hybrid Tea by a nurseryman), Caroline Testout, Mrs. Edward Mawley, and Avoca. The second award was taken by Mr. B. R. Cant, Colchester, who had many fine blooms though generally smaller in size. Messrs. F. Cant & Co., Braiswick Nursery, Colchester, came in third with a good even lot.

For forty-eight blooms, distinct, the leading award was secured by Mr. Hugh Dickson, Royal Nurseries, Belfast. Very fine blooms were La Fraicheur, Suzanne

Marle Rodocanachi, Mrs. W. J. Grant, Mrs. W. F. Sandford, Capt. Hayward, Gustave Piganeau, Mrs. John Laing, La France, &c. Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, took the second prize, showing fine blooms of Marie Verdier, Mrs. Sharman Crawford, Exquisite, &c. Messrs. J. Townsend & Sons, Worcester, took the third place with good blooms of Mrs. J. Laing, and Kaiserin A. Victoria.

Mr. Will Tayler, Hampton, Middlesex, took the lead for twenty-four distinct blooms, which were even and fresh, while of good average size. Mr. J. Mattock, Oxford, had a very similar exhibit but was distinctly second. Mr. George Prince, Oxford, came in third.

Messrs. J. Townsend & Sons, Worcester, took the leading award for twenty-four varieties in trusses of three. Very handsome were Marquise Litta, Mdme. G. Luizet, Mrs. J. Laing, Mrs. G. S. Crawford, and White Lady. The second prize went to Mr. John Mattock, who had a fresh and even lot though small. Messrs. G. & W. H. Burch, Peterboro', came in third with larger blooms though not quite so fresh.

TEA AND NOISETTE SECTION.—The first prize for twenty-four blooms, distinct, was secured by Mr. Geo. Prince, Oxford, who had splendid blooms of Bridesmaid (Silver Medal for the best Tea or Noisette shown by a nurseryman), Maman Cochet, Comtesse de Nadaillac, Medea, Marie Van Houtte, Mdme. Hoste, Mdme. de Watteville, Ernest Metz, Souvenir d'Elise Vardon, Marechal Niel, The Bride, Catherine Mermet, Rubens, &c. The second prize went to Mr. Benjamin R. Cant, who showed good blooms of The Bride, Medea, Maman Cochet, Mrs. Pierpont Morgan, Ethel Brownlow, Muriel Grahame, and Souvenir d'Un Ami. Messrs. Frank Cant & Co. took the third award with fine blooms of Empress A. of Russia, The Bride, Souvenir de S. A. Prince, Catherine Mermet, &c.

For twelve blooms, distinct, Mr. John Mattock took the lead, showing fine blooms of Souvenir d'Elise, Comtesse de Nadaillac, Miss Ethel Brownlow, and others. Messrs. J. Burrell & Co. were a very close second, having larger blooms of Mrs. Edward Mawley, The Bride, Niphetos and Bridesmaid, but had one or two weak blooms. Messrs. Harkness & Sons, Bedale, were third.

For eighteen distinct Tea or Noisette varieties, the lead was taken by Mr. G. Prince, who had some grand blooms of Comtesse de Nadaillac, Bridesmaid, Maman Cochet, Muriel Grahame, Souvenir de S. A. Prince, Niphetos and Catherine Mermet. Messrs. D. Prior & Son, Colchester, were a very good second, having handsome blooms of Catherine Mermet, Souvenir de S. A. Prince, and The Bride. Mr. B. R. Cant took the third award with nicely coloured Mdme. Cusin.

EXHIBITION ROSES IN VASES.—Mr. B. R. Cant had the best twelve distinct varieties, staged in bunches in vases. Handsome were his bunches of Mrs. W. J. Grant, Mrs. R. G. S. Crawford, Suzanne Marie Rodocanachi, Mrs. J. Laing, Mdme. Gabriel Luizet, &c. The vases were arranged in nearly a semicircle. Mr. J. Mattock came second with a similar arrangement, with the broad side to the front. Mr. G. Prince was third.

The latter came to the front for nine distinct varieties in bunches, showing Teas only, including Marie Van Houtte, Comtesse de Nadaillac, Ethel Brownlow, and others unnamed. Mr. J. Mattock was second with Ethel Brownlow, Marie Van Houtte, &c. Mr. B. R. Cant came in third.

GARDEN OR DECORATIVE ROSES.—Messrs. Paul & Son, Cheshunt, took the lead in the big class for garden roses. In the class for thirty-six bunches, distinct varieties, they had magnificent bunches of Mdme. Falcot, Mdme. Pernez, Camoens, W. A. Richardson, Ma Capucine, Alba, Dawn, Mdme. Chedane Guinoisseau, Carmine Pillar, L. Ideal, White Moss, Royal Scarlet, Anna M. de Montravel, &c. They were displayed in a massive sloping bank of four rows. Messrs. Geo. Cooling & Sons were a good second, showing fine masses of Cooling's Himalaica, Cooling's Yellow Noisette, Camoens, Macrantha, Crimson Rambler, &c. Mr. J. Mattock came in third.

Mr. Charles Turner, Slough, had the only exhibit in the class for eighteen varieties of garden roses in bunches. Crimson Rambler and Crested Moss were fine.

In an extra class for eighteen varieties of garden

roses, open to nurserymen, the first prize was taken by Mr. C. Turner, with fine bunches of Papa Gontier, Souv. de C. Guillot, Ma Capucine, &c. Mr. J. Mattock was second with a nice display.

OPEN.

Messrs. A. Dickson & Sons took the premier position for twelve blooms of hybrid Teas, distinct, having grand blooms of Marquise Litta, Mrs. W. J. Grant, Caroline Testout, La France, Mdme. Jules Grolez, Souv. de Mdme. Eugene Verdier, and others. Mr. B. R. Cant took the second place with some grand blooms. Messrs. Frank Cant & Co. were a good third.

Mr. G. Prince had the best twelve blooms of a yellow Rose in Comtesse de Nadaillac which were fine. Messrs. Harkness & Sons were second, with Marechal Niel; and third, Mr. J. Mattock with the first named.

Messrs. A. Dickson & Sons had the best twelve blooms of a white Rose, showing Bessie Brown. Mr. B. R. Cant was second with Mereville de Lyon, and Messrs. D. Prior & Son, third, with The Bride. Mr. Hugh Dickson had the best Crimson Rose in Captain Hayward; they also had the best pink or rose-coloured roses, Messrs. Harkness & Sons being second here with Mrs. J. Laing. Mr. B. R. Cant took the lead for the best twelve blooms of a Tea Rose, showing Bridesmaid. Messrs. A. Dickson & Sons were second with Mrs. Edward Mawley.

Messrs. A. Dickson & Sons took the lead for the best nine blooms of a new Rose, showing Alice Lindsell, a hybrid Tea of large size and flesh colour. Mr. B. R. Cant was second with Mrs. Cocker (H.P.). For twelve distinct varieties of roses introduced since 1897, Messrs. A. Dickson & Sons took the lead with Bessie Brown, Mrs. E. Mawley, Rev. Alan Cheales, Countess of Caledon, Mdme. Lugonii Boullet, and white Maman Cochet. Messrs. F. Cant & Co. were second; and Mr. B. R. Cant, third.

In a decorative class for three sprays suitable for ladies' wear, the first prize was taken by O. G. Orpen, Esq., Bergbolt, Colchester; Mr. J. Mattock was second.

GARDEN OR DECORATIVE ROSES.—In the open class for twelve single varieties, distinct, the first prize was taken by Messrs. Paul & Son, who had a bright and attractive lot. Messrs. Geo. Cooling & Sons came second with a fine lot; and Mr. C. Turner was third. Mr. J. Mattock had the best nine varieties of roses suitable for buttonholes and staged in vases. H. V. Machin, Esq., Gateford Hill, Worksop, was second; and Mr. G. Prince was third.

AMATEURS.

GENERAL SECTION.—In the amateur champion class (open to all amateurs), for thirty-six blooms, distinct, for Champion Trophy, replica and £3, Mr. E. B. Lindsell Hitchin was first. The finest blooms in this lot were Madame E. Verdier, Ulrich Brunner, Marie Beauman, A. K. Williams, Catherine Mermet, La France, Madame G. Luizet, Her Majesty, Prince Arthur, Caroline Kuster, Duke of Wellington, Muriel Grahame (which obtained the Silver Medal as the best T. or N. in the show), Marquise Litta, Kaiserin A. Victoria, Mrs. J. Laing and The Bride; Mrs. Haywood of Reigate was second, having good blooms of S. M. Rodocanachi, Ulrich Brunner, Comte Raimbaud and Mrs. J. Laing, all of which were remarkably well coloured; Mr. T. Hobbs of Bristol came third. The quality of the blooms in this class was only moderate.

For twenty-four distinct blooms, O. G. Orpen, Esq., Colchester, was the leading prize winner, having a moderate stand. Marechal Niel, Bridesmaid, Madame Hoste, Marquise Litta, E. Metz, and Mrs. W. J. Grant were the finest of the lot. A. Tait, Esq., Downside, Leatherhead, was a close second; T. Hobbs, Esq., Bristol, third. There were fine entries. Mrs. Hayward led for the twelve varieties distinct; three blooms of each. This was a very meritorious exhibit and included good blooms of Ulrich Brunner, Marie Beauman, Abel Carriere, S. Marie Rodocanachi, A. K. Williams and others. A. Tate, Esq., was second; and third Rev. J. H. Pemberton, Havering-atte-Bower. The great drawback in most of these stands was the number of too fully blown blooms, undersized ones and blooms with rusty petals. For twelve blooms of any Rose except Tea or Noisette, E. B. Lindsell, Esq., was first with Mrs. J. Laing, a very even lot, though they had many demerits. H. V. Machin, Esq., Gateford

Hill, Worksop, was second with Mrs. W. J. Grant, a lovely batch of clean but considerably undersized blooms. C. J. Grahame, Esq., Wylands, Leatherhead, was a good third with blooms of Ulrich Brunner. Competition was keen, there being seven entries.

For twenty-four blooms distinct, E. M. Bethune, Esq., Horsham, was first, having La France, John S. Mill, Mrs. W. J. Grant, Louise Van Houtte, Comtesse de Nadaillac, Mrs. J. Laing, Alfred Colomb, Bridesmaid, Marechal Niel, Captain Hayward, Innocente Pirola, F. Tattersal, Esq., Morecambe, was a close second, his best being F. de Lesseps, Mr. S. Crawford, Madame Hoste (good), and Laurence Allen. R. G. West, Esq., Reigate, third, with a miserable lot.

E. Mawley, Esq., Rosebank, Berkhamstead, took the leading prize for eighteen ditto. These were well shown up and included very fine blooms of Marie Finger, Captain Hayward, Ulrich Brunner, Madame Luizet, and Duke of Wellington. P. Burnand, Esq., Reigate, came second, but was clearly behind; and third, C. Jones, Esq., Gloucester. C. Jones, Esq., also led the way in Class XXXII. for eight distinct blooms, three trusses each. In this class there was some improvement in quality. Helen Keller, A. K. Williams, Caroline Testout and Mrs. W. J. Grant were the finest of the blooms here shown; Ed. Mawley, Esq., made a good second; and R. E. West, Esq., third. For nine blooms of any Rose except Tea or Noisette, P. Burnand, Esq., won with four blooms of Mrs. S. Crawford; E. M. Bethune, Esq., second, with lovely Ulrich Brunner, and W. C. Romaine, Esq., Windsor, third, with Mrs. J. Laing.

For twelve blooms, distinct varieties, R. F. Hobbs, Esq., Worcester, was first, having Niphetos (lovely), Souv. d'un Ami, Marechal Niel, Madame M. Rodocanachi, Mrs. W. J. Grant, Ulrich Brunner, Duke of Edinburgh, Killarney, &c. Mrs. E. C. Murray, Ryde, Isle of Wight, came second; and third, Rev. R. Powley, Warminster. There were thirteen entries. For six blooms of any variety except Tea or Noisette, G. W. Cook, Esq., North Finchley, was first with superb blooms of Mrs. J. Laing. J. Bateman, Esq., was second with Mrs. S. Crawford; and third, Miss B. Langton with La France.

For nine blooms, distinct (open to growers of less than 500 plants), C. R. Smith, Esq., came in first with a very creditable lot, including Jeannie Dickson, Captain Hayward, Gustave Piganeau, &c.; R. W. Bowyer, Esq., Hertford, took the next place, followed by Mrs. L. E. Times, Hitchin. In this class E. Bewley, Esq., Rathmines, County Dublin, obtained the Silver Medal for the best H.T. exhibited by an amateur, the bloom being a splendid specimen of Mrs. W. J. Grant. For six ditto, K. H. Gifford, Esq., Sutton, beat R. Cook, Esq.; and third, G. A. Hammond, Esq., Burgess Hill. There were a dozen entries. For six blooms of any except Tea or Noisette, the winners were, first, E. Bewley, Esq., second, K. H. Gifford, Esq., and third, R. W. Bowyer, Esq. In the extra classes open only to growers of not more than 2,000 roses, Rev. A. C. Johnson, Ipswich, wins a Silver Cup and money prize for twelve blooms, distinct varieties. The blooms were all very even and clean, the best being Captain Hayward, Souv. d'Elise, Horace Vernet, Alf. Colomb, and S. M. Rodocanachi; G. Moules, Esq., Hitchin, was second, and third, H. P. Landon, Esq., also with a good lot. J. Bateman, Esq., was first in Class XV. for four distinct varieties, three blooms of each.

MISCELLANEOUS EXHIBITS.

Messrs. J. Laing & Sons, Forest Hill, S.E., staged numerous groups; one being a massive collection of Ivies, every variety of which was meritorious for decorative purposes. They also had a group of ornamental hardy foliage plants and shrubs, including Hydrangea paniculata, among the flowering subjects. In another part of the transept they had three sides of a square filled with the choicest of their single and double varieties of Begonias. Their new duplex or semi-double forms also figured conspicuously. Besides these their strain of Polyantha Streptocarpus in blue, purple, violet, and other colours were exhibited. The plants were profusely flowered and exceedingly fine. Another of their groups consisted of hardy cut flowers and Carnations.

Messrs. Barr & Sons, King Street, Covent Garden, had not so large a collection of hardy cut flowers as usual, but everything they showed ought to be known and grown in gardens all over the land. There were Iris laevigata, Sea Hollies, Lilium croceum, L. pardalinum luteum, Iris Monieri, Sidalcea malvaeflora, Coreopsis grandiflora, Certaurea dealbata, Gillenia trifoliata, and the Grasses Miscanthus sinensis zebrina, Phalaris, and other things.

Mr. Wm. Spooner, Arthur's Bridge Nursery, Woking, staged Tea, garden, and Polyantha roses, of which Mdme. Eugenie Resal, W. A. Richardson,

Sunrise, Crimson Rambler, Marie Van Houtte, Sunset, Kaiserin Augusta Victoria, and a beautiful box of The Bride were shown. They had nine large boxfuls.

Messrs. J. Cbeal & Sons, Crawley, Sussex, staged hardy herbaceous cut flowers and Violas. The Violas included J. B. Riding, A. J. Rowberry, Border Witch, Ada Adair, Pembroke, and Crimson King. Fine pieces of the purple Berberis, Ulmus Dampieri aurea, Eulalia jap. var., Epilobium angustifolium, Genista tinctoria, Prunus Pissardii among shrubs, and Irises, Erigerons, Statice incana, Eryngiums, Delphiniums, &c., were noted. The stand contained a host of good hardy subjects.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, showed a full collection of Lillium thunbergianum and varieties, L. japonicum Colchesteri, larger and handsomer than the type, L. Dalhansonii, a tall growing, dark Lillium, fine for association with such as L. szovitzianum and other bulbous flowering and hardy cut flowers.

Messrs. Carter & Co., High Holborn, London, exhibited a group of their invincible Gloxinias and Emperor Petunias. Both batches of plants were rich and varied.

Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., staged their splendid Caladiums, the arrangement being finer and the plants as fresh and beautiful as ever seen previously.

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, staged a choice group of Delphiniums, Roses, Sweet Peas, and such-like hardy cut flowers.

Mr. M. Pritchard, Christchurch, Hants, was also an exhibitor of hardy cut flowers. He always puts up a superb collection, and the present was no exception.

READ THIS.

The competition continues as usual next week.

The prize last week was awarded to "Alpine," Dalkeith, for his article on "White Flowering Climbers," p. 710. Several of the competitive articles were over the limited number of words.

QUESTIONS AND ANSWERS.

To get Rid of Ants.—*Omega*: In our issue for June 30th, page 702, you will find an account of different methods of getting rid of ants and their hills. If you refer to ants in the open ground please let us know, and we shall give you some further hints.

Mildew on Peas.—*Omega*: Sulphur is the best remedy, and should be applied before the mildew has advanced so far as to destroy the foliage of the Peas. In that case it would be hardly worth the trouble of trying to cure them. As soon as the pods have all been gathered the Pea stems should be pulled up and burnt, leaving not a stem upon the ground. If your Peas are young and growing syringe the foliage lightly all over so as to wet it. Then dust the same with flowers of sulphur. You may if you like mix sulphur and water and then syringe the Peas. Probably they are suffering from drought; if so, a thorough soaking of water at the root would help them. A mulch over the top of this would preserve the moisture. This would cause the Peas to grow more strongly, and to some extent to overcome the mildew.

Artificial Manure for Cabbages, &c.—*Novice*: One of the most important artificial manures for Cabbages is superphosphate, as it contains lime, phosphorus, and sulphur in its composition. If the soil is generally poor it would be necessary to add nitrate of soda and kainit, the former containing nitrogen, and the latter potash. In such a case, however, it would be advantageous to use a good heavy dressing of farmyard manure before the ground is dug or trenched in autumn. You do not supply us with any particulars concerning the fertility of the soil or otherwise. Very much depends upon that as to the best kind or kinds of manure to apply. Supposing the soil is already fairly rich you should give a dressing of superphosphate of lime, at the rate of 2 lb. or 3 lb. per rod or pole of ground. It should have been applied in February or March to get the full benefit. If you resolve to apply it at once you might add 2 lbs. of nitrate of soda to the rod, as this will begin to act at once. Concerning other kinds of vegetables you should state them separately, as they do not all require the same kinds of manure, and we shall further advise you.

Horticultural Examination.—*Alpine*: For an account of the results of this examination see p. 730.

Cox's Orange Pippin spotted with Rust.—*Worcester Pearmain*: We cannot say what is the nature of the ailment you describe without seeing specimens of leaves and shoots, particularly leaves, and fruits if the latter are also affected. The description you give of the soil shows that it is altogether unsuitable for Cox's Orange, which does best in light, sandy soils, or in those that are friable, well-drained, and rather warm than otherwise. It seldom, if ever, succeeds in shallow soil overlying clay. You might send us samples of the foliage and fruit if the latter is damaged. Blenheim Orange seldom fruits well till it gets ten to fifteen years old. The canker is due to a fungus, *Nectria ditissima*, which is favoured by the wet and cold character of

the clay subsoil, which prevents the young shoots from ripening properly before winter.

Apples for heavy soil.—*Worcester Pearmain*: Besides those you have already got, we would recommend you to try King of the Pippins, Ribston Pippin (we have seen it fruiting heavily on a clayey soil), and Devonshire Quarrenden, all dessert varieties, the last named being early. For culinary use get Keswick Codlin, Lord Grosvenor, and Wellington. If you think the soil is at all wet you should drain it in winter.

Slimy Green Stuff in Pond.—*Omega*: On June 2nd, p. 637, we gave accounts for the keeping of ponds clear of two or more different kinds of the slimy green stuff you mention. If the pond has an earth or clay bottom and you can run it dry, the best plan would be to clean it out, removing the mud any time during winter or early spring. If the pond is a small one with a cement bottom, then you could let the water run away and give the bottom and sides a thorough scrubbing. If there are no Lilies or other plants that would suffer by being dried, you could give this cleaning twice a year. It would be worth the trouble. Large ponds should be cleaned once a year if much troubled with green stuff, which consists of various plants belonging to the lower orders of Algae. The cause is that there is not a strong enough current to carry the Algae away.

Mushrooms.—*Botan*: The specimens were not the true or cultivated Mushroom (*Agaricus campestris*) but seem to us to be those of the St. George's Mushroom (*Agaricus gambosus*). If so, it is edible, some considering it as delicious, while others consider it less delicate in flavour. We should try the younger ones before the gills become black.

Names of Plants.—*D.W.D.*: 1, *Heuchera sanguinea*; 2, *Clematis recta*; 3, *Veronica longifolia*; 4, *Lychnis chalcedonica*; 5, *Sedum Telephium*.—*Clydesdale*: 1, *Oncidium ampliatum*; 2, *Epidendrum atropurpureum roseum*. The Fern appears to be *Davallia tenuifolia* or some variety of it; but fruiting fronds would afford something more definite to go upon. It will no doubt reach this stage as it gets older.—*W*: 1, *Saponaria Vaccaria*; 2, *Silene Armeria*.—*C.E.S.*: 1, *Aerides crassifolium*; 2, *Cattleya walkeriana dolosa* (if the flower is produced at the top of a leafy stem. If it comes from a short, leafless stem then it would be *C. walkeriana nobilior*); 3, *Dendrobium dalhousieanum*.—*E.E.*: 1, *Godetia Rosea Alba* (the garden name. It is an annual).—*D.*: *Omphalodes linifolia*.—*J.T.L.*: The bush is a variety of the Virginian Bird Cherry (*Prunus virginiana*).

Communications Received.—*C. H. Feiling*.—*John Jackson*.—*C. Ings*.—*Ed. Mawley*.—*R. Dean*.—*W. D.*.—*Ed. Webb & Sons*.—*F. G. Brewer*.—*M. Temple*.—*J. Carter & Co.*.—*A. G. B.*.—*D. M.*.—*A. T.*

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JULY 21st, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 24th.—Tibshelf Rose Show.

WEDNESDAY, July 25th.—National Carnation and Picotee Society's Show, at the Crystal Palace; Durham, Northumberland and Newcastle Horticultural Society's Show, at Newcastle (3 days).

THURSDAY, July 26th.—St. Ives' Horticultural Society's Show; Maldenhead Horticultural Society's Show; Rose and Horticultural Show, at Bedale.

TRIAL OF SWEET PEAS AT KELVEDON, ESSEX.—Sweet Peas are very much in the air just now; certainly they have got wings; but we refer more particularly to them as a "bee in the bonnet" of a large number of admirers. Messrs. Hurst & Son, Houndsditch, London, have something like 226 trials of them at their trial grounds, Feering, Kelvedon, Essex; and the committee of selection in connection with the Sweet Pea Conference held on the 20th and 21st inst., and others, paid a visit of inspection on the 16th in order to select the best of each respective colour. N. N. Sherwood, Esq. (Messrs. Hurst & Son) provided a saloon carriage to take the party down from London. After a sumptuous luncheon,

provided by the same gentleman, the whole party proceeded to the grounds under a burning hot sun to inspect the Sweet Peas. The work of inspection was greatly facilitated by the admirable way in which all the varieties of similar colours were grouped together in contiguous lines for the sake of comparison. The 226 trials did not consist of as many varieties, because several of them were duplicates from different sources. Nevertheless, the number of really distinct varieties of Sweet Peas in cultivation is most remarkable, even allowing for duplicates of the same thing and "too-much-alike" sorts, the names of which may be regarded as synonyms. There are probably hundreds of varieties in the country not included in this trial; but which would swell the list enormously. The object of the committee of selection was to weed out a considerable number of the less important or valuable varieties as well as those that resemble others too closely to be readily distinguishable, or are otherwise undesirable.

From the introduction of the Sweet Pea from Sicily in 1700 to its bi-centenary in 1900 is a long stretch, and the transformation or evolution it has undergone has been most extraordinary, yet that evolution is practically a result of the activity of our day, seeing that the number of varieties remained very small till cross-breeding and selection were undertaken by Mr. Henry Eckford, in 1879, or thereabout. The original form of the Sweet Pea from Sicily had purple standards and blue wings. Then, in 1737, we read of a variety which had a pink standard, pale blush wings, and a white keel. This was described as coming from Ceylon, but that was an oft-repeated error whatever its origin may have been. Philip Miller, of the Chelsea Physic Garden, in his *Gardeners' Dictionary*, seventh

edition, 1759, said that Sweet Peas grew naturally in Ceylon, and no doubt he copied the old error. He also describes the reputed Ceylon variety above mentioned, and named it as being commonly known as the Painted Lady Pea, which is still cultivated, though superseded by Little Dorrit, Miss Blanche Ferry, Earliest of All, &c. A third variety quoted by Philip Miller had white flowers. Had that writer turned up at the inspection on the 16th inst., at Kelvedon, he would have been surprised at the advance made both as to size and colour. All of them belong to a single species, for although several workers have tried their hand at hybridising it with other species, no one, so far as we are aware, has had the slightest success, although certain writers use the terms "hybrid" and "hybridisation" rather vaguely. Miller would also have had difficulty in finding terms to describe the many varieties now in cultivation. The task for the committee of selection at Kelvedon was altogether too severe for the time at command in spite of the splendid arrangement of the colours. This work will be continued at the Crystal Palace during the exhibition and conference.

In making a selection of the best of each colour several points have been kept in view, namely, size, form, and colour. The latter being, perhaps, the weightiest canon from a gardener's point of view, because all colours have to be represented, and in the most distinct shades it is possible to get. One of the most satisfactory features of the Sweet Pea question is the broad basis along which the numerous varieties have been developed. No restrictions have been placed upon the particular arrangement of colours as in the Auricula, Carnation, laced Pink or Tulip. A well-formed flower with broad rounded petals and self colours, or a pleasing arrangement of different colours,

and the more decided the better, are the principal points. The trial at Kelvedon included all the types, and in making selections of the best sorts very few had a good word to say for such monstrosities as Red Ridgingood, Snapdragon, and Oddity, which we hope will soon be excised from all lists. As far as form is concerned, there are two well-marked types worthy of preservation and cultivation, namely, those having a hooded standard or top petal, and those having a flat, erect one or nearly so. Beautiful hooded flowers are Blanche Burpee, Duchess of Sutherland, Queen Victoria, Coquette, Lady Mary Currie, Lady Grisel Hamilton, Lady Nina Balfour, Modesty, Fascination, Venus, Sadie Burpee, Admiration, and others. The standard of this type is usually well-developed, broad and rounded at the apex, with very little if any notch. The base of the standard is usually truncate or even inclined to be heart shaped. These varieties with the hooded standard have a peculiar grace and fascination about them, which some would describe as modest or retiring; though the real cause of it is the amplitude of the development or breadth of parts. The absence of a notch at the apex prevents the broad standard from becoming neatly folded in bud, and then spread out flat when the blossom opens.

On the other hand, the flat standard is associated with a notch at the apex, of greater or less depth. At one period of Sweet Pea development certain cultivators were inclined to multiply the hooded forms, and to discard the varieties having a flat standard. Others wanted to go to the other extreme. Happily both sections are well supported by the public generally, and we are all the more satisfied at this result, because it enlarges the scope for variety. The standard being spread out flat shows the whole breadth at one view, thus giving the bloom a bold and open-faced appearance. The erect or flat standard is well shown in Emily Henderson, which may be regarded as the best white flowered representative. In virgin soil of a finely retentive character, and without any special preparation, we have seen the stems run up to 6 ft. or more with three or four large flowers on a footstalk. Others having the erect standard noted in this trial are Queen of England, Mrs. Sankey, Mrs. Eckford, Lottie Hutchins, Lemon Queen, Mrs. Gladstone, Princess Beatrice, Mrs. Dugdale, Lady Beaconsfield, Triumph, Little Dorritt, Earliest of All, Blanche Ferry, Daybreak, Mrs. J. Chamberlain, Countess of Powis, Gorgeous, Lady Penzance, Princess Victoria, Prince Edward of York, Brilliant, Mars, Boreatton, Duchess of Westminster, and others, which are really handsome and well worthy of extended cultivation. Besides these two well marked sections another list might be given in which the standards are intermediate in character, that is, not very decidedly hooded, yet not altogether flat. Some of these are Hon. F. Bouverie, California, Prima Donna, Lovely, Apple Blossom, Splendour, Fashion, Monarch, Captain of the Blues, Countess of Cadogan, Countess of Radnor, Princess May, New Countess, Lottie Eckford, Juanita, and others. All of these three types or sections are well represented in this great trial. Each of them is again divisible into groups, according to their particular colour or arrangement of different colours. The result of the work of the Sweet Pea Conference will be to reduce the number of really good varieties, but so great is the difference in taste amongst the general public that some varieties will be preferred to others, independently of all organised selection. Soil,

variety of Sweet Pea, and the character of the season as to moisture or otherwise will also continue to act and react upon one another, so that the same variety cannot be relied upon to give uniformly satisfactory results in each successive year.

The Cupid section met with a fair amount of favour by reason of their suitability for pot culture and conservatory or greenhouse decoration. Some of the best are the original Cupid, which is white; Primrose, primrose; Firefly, crimson; Boreatton, maroon; and Pink, which may really be regarded as a dwarf; Little Dorritt or Painted Lady having a rosy-carmine standard, and very pale wings.

Weather in London.—Since last week the weather has been excessively warm. On one or two successive days the heat has been so great as 90°, 93°, and 95° in the shade. Travelling in railway carriages, especially underground, is a mild form of stewing. Everybody is lazy, and "limp."

"The English Flower Garden and Home Grounds."—This book has been out of print for some time, but we understand that a new and revised edition (the eighth, apart from reprints) will be issued to the booksellers this week. In this the trees and shrubs are included.

Messrs. John Peed & Son at Hanley.—In our report (p. 732) of the Hanley Horticultural Fete, on the 4th and 5th inst., it is stated that Messrs. John Peed & Son, Roupell Park Nurseries, West Norwood, London, S.E., received a Silver Medal for their exhibit, whereas, they were really awarded a Gold Medal.

Success of Swanley Students.—At the examination, recently held by the Royal Horticultural Society, thirty-four students from the Swanley Horticultural College, Swanley, competed, and secured places in the first class, except one. The first, second, and fifth places were taken by Swanley students. Out of 236 competitors we think the successes attained by the College folks is most encouraging.

Royal Caledonian Horticultural Society's Show.—The second annual summer show of the "Caledonian" Horticultural Society was held on Wednesday, July 11th, in Dowell's Rooms, 18, George Street, and was well attended. Roses, of course, formed the chief feature of the show, and most of the leading firms were prominent here as at the Scottish Horticultural Association's show the day before. Among private gardeners who exhibited we found Mr. Alex. Macmillan, gardener to Mrs. Currie, Trinity Cottage, Trinity, who sent Campanulas and Roses. Sweet Peas came from Mr. Alexander, gardener to Mrs. Wauchope, Niddrie. Mr. R. Lindsay, Murrayfield, had an exhibit of rare alpine and other hardy plants, including the "Plymouth Strawberry." Mr. D. Lornie, Birds' Mill, Broxburn, showed some half-a-dozen vases of summer-flowering Chrysanthemum Morning Star. A fruiting branch of *Araucaria imbricata* was sent by Mr. Crosbie, Drymen. Mr. Geo. Balmer, Ettrick Road, Edinburgh, had a splendid group of Gloxinias. Mr. C. Connachie, Ayton, showed a seedling Melon, "Beauty of Kelso." Of the trade exhibitors, Mr. Henry Eckford, Wem, was strong in Sweet Peas; Messrs. Dobbie & Co., Rothesay, N.B., exhibited Carnations, &c.; Messrs. Hugh Dickson & Sons, Belfast, staged 40 ft. of Roses. Mr. W. Cuthbertson, Rothesay, had Sweet Peas; Mr. John Downie, of Princess Street, set up a decorative foliage and flowering group. Messrs. Laing & Mather, Kelso, had beautiful Carnations; while Phloxes, Pentstemons and Delphiniums came from Mr. Charles Irving, Jedburgh. Messrs. Cunningham & Fraser, Comely Bank, Edinburgh, set up a collection of cut herbaceous flowers; and a like collection came from Messrs. James Cocker & Sons, Aberdeen. Rose exhibits were put up by Messrs. D. & W. Croll, Dundee, and Messrs. T. Smith & Sons, of Stanraer. Fruit exhibits were not so plentiful as one could have wished. On the whole the exhibition was a success.

The Ulex or Furze question.—The words "Sapientum octavis" as quoted by C. B. G. in your last issue do not occur in Horace nor, so far as I am aware, in any other Latin author. With this I, for my part, close the correspondence.—*J. C. Stogdon.*

Sweet Pea Bi-centenary Exhibition.—To a well-attended meeting of the Executive Committee, held at the Horticultural Club on July 13th, the hon. secretary, Mr. R. Dean, V.M.H., reported that the entries to date for the forthcoming exhibition of July 20th and 21st would necessitate the hire or purchase of nearly three thousand vases; as three thousand bunches of Sweet Peas would make a very attractive show the committee considered matters were progressing favourably, especially as two days' entries would have to be added. A very large amount of space available for non-competitive and trade displays had already been applied for. The programme for the celebration was arranged as follows:—Friday, July 20th, judging to commence punctually at eleven o'clock; opening ceremony by Alderman and Sheriff Sir W. P. Treloar, president of the celebration, at one o'clock; luncheon at half-past one p.m.; conference proceedings open at four p.m., when the papers to be read are "History of the Sweet Pea," by Mr. S. B. Dicks; "Classification of Sweet Peas," by W. P. Wright; and "Some Points on the Culture and Decorative Uses of the Sweet Pea," by Mr. H. Dunkin. On Saturday morning the Classification Committee, which consists of the members of the executive, together with Messrs. Leonard Sutton, H. Hicks, P. Waterer, J. Eckford, G. Stanton, and the Rev. W. T. Hutchins, commence their duties of classification and selection at half-past ten a.m.; at two p.m. the conference proceeding will be continued, the papers to be read being "Evolution and Improvement of the Sweet Pea," by Messrs. J. S. Eckford and C. H. Curtis; "The Sweet Pea in America," by the Rev. W. T. Hutchins; and "Perfume in Sweet Peas," by Mr. W. Cuthbertson. The Executive Committee decided upon a small neat silver and blue enamel badge for the committee and officers, but arrangements will be made so that those who wish to secure a copy of this commemorative badge may do so at a small cost.

Newport Horticultural Association has sprung up like a Mushroom on the banks of the Tay. Although only in existence a year and a half, it has a membership of seventy-five, who take a deep interest in the lectures and papers at the monthly meetings. The association has been a long felt one to the community, and is now doing good work under the able management of the president, Mr. George Masson, and the energetic labours of the hon. secretary, Professor Waymouth Reid, who takes a deep interest in all that pertains to the welfare of the association. Unusual interest was taken in the meeting on the 10th inst., when the hon. treasurer, Mr. James Bethel, read a paper on "The Hardy Flower Border as a Source of Supply of Cut Flowers." From every point of consideration the paper was a delight and an education to listen to. It was sufficiently technical, but never beyond the capacity of amateur hearers; and Mr. Bethel's account of the different suitable flowers and their seasons was enriched with observations that evinced the speaker's taste and critical discrimination. At points Mr. Bethel's paper assumed an excellent literary and picturesque form, as when he described the cheering effects of certain flowers in early spring, the significance and value of the old flower customs, and the beauty of the Iris which has been so much neglected. With a touch of true poetry he described the flowers of the opening spring and summer, and gave helpful hints as to the culture of the choice kinds for decoration. Particularly he insisted on the informal style of arrangement as against the stiff, crowded ways of the past. Mr. Bethel had on view a large and beautiful assortment of cut flowers, which in extent and richness constituted a veritable flower show. Among the exhibits were:—Delphiniums, Lilies, Chinese Paeonies, Baptisia, Dipsacus, Campanula, English and Spanish Iris, and Roses. Mr. Bethel was cordially thanked. Great interest was taken in two competitions. These were, first, for six vases of hardy flowers from the open border (for amateur growers only), the prize won by the hon. secretary, Professor E. Waymouth Reid; and second, for twelve Roses (six Tea and six hybrid perpetuals)—the first prize taken by Mr. Macdonald, and the second by Mr. Halley. Mr. James Laird kindly acted as judge in both cases.

Devon and Exeter Gardeners.—On Saturday, July 14th, the Devon and Exeter Gardeners' Association had a capital day's outing. The company numbered about sixty all told, and drove first of all from Exeter to Lyme Regis in brakes. This drive was magnificent, for lovely Devon was at its best. A round of inspection was made to various objects of interest in Lyme Regis, and refreshments were obtained. A journey was thereupon made to Pinhay, an estate of Wilson Allhusen, Esq., over which the party were escorted by Mr. Bloye, bailiff and head gardener. At Pinhay there were many beautiful and interesting features to see. Sir Cuthbert Peek's seat at Rousdon was then made for. The gardens at Rousdon, under Mr. Bailey's charge, were most creditable, and quite charmed the visitors. By the kindness of Mr. Grover, Sir Cuthbert's astronomical assistant, the party were able to view the bright star Archurus through the telescope, though the sun was shining brightly. The course after this time was steered for Seaton, where tea was partaken of, and at 9.20 the train for home was utilised. The arrangements were in the hands of Mr. Andrew Hope, hon. secretary, and Mr. W. Mackay, hon. treasurer, and were so fully considered as to satisfy everyone of the party.

HOW TO GROW BEGONIAS WITHOUT A GREENHOUSE AND FRAMES.

THOSE having a little spare time should make a bed as for Cucumbers. Get some shallow boxes and half fill them with ashes. Mix some loam, leaf mould, and sand, filling the boxes nearly up to the top, and then make them perfectly level with a flat board, putting them into a pail of water to moisten them thoroughly. Then sow the seed evenly, but do not cover. Shade with glass and brown paper, turning the dry side every day towards the soil; but as soon as the seedlings show rough leaves, carefully water and remove the paper and glass, and slightly shade with an old mat, giving a little air for the first week. After giving more air to them day and night, a good sprinkling with a rough rose can should be given. Continue to keep them growing until frost sets in, and they show signs of ripening. Put them where the frost will not touch them until spring. Then thin out and box or pot, and start in a gentle hot-bed or cold frame in April, watering carefully until started. Having tried many Begonia growers, I recommend getting the seed from J. R. Box, Croydon, East Surrey, having had some of the best blooms from his seeds, doubles and singles measuring 6 in. to 7 in. across, and of various colours.—*Luscombe Cousins, gardener, 46, Lisson Grove, Mitley, Plymouth.*

GLOXINIAS AND BEGONIA REXII.

Now is a suitable time for propagating any good varieties of Gloxinias or Begonia Rexii. Cover the bottom of a seed pan with crocks, lay in 1 in. of sphagnum, and fill up with a mixture of fine sandy peat or leaf mould, finishing with silver sand. Take some good sized leaves off the sorts intended to be multiplied, cutting them almost through just below the ribs or vines. Make a small opening across the pan, and place the leaves in it, rib part downwards; level up, and go on similarly until the pan is full, just as one would lay in seedling trees. Water them and place in a propagating pit or stove, where they can be kept close with a moist bottom heat. Bulbs will be formed at the bottom in about a month, and will begin to throw out young growths, when they may be potted off and kept growing in a warm place until the approach of winter. Water must then be withheld from the Gloxinias, which must be allowed to ripen, then stored till spring. The varieties of B. Rexii are best shown to advantage in a fernery, although the stove is the place to bring out the fine metallic colouring. They flower chiefly in winter, and although not showy are by no means unattractive. They, too, are the better of a short rest, giving only sufficient water to keep them from flagging in December and January.—*John C. Dick, The Gardens, Champfleury, Linlithgow.*

CLERODENDRON THOMSONAE VAR. BALFOURIANA.

THIS beautiful plant, although belonging to a family of stove plants, can be grown with success in an intermediate house, if placed in the warmest part.

The most suitable soil is a mixture of peat and loam, with the addition of a little sand. It delights in an abundance of water when growing, and an occasional dose of liquid manure or some reliable fertiliser, such as Clay's, may be used with advantage. About the end of August water should be given less frequently, and more air to ensure thorough ripening of the wood. When this is accomplished, it should be removed to a cool house if possible. In February tie in all the wood there is room for, and spur prune the remainder; it should then be placed in its warm quarters. They are very easily raised from seed. I once gathered some seed from a plant and placed it on one side previous to sowing, but when sown not one came up. On another occasion I plucked some, and placed them in some shingle, on a stage set apart for Orchids (and therefore kept constantly moist), with the result that everyone germinated, was duly potted up, and all have now made nice plants. This seems to point to the fact that they should be sown as soon as gathered.—*G. Robins, The Gardens, Dudley House, Springrove, Isleworth.*

FREESIAS

ARE one of the most useful, and, I might say, one of the favourite winter flowers. They can be had with very little forcing from Christmas until April (their perfume being not too strong), by selecting the strongest bulbs now, and potting from nine to twelve bulbs in 48-size pots, using compost consisting of turfy loam, leaf soil, and plenty of sharp sand. Place the bulbs half an inch beneath the soil; partly cover the soil with silver sand; place them in a frame, water, and give plenty of air. As the bulbs advance in growth remove a few pots to the greenhouse, on the front shelf. Keep the flowering stems up by using neat sticks. The small bulbs should be grown on in shallow pans, and when well treated will make good bulbs for the following season. When the bulbs are at rest keep them in their pots or pans in a shed on the shelves. Care must be used in watering not to get the soil soddened or the foliage will turn yellow. Use plenty of drainage, and do not force too hard, but bring them on gently. Some of the pots can be placed in wire frames. Cover with moss and train the flowering stems over the sides. They last much longer in flower than a great many of our other Cape bulbs, and they are most useful for cuttings.—*J. Wallace, King's Lynn.*

HISTORY OF THE SWEET PEA.*

IT has been suggested by Mr. Gilbert Beale, our general manager, that in view of the Bicentennial Festival to be held at the Crystal Palace next week in connection with the Sweet Pea, that some of you who will no doubt attend that exhibition will find it more interesting if you are in possession of some knowledge on the history of this popular and beautiful annual.

I want to tell you what Messrs. Carters' firm have done towards its improvement. We don't pretend to say that it is to our house alone the present position it occupies in the public fancy is due, but I do want to impress upon you the fact that Messrs. Carter hold a very important link in the chain between Sweet Peas of seventy years ago and the Sweet Peas of to-day.

I am obliged to go into the dim and distant past to put the matter in a complete manner before you. You may not be aware of the fact that the first Sweet Pea came from Sicily, an island close to the southern shores of Italy, and the first record I have been able to trace of it, is from the work of Francisci Cupani, an Italian botanist, dated from Naples in 1696. It is printed in Latin, and entitled "Hortus Catholicus Neapolitanus." His description, literally translated, reads somewhat as follows:—

1696. Lathyrus two-fold, broadleaved, hairy, soft, very tall growing and flowers sweet scented, native of Sicily, and grown in gardens.

1700. The next reference is that given in Dr. Leonard Plukenet's work entitled "Almagesti Botanici Mantissa." I have seen the dried specimen at the South Kensington Museum comprising leaves, flowers, and pods, that he evidently obtained from Sicily, with a written description attached

similar to that in Cupani. He was a man of education, but fortune seems to have been fickle to him, when he obtained through the assistance of Queen Anne, the superintendency of Hampton Court, with the title of Royal Professor of Botany. He was one of the first botanists to give personal names to plants.

1704. Mr. John Ray was another clever botanist of this time, who, from humble circumstances, rose to be an eminent tutor at Cambridge, a F.R.S., and a great traveller. He published several horticultural works, including that monument of industry entitled "Historia Plantarum Generalis," the first volume of which appeared in 1686. The Sweet Peas, however, are only mentioned in volume 3, which came out in 1704, and it is there described Lathyrus major of Sicilae, with very nearly the same additions as are contained in Cupani, although he is supposed to have obtained his information from Boccone's book. This great man died at Great Nolley, in Essex, in 1705.

1713. In vol. 28 of the "Philosophical Transactions of the Royal Society" is a paper prepared by Mr. James Petiver, upon the "Rare plants in several curious gardens around London and particularly at Chelsea." He refers there to the Sweet Pea—of course in Latin, which I translate to read somewhat in the following terms:—He calls it Lathyrus sculus flore odorato—Sicilian chickling, flowers very abundant, sweet scented; standards red with lipped petals, surrounded with blue, and having a pod like a Pea.

He also describes another variety—broad-leaved, very tall, and purple in colour; and he adds in English: "This elegant sweet-flowering plant I first observed in Dr. Uvedale's most curious garden at Enfield, and since elsewhere."

This same Petiver was an apothecary in Aldersgate Street, but interested himself in natural history, collecting all sorts of plants through sea captains and others from abroad. He wrote many books on plants, and prepared many papers for reading before the Royal Society. He died in 1718, leaving fifty pounds to the Charity School of St. Anne's, Aldersgate Street.

1724. The next reference I am able to trace is that in the seed catalogue of Mr. Benjamin Towns- end, who describes himself as late gardener to Lord Middleton. His seeds were obtained by writing to him to the "Three Crowns and Naked Boy," over against the new church in the Strand. He simply quotes, amongst other flower seeds; Sweet-scented Peas.

1775. A long spell this from the last date, but I have not been able to find anything between. In Weston's "Flora Anglicana" I find—Sweet Scarlet Pea (Lathyrus odoratus coccineus).

1778. In the catalogue of Mr. W. Malcolm, seeds- man, of Kennington Turnpike, is offered White, Purple, and Painted Lady Sweet Peas. Note the name of the latter, which I have not observed before.

1794. Messrs. Dicksons, of Edinburgh, offers Lathyrus odoratus sculus and Lathyrus zeylanicus. This latter descriptive name has led many to believe that one variety of the Sweet Pea has come from Ceylon; but there is evidently some mistake here. It seems that a Continental writer of the early part of the eighteenth century, named Burmann, in preparing an index of the plants of Ceylon for the Horticultural Academy at Leyden in Holland, referred in some manner to the Sweet Pea, but with no intention of describing it as coming from Ceylon. [The confusion existing about a Sweet Pea coming from Ceylon, may have arisen from the fact of various seeds and plants from Ceylon and Sicily having been imported at the same time to Dutch nurseries, and these having become mixed.—*Ed.*]

1795. Messrs. A. Dickson & Sons, Hawick, N.B.,

* Read by a member of Messrs. Carters' staff at Mortlake. July 12, 1900.

offer Blue South Sea Pea. This is evidently the variety we know as Lord Anson's Pea, which is a perennial. Sweet Painted Ladies, purple, white, scarlet, black. This is the earliest reference I have been able to find of the white and black.

1800. Mr. John Mason, seedsman, of Fleet Street, offers Scarlet, Black, White, and Painted Ladies.



MR. JOHN FLEMING.

PEOPLE WE HAVE MET.

MR. JOHN FLEMING.

WITHIN the last year or two the subject of this sketch has made his presence felt at Windsor, the Drill Hall, and the Royal Aquarium, Westminster. Since he took charge of Lady Pigott's fine collection of plants at Wexham Park, Slough, he has been in his element, for he delights in plants of a very varied character.

Mr. John Fleming was born on the estate of Brucklay, Aberdeenshire, and probably first conceived the idea of being a gardener from seeing the beautiful gardens and grounds at Brucklay Castle. In any case, his father intended to make him serve an apprenticeship to an entirely different occupation, and a sense of filial duty had so firm a grip of him at that time that he agreed to serve as his father wished him, but gave the latter to understand that he would immediately afterward learn to be a gardener. That was sufficient for Mr. Fleming, senior, and taking a commonsense view of the situation he allowed his son to join the gardening profession at once, as the lad had fully made up his mind as to his future occupation.

In 1873 he was apprenticed under Mr. A. Coutts, who was then gardener at Kinstearry, Nairn, the seat of Lady Gordon Cathcart. After completing his apprenticeship he moved southward to Aberdeen, where he served as journeyman, under Mr. Middleton, at Balgownie House, the residence of J. Crombie, Esq. His next move was to the gardens, Donibristle, Inverkeithing, Fifeshire, the residence of the Earl of Moray, where he served under Mr. J. Proctor.

After leaving Donibristle, he set his face to England, settling first at Heaton Park, Manchester, the residence of the Earl of Wilton, where he continued his practical education under Mr. Baillie, who was gardener there at that time. He put in three years at this place, and, "aye haudin sooth," took charge of the glass department at Neville Court, Tunbridge Wells, which belonged to the late Mrs. R. B. Byass. At that time Neville Court was one of the best places in Kent for plant and fruit growing under glass, so that Mr. Fleming had a grand opportunity of making a practical acquaintance with the indoor department, which is often weak in Scotland, in the case of plant culture. On leaving Neville Court he went as head gardener to the late Mrs. Alcock, Eardmont, Crayford, Kent,

where he spent six or seven years. Mrs. Alcock was fond of her gardens, especially of Orchids and carpet bedding. She was a most kind and considerate lady to those employed in the gardens.

He next met with a kind and considerate employer in Col. Knox, at The Holt, Farnham, where he stayed about five years. It was the custom at The Holt to hold two private shows a year, one in the autumn when Chrysanthemums were the flower of the season; and the other in spring when Camellias and other flowers special to that period were in their prime. His next move was as gardener to the late Mrs. Swells with whom he stayed about eighteen months before being appointed to his present situation at Wexham Park, Slough, about three years ago.

Since then he has met with every encouragement from Sir Charles and Lady Pigott, both of whom are interested in the gardens. Indeed, Lady Pigott is particularly fond of her gardens, in which she spends a great deal of time, and is liberal and indulgent with her gardener. Plants rather than fruit appeal more especially to her liking; and, consequently, we find them well represented at Wexham Park, where the houses are well filled with a wide range of subjects at all seasons of the year. Spring flowers receive particular attention, including Indian Azaleas, Chinese Primulas, Cinerarias, bulbs, Pelargoniums, &c., the last named being flowered all the year round.

Mr. Fleming gives close attention to all classes of plants he is called upon to grow, and makes good use of them at exhibitions. His groups of plants, arranged for effect, always secure the first position at Windsor Rose show. The public has also had the pleasure of inspecting his hold groups at the meetings of the Royal Horticultural Society in the Drill Hall, Westminster, and at the Chrysanthemum Society's autumn show in the Royal Aquarium. He is, therefore, an expert in the art of arrangement, as well as in growing the plants which he so deftly handles. A great many would-be growers of *Humea elegans* find great difficulty in rearing and bringing it to perfection, if, indeed, they succeed at all with it. Mr. Fleming is remarkably successful with this plant, as he has amply demonstrated at several shows where his stately specimens varied from 6 ft. to 9 ft. in height. The plants, he says, are not very particular in the matter of soil; but the watering must be carefully done, using rain water, if possible, as the roots are rather sensitive or tender, thus explaining why many of the plants die even after they have attained some size, if anything goes amiss in the treatment.

The portrait we reproduce will enable many to recognise this relatively young and energetic gardener, who we wish may enjoy a long and successful career, with ample opportunities and scope to develop his talent in useful horticultural pursuits. He is courteous to and frank with all brought into contact with him in various phases of life.

CAMELLIAS.

IT IS pleasing to read in *THE GARDENING WORLD*—lately—such a sound defence of the grand old Camellia, which has done such excellent service as a flowering plant during the winter months. The favourite Chrysanthemum does not meet all requirements, and, though we believe by its usefulness (while there is nothing extant to take its place) it will never become unpopular, we further believe it will not shunt the Camellia. I have noticed of late years that where there are collections of well-grown Camellias they are receiving extra care and proper attention, as it is believed they may yet hold their old place in public esteem. Where they are planted out in good soil in conservatories they make splendid growth and produce abundance of flowers. Strong loam of the quality, noted by your correspondent, gives extra fine foliage. In districts where lime is abundant in the soil it is seldom fine Camellias are seen; but this can, of course, be remedied by bringing suitable soil from a distance, such as is often done for Rhododendrons (a class of plants which do not thrive well in soil much charged with lime).

I have seen in some parts of Wilts., Oxfordshire, and in the eastern counties of England, Rhododendrons completely fail to grow by reason of lime in the soil. Once it was part of our duty to unpack the plants which were consigned to a large London nursery from the Continent, and all the Camellias

were in perfect health, growing in soil which seemed entirely of rotten wood. We have heard that this is used very extensively in Belgium. Camellias live many years in good health in tubs, untouched at the roots except good surfacings. We have a number which have been so for eighteen years.—*M. Temple, Carron, N.B.*

BEGONIA GLOIRE DE LORRAINE.

I REGRET to say that my experience in leaf propagation of this plant was even worse than that of your correspondent, Mr. J. Mayne, Bickton. I inserted about twenty in 60-size pots, and placed them in a large pot partly filled with cocoa fibre; this was plunged into a hot bed and covered with glass, which was frequently turned. They all rooted very freely from top to bottom of the petiole, and formed several huds at the top of the latter. The lamina then gradually decayed, but I could not induce the huds to make any further growth. On examination I found the petiole decaying from the base upwards. I had no more well matured leaves to try, but I intend next spring to try again by removing the petiole entirely from the lamina. This, I think, will cause roots and huds to spring from the same point. Your correspondent does not say how his leaves were cut.—*F. G. Brewer, Terlings Park Gardens, near Harlow, July 9th, 1900.*

VEGETABLE AND FRUIT CROPS.

WHATEVER may be said respecting the weather up to the present time, this summer is for culinary vegetables one of the very best seasons we have had for some time. Everything in the kitchen gardens is in the most flourishing condition. It rarely happens that we get this far on in the year, but that some one or other of the staple commodities, it falls to Adam's disciples to raise and cultivate for the use and enjoyment of his fellows, goes amiss among them, either from adverse climatic influences or through their falling a prey to either fungoid or insect pests. Sometimes it may be, and too frequently is, Parsley, Carrots, or Onions. So far as my own observations go, there seems nothing for the most inveterate grumbler to complain about in relation to vegetables, Peas, Beans, and Carrots; in fact, everything in this connection is as good as it can well be.

Oh! I fancy someone saying, what about the Strawberries? Well, they are fruit, and a soft one to the bargain, and unfortunately they suffer for their comparative tenderness during spells of such showery weather as we had recently; and in many instances they were, when only in the green state, rotting on the ground. This is very disappointing to all, and involves some in great financial loss. There are some few spots where the crop is limited owing to the plants not recovering from the extreme drought of last summer in time to plump the crowns up. Gooseberries are generally a heavy crop. Red and Black Currants the same. Raspberries look well in some places; the promise of a heavy crop is most noticeable. I rarely see so much flower on the canes.

Of stone fruit, Apricots will be the poorest crop; yet at the same time we have seen some heavy crops of these. Peaches and Nectarines have set abundantly, and will require severe thinning. Of Apples there will be an abundance. Although in a few places they may not appear a full crop, in most instances, if circumstances permitted, a severe thinning would be most beneficial, for otherwise the produce will be poor in quality owing to its abundance; but too many men are so circumstanced that the thinning of the Apple and Pear crop is a thing quite out of the question. Pears, in some cases, are a heavier crop this year than Apples. This is a great Plum year. Many trees will, if unsupported, break down with the load upon them. Of that good old Plum, Cox's Golden Drop, I have seen, recently, the heaviest crop it has ever fallen to my lot to look upon. Cherries, too, are a good crop. The earliest I have come across is Rivers' Early. Should we be favoured with a warm sunny autumn, I think, from a purely gardening standpoint, 1900 will prove one of the best seasons we have had for some time. Recent summers have been most beautiful, and quite the ideal from a holiday standpoint; but almost heart-breaking in some instances to those whose lot it has fallen to week after week to gaze after the fitful clouds which have so often passed over without

giving them a respite from almost incessant watering. There are some unfortunates, who, besides the care of a thousand and one things, have to do the best they can to make hay when it rains. No easy task this, but it is no use grumbling, it only makes matters worse. It is best to possess one's soul in patience; and, however adverse the weather may be just now, hope for the best, and better things will follow. Everything, it is said, comes to him who waits.—*W. B. G.*

BEDDING, PILLAR AND CLIMBING ROSES.

MR. GEO. PAUL, V.M.H., the well-known nurseryman and Rosarian, delivered a lecture in the Drill Hall on Tuesday, July 3rd, Mr. Geo. Bunyard, V.M.H., in the chair.

Mr. Paul had a written paper to read from, but his lecture was almost wholly spontaneous speech. Mr. Paul says that in the earlier part of the now dying century there were more Roses, more dwarfs, Chinas, and Ayrshire Roses than we have now. These were freely used, and in 1815-16 standards first appeared from the nurseries in this country. Previous to that they had been introduced from France, and they were soon after used in Rose beds above dwarf sorts. A few gardens at that time had pillars of Roses with the chains between them also covered with Roses.

In introducing the subject of Roses for bedding, the question was asked: "What are the essential requirements in bedding Roses?" And the answer was, marked vividness and effect of bloom, profusion, and perpetuity of flowering qualities, and power to continue good year after year. No Roses are finer than the crimson Chinas which flower from June till October. Among the Chinas there have been beautiful yellow varieties raised of late years, and there are very many other lovely sorts. Queen Mab is one of the finest; Mrs. Bosanquet is another; Ducher, and Empress of China, are further examples. The Chinas are marvellously free flowering. In point of profusion the Polyantha Roses, of which White and Red Pet are examples, are on an equal with Chinas. These latter, of course, are suitable alike for beds when pegged down, or for pillars. The varieties of Rosa polyantha have been numerously raised in France, it having been a Frenchman who first secured the species.

Chinas are equalled or even excelled in brilliancy by the hybrid perpetuals. The best for bedding are Victor Hugo, Cheshunt Scarlet, Mrs. John Laing, Mrs. Sharman Crawford, Paul's Early White, one of the best; Mdme. Gabriel Luizet, Gustave Regis, Rosa indica sanguinea, Fellemborg, and such others. Where Teas succeed these are certainly among the best of bedding Roses. We have Francisca Kruger, Dr. Grill, Mdme. Falcot, Marie Van Houtte, Maman Cochet, and others. Of hybrid Teas La France, Capt. Christy, Vicomtesse Folkestone, Marchioness of Salisbury, Mrs. W. J. Grant, Gloire Lyonnaise, Kaiserin Augusta Victoria, Caroline Testout, &c., take a leading place. The Noisettes do not all make good bedders. Probably the best way in which to treat them is to plant a few plants towards the centre of the bed, and to bend down the shoots towards the ground all around. They should not be hard pruned.

A valuable hint was thrown out when the lecturer described that to preserve the weaker varieties of Teas, Noisettes, and the like during winter, earthing around the stools and base of the shoots should be done. The process is the same as is done with Potatoes.

HEDGE AND PILLAR ROSES.—Why might we not have far more hedges formed of Roses, instead of the all-the-year-round evergreen subjects? Rose hedges can be formed so that nothing can penetrate them. In circular-shaped gardens, said Mr. Paul, I would suggest having diagonal hedges radiating on all sides from the centre outwards at right angles to the boundary. The garden would thus be partitioned into distinct quarters and give great variety. Or this system need only be carried out with a part of the garden.

For pillars and hedges the following are the choicest and best of all:—Paul's Carmine Pillar, Turner's Crimson Rambler, Dundee Rambler, Psyche, Perle d'Or, Mdme. Frederick Weiss, Anna Marie de Montravel, Etoile de Mai, and others. These are all suitable for tall, loosely-spreading

hedges, etc. For hedges 5 ft. or 6 ft. high the following are recommended:—Allister Stella Gray, Rubrifolia, which makes one of the brightest hedges which can be had, for the foliage and stems are purple and the numerous flowers are rosy-pink, lovely after rain; the fine dwarf yellow Scotch Roses make dense and very charming hedges, indeed, these are the best of all; the Penzance Briers make hedges 6 ft. or 8 ft. high; Lord and Lady Penzance varieties, mixed with the deeper-coloured Austrian Copper, form splendid hedges.

How to make a framework or trellis support was then explained. This consists simply in fixing a number of central posts in line at intervals, and in having for greater strength, lean-to posts on opposite sides of the central one. Wooden bars are then nailed from post to post. Wooden supports were recommended rather than irons or wires, the latter being liable to cause canker. The same thing applies in arch-making. In answer to a question, Mr. Paul said that Roses on their own roots were never so vigorous or so long-lived as Roses which are placed on stocks.

Kitchen Garden Calendar.

EARLY POTATOS.—In forward situations the tubers will now be ripe enough for lifting, and in most gardens the ground will be required for planting Broccoli and other winter green crops. Tubers that are required for seed should not be lifted thus early, as they start into growth prematurely, and the sets get shrivelled before planting time arrives in spring. It is a good plan to have a piece kept separate for supplying seed so that the tubers can be allowed to remain in the ground until the sets are thoroughly ripe before being lifted. Then by selecting those of medium size and laying them out thinly, strong shoots will be formed next spring. Sets that are imperfectly ripened have not their eyes properly developed, and they seldom grow strongly. Potatoes are always best flavoured that remain in the soil till ripened, but where the ground is required for other crops this cannot always be done. If lifted, the tubers should be taken to a cool cellar till required for use and kept in the dark, otherwise they will turn green.

CARROTS.—The last lot of these should now be sown, choosing a sheltered situation, as they will have to remain in the ground through the winter. The early stump-rooted varieties are best for this purpose, as they grow quickly and do not suffer so much from the frost as the intermediate ones. Gem, Goldenball, Early Nantes, Parisian, and the like are all useful kinds, though Early Horn and Model may also be sown.

FORCING.—To some it may seem out of place to mention this in the height of summer, but as gardeners have to make preparations in time, a few hints now may be useful. In the first place, Mint is frequently required before there are any signs of its growth in spring, therefore prepare some boxes and fill them with light rich soil. In these insert cuttings made from the points of the young shoots having about a couple of pairs of leaves. The boxes should then be stood in a shady place, and the soil kept moist till roots are formed, when as winter approaches they ought to be placed in a cold frame. These can be introduced into the forcing house, when required, and will throw up much stronger growths than plants lifted from the open ground. Tarragon may also be treated in the same manner.

HERBS of various kinds are in great demand through the winter, and where there is any likelihood of any being deficient, a stock should be worked up. If cuttings of Lemon Thyme, Rosemary, Sage, and such-like are inserted in light, sandy soil in a cold frame, they will take root and make nice plants for putting out in spring.

PARSLEY is always in request, and as plants that have been growing through the summer often go off in severe weather, if a sowing be made now the plants will attain a useful size by autumn, when a portion may be transferred to a cold frame for winter and spring use.

RHUBARB, intended for forcing, should have all weeds and decayed leaves removed from round the crowns, so as to expose the plants to the light and air as much as possible, but do not interfere with any foliage that is green, as this would have a

tendency to keep the crowns active. As soon as the foliage has died down, the roots ought to be lifted so as to give them a rest.

AUTUMN ONIONS.—If seed of The Queen is sown now they will make nice bulbs by autumn. These should be lifted and transplanted: ft. apart in October, when, by April next, they will be found useful, having attained a good size. April and May are the two months when good bulbs of these are most scarce, therefore, it is well to make preparations in time. Those who have not hitherto made a practice of sowing this variety in the autumn would be astonished at the size the bulbs attain as early in the spring. We have often had them weigh half a pound each at the beginning of May.

WATERING.—This is an important operation, and one that requires to be done thoroughly. Most of our kitchen garden crops are gross feeders, and unless due attention be paid to watering when the ground is hot and dry it is impossible to obtain the finest results. Cauliflower, Peas, Leeks, Celery, and Runner Beans will pay for any extra attention that may be given them in the way of watering, as none of these will grow satisfactorily unless supplied with ample nourishment. Deep rooting plants like Parsnips, Onions, and the like, suffer less in dry seasons, though the latter are greatly benefited by liberal applications of manure water in dry weather, particularly on light, dry soils.—*F. W. J.*

FRUIT UNDER GLASS.

PEACHES AND NECTARINES.—In places where early forcing is practised the earliest houses will have yielded their crops. The wood which bore the fruits may as well be cleared now, cut out altogether in fact, unless it be extension wood, as its presence will be of no service, but rather a detraction. By removing the late fruiting wood now, the operation of syringing is greatly facilitated. Tie in any straggling growths, and thoroughly clear the trees. The old-fashioned houses which allowed of the lights being removed were valuable, because one could allow the beneficial rains and dews to have play upon trees to which it was a capital aid. In the houses where the fruits are ripe a buoyant, dry atmosphere should be maintained. Trees swelling their crops should be syringed twice a day. The borders should not lack moisture, and if the crop is heavy and the trees not very vigorous, liquid feeding should be attended to twice a week. When the crop is nearly developed mulch the borders inside and out. Do not forget at the same time to thoroughly water the inside border. A temperature of 75° to 80° should be maintained, shutting up early with sun-heat. Toward evening a chink of air may be given, but the night temperature should not fall below 65°. The latest houses require constant attention to thinning, regulating, and tying in.

THE VINERY.—The cool conditions of temperature recommended for the early peachery should be followed in the culture of the Vines, where the crop has mostly or wholly been gathered. After removing the bunches thin out the superfluous growth. This will be quite enough in the meantime. What is termed a "half pruning," that is, a rather sharp spurting back of all the next year's fruiting wood, may be performed shortly from this time. The Vines should be rid of any mealy bug or red spider which may have infested them, and the canes should be ripened and rested as much as possible. The latest houses of Vines are just passing through the berry thinning stage. Syringe the Vines at least twice a day, and maintain an even temperature of 60° at night up to 70° or 80° during the day.

STRAWBERRIES may now be layered. For plants to supply next year's forcing stock prepare and use small thumb pots. Runners from the strongest plants should be secured.

MELONS.—Avoid over-cropping the plants. Four or five fruits to a plant is quite enough, and where more have been allowed to remain I seldom have seen them all finish properly. As soon as they begin to swell freely prepare to support them by a little piece of board placed a trifle obliquely, and just touching their base. Syringe morning and afternoon. Very little air need be given. Plants in frames, however, should be kept more ventilated, and much care is required in giving the water. Slight shade is necessary.—*J. H. D.*

HINTS FOR AMATEURS.

Hardy Herbaceous and Alpine Plants.—There are so many splendid hardy flowering plants in bloom at this time that one may well be pardoned for once again turning to them. Nothing pleases me better than to see something uncommon and beautiful flourishing in the confined garden at the back or front of a suburban villa. When this spirit is awakened, the spirit which impels the garden lover to look around to secure what really pleases him or her, and to plan the garden somewhat different from the next door neighbour's, then there is pretty sure to be an interest taken in gardening, in its wider sense, and emulation may be thus engendered, to the advantage of the commonwealth. Yet it does not always follow that because Mr. A. has a smartly kept garden full of choice and somewhat uncommon plants, Mr. B. will take an example. One should think that a well kept garden would have its influence, and in a measure it does have a power, but the "measure" does not extend far enough. I saw a very marked instance of this kind a few days ago when travelling through a municipal borough. In front of one of the fine villas of the outskirts there was a charmingly planted and exquisitely well kept garden. On either side of that garden the neighbouring ones are kept respectably well; the gardens two doors off are only "middlin'," while the next to those are close upon being disgraceful. But I know the owners of that well kept garden get their money's worth returned in the satisfaction they have. Well, here I am, running away, from the point as usual; what discrepancies I've to answer for!

Verbascums.—From the tall Mullein (*V. Thapsus*), down to *Verbascum phoeniceum album*, *V. rubiginosum* and even dwarfier sorts, between this highest and the lowest *Verbascum*, there are some wonderfully fine garden plants. They are plants, all of them large leaved, and the majority of them are fairly tall. Nothing handsomer than *V. Chaixii* could surely be desired for even the largest and finest garden. It grows higher than a tall man, is broad at the base branching into a number of lateral stems, and the central spike towers up straight, being densely crowded with brilliant yellow flowers. It is known as the Nettle-leaved Mullein, but the likeness of its leaves to those of the Nettle is not very apparent. It is distributed throughout the southern parts of Europe. *V. Lychnitis* is larger in its parts, and is equally as worthy of inclusion.

Anthemis nobilis, the Chamomile.—This rather bald headed little flowering plant is not included so much for any merit of its own to be classed with the gems of the garden, but simply because I have a sentimental temperament and I like all those plants that my own great-grandmother and other people used to grow and cherish in the old-fashioned garden of long ago. It is also an odorous plant, a point which further commends it. Growing two or more feet high, its habit is compact and its character floriferous. The designation of "bald-headed flower" is not inapt, for the disc is rounded like some sort of brass stud or button and the ray petals are sometimes wanting. It is a small, deep yellow blooming composite, found as a procumbent wild plant in parts of Britain; it has medicinal properties.

Roses.—In a previous note I ran over a few points of interest touching the evolution of some of the finer sections of Roses. The present note is a continuation of the previous reference.

Climbing Roses are mostly singles or polyanthas. There is a section sometimes catalogued as "Climbing Roses" pure and simple, but this is simply a nurseryman's system for facile reference. As a rule the climbing Roses, or those of the polyantha type as Little Pet, Flora, The Garland, and others, do not commence to bloom till June (sometimes well on in the month), and they continue till November, weather permitting. Of course there are other Roses which are not true climbers but which are used on walls.

Polyantha Roses make splendid bedding plants when their long shoots are pegged down. Everyone knows the character of this section of Rose, many neat little flowers in clusters, borne at the apex of generally slender shoots, and having small equally neat leaves. Hundreds, even thousands of

blossoms are produced by plants covering only a few square feet of wall or pillar. They do not require much pruning, merely a thinning out of inferior shoots, and a shortening back of the young growths before breaking time in spring. They should be planted in good loamy soil to begin with, after which they as a rule flourish without further attention. It is necessary to syringe plants upon the walls, porches and arbours of dwellings, both to keep them fresh and beautiful, and to remove greenflies. The above remarks have been written in relation to the needs of polyantha Roses, but the same rules apply to the single sorts. Before describing some of the finer varieties of these two sections, I should like to say that there are none too many Roses in any garden I have yet seen. The motto of a certain influential arboricultural society is "Aye be stickin' in a tree, it will be growin' when yer sleepin'." By all means try to act on this rule in regard to Rose planting, only plant the Rose, do not just "stick it in." Over old walls, over arches, arbours, pergolas, banks, fences, pillars with linked chains, trellises, and over the lower boughs of trees and sometimes on bare trunks, in all such places let Roses ramble. First on the list comes *Crimson Rambler*. Paul's *Carmine Pillar*, a large single crimson Rose with white centre, is a perfect gem; and as a decorative Rose it rivals the aforementioned. It is never seen to better advantage than when trained to erect, column-like wire or wooden trellises. Three or four of these trellises should be set in a cluster though a few feet apart from each other. The *Macrantha* Rose is a single of good size, white tinged with pink and very showy. *Flora* is a profuse flowered creamy white polyantha variety. *Helene* from *Crimson Rambler*, but single, is a fine sort, and very vigorous. A new polyantha Rose, also from Turner's *Crimson Rambler*, is Paul's *Psyche*, pale rosy pink and exceedingly profuse. *Perle d'Or* could scarcely be excelled among yellows. *Gloire de Polyantha* is a lovely bright rose coloured sort; *Annie Marie de Montravel* cannot be beaten as a spotless white polyantha; while *Etoile de Mai* and *Etoile d'Or* are fine yellow varieties. These may be accepted as the choicest of climbing Roses. A few more singles are worthy of commendation, however, and these are:—*Hebe's Lip*, white with carmine edge; *Royal Scarlet*, which in verity is a royal flower, glowing velvety crimson; *Polyantha grandiflora*, with white flowers; *Moscata alba*, a splendid white; *Cooling's Himalaica*, a glorious white variety with yellow brown stem, and *Cooling's Crimson-bedder* with charming crimson flowers.

Hybrid Sweet Briers.—The *Penzance Sweet Briers*, now so well known and so charming in all respects, were raised by the late Lord Penzance from the common Wild Brier of Britain, *Rosa rubiginosa*. They differ from the Wild Brier only in being larger flowered, of varied colours, and probably more robust growth. The fragrance of them remains pleasant and good. The best of these *Penzance Briers* are *Flora McIvor*, rose; *Lord Penzance* and *Lady Penzance*, shades of copper and fawn; *Lucy Asbton*, white edged pink; *Meg Merri-lees*, gorgeous crimson; *Brenda*, pink; and *Anne of Gierstein*, a splendid dark crimson. They should be disposed in beds, and may either be mixed or kept in shades alone. They are A 1, also, for the Rose dell as described two weeks ago.

Erigerons.—The *Erigerons*, or *Fleabanes*, are a family of dwarf growing border and rockery plants, generally of erect habit and bearing a profusion of flowers, and some of the species and varieties much resemble the *Michaelmas Daisies*. They are generally propagated by division of the crown in spring, and do well in any decent garden soil. *Erigeron speciosus*, from North America, is paler flowered than most of the genus, but is a good and recommendable sort. *E. s. superbus*, however, puts it far in the shade. Indeed, this is the best of all, forming charming beds when well treated. Other varieties of greater or less value in moist soil are *E. glabellus*, which is dwarf, about 1 ft. high and erect. *E. g. asper* has the deepest tinted flowers of all, these being mauvy coloured. *E. macranthus* grows 2 ft. high, and has fair sized blossoms, bushy habit, and is vigorous. Along with the *Fleabanes* may be mentioned a dwarf and very early flowering Siberian Aster—*A. sibiricus*. It only grows 1 ft. high, so that even for the front of a border it can be recommended with all confidence, and the habit, form,

and colour of the starry flowers distinguish it as one of the gems of the garden at present.

Lychnis chalcidonica is an old-fashioned favourite, well known to most people. Being such a fine thing it might be in place to recommend more liberal employment of it. It bears brilliant scarlet-crimson flower beads of good size on erect stalks; 3½ ft. high.

nula britannica.—For those who wish a long-lasting flower and a plant which succeeds well on a dry soil, this dwarf and bushy, wiry stemmed plant with Daisy-like flowers of a brilliant deep yellow colour may be put before them with respect. It is a real good hardy plant.

Coronilla varia.—Almost like a *Galega*, bushy, slightly different in foliage and habit, is this remarkably fine plant. It requires to be grown upon some support, such as pea sticks, whence it branches freely and forms bushy, round formed plants, having literally loads of pinky-mauve racemes. On good soil this is a plant worth the having, and one, the like of which there are few.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Soot for Onions, &c.—*W. Ewart*: Soot contains ammonia, carbon, and also some other ingredients in small quantity. It is sown at the rate of forty to sixty bushels per acre, or one peck to one and a half pecks per rod. It should be applied and hoed-in; the addition of lime helps to retain the ammonia. Common salt is slightly advantageous to Turnips, Cabbages, &c., at the rate of 2 ozs. per square yard.

Judging Cottage Gardens and Allotments.—*J. R.*: The merits of the gardens, not their size, ought more especially to be accounted. Judging is usually done by points, ten usually being a maximum. Vegetables as follows:—Peas, Beans, Cabbages, Winter Greens, Onions, Turnips, Marrows, and Rhubarb receive eight marks each. Hardy fruits the same, but Potatoes receive ten marks, as being the most important of cottage garden crops. The greater the variety of vegetables well grown the bigger the points.

American Blight on Fruit Trees.—*L. T. S.*: At this time of year use spirits of wine.

Pruning Ivy.—*Jas. Wells*: The present is decidedly a bad time of year to prune Ivy. If you wish to cut it in, do so just before growth starts in spring.

Grambe orientalis.—*L. M.*: The plant you mentioned may readily be raised from seeds sown in pans about the beginning of the year, the young plants being planted out later in the year. A sunny position and a deep sandy soil suits it well. For planting in open wood-glades it is serviceable.

Wall Vine.—*S. Wanner*: To aid the bunches now most advanced, cut away a few, not many, of the shoots surrounding them. Shorten or pinch the stem upon which the bunch that you leave grows. Nail the shoot somewhat close to the wall for the sake of obtaining all the reflected heat possible. Thin the berries as soon as they are the size of very small Peas. Keep the plants syringed early morning and evening. Crops for various uses, principally wine-making, can be got from open air Vines on walls. Mulch and water the roots well.

Vegetable Marrows in Boxes.—*Groom Gardener*: As a rule Vegetable Marrows like as much room as possible, both for the development of their roots and stems. In fact, the place they are frequently planted on, is either a manure heap or a leaf mould bin. We have seen them grown in large boxes, but to be successful they require a great deal of rich top-dressing and heavy liquid manure feeding. From lack of this your plants have no doubt suffered, hence the dropping of the blossoms.

Is Clematis coccinea Hardy?—*L.*: We have seen it grown on open walls in the south. Unless your garden is exceptionally well situated and sheltered

we would not advise any very liberal planting of this pretty species out of doors. As a trained pot plant for a cool house it is exceptionally fine. We are to publish a paper on "The Clematis" from the pen of Mr. Geo. Jackman, Woking.

The Most Nutritious Fruit.—F. S.: On this point doctors differ. For ourselves we should say the Banana. What do our readers think?

SOUTHGATE HOUSE, SOUTHGATE.

THE village of Southgate is practically a suburb of London, seeing that the distance is only six and a half miles by rail from King's Cross. We refer to the old village (not New Southgate), which must have a considerable population, even although it is

the warm season last year was responsible for the proper ripening of the wood of this tree, and the profusion of blossom this summer. Oaks, Elms, Horse Chestnuts, and others constitute the umbrageous and patriarchal specimens scattered over the green and grassy grounds. Laburnums and many other small trees and shrubs generally make up an assemblage which determine the character and beauty of the place.

The visit being a hurried one, towards the close of the day, there was no time to inspect the orchard and kitchen garden; but all phases of gardening are carried out here, although the place is best known to the general public from the collection of Orchids which occasionally make their appearance at the Drill Hall meetings of the Royal Horticultural Society.

The Grapes in the second early vinery were about

represented, and *C. aurea* by 100 plants. A quantity of *C. amethystoglossa* had strong growths, with their flower buds advancing. A massive piece of *C. Harrisoniae* carried thirty-four flowers in early spring, but was somewhat out of season, and in an ordinary way, that is, when the growth becomes properly established will develop about 100 flowers from its numerous leads.

A large flowered form of *Dendrobium Pierardi* was in full beauty. Others of this genus worthy of note are *D. atrovioleaceum*, *D. Phalaenopsis schroderianum*, in dozens suspended from overhead wires; and *D. P. hololeucum*, the finest pure white variety of this species which has ever been seen. Many varieties of *Laelia tenebrosa* were then in season and amongst them a particularly dark and fine variety with a black throat to the lip. *Vanda*



CATTELYA HOUSE AT SOUTHGATE HOUSE, SOUTHGATE, N.

situated between two stations, and about two miles from one and two and a half from the other. Although there is regular communication between either and the village, the latter is a very quiet retreat to be so near to London. This applies with particular force to Southgate House, Southgate, N., the residence of C. H. Feiling, Esq., who may well be proud of such a rural retreat. As soon as the visitor is ushered into the grounds, the proximity of the village is soon forgotten, and orchard, gardens, glasshouses and a beautiful park beyond open to the view.

The trees were in their full beauty of leafage at the time of our visit near the end of last month; and the False Acacia (*Rohinia Pseudacacia*) was loaded with its snowy blossoms in a manner we have never seen excelled. To see was to admire. No doubt

half-grown. The earliest vinery was shut up on January 2nd last and the cutting of the Grapes commenced on May 25th. Foster's Seedling was notable for the great size of the bunch and the fineness of the berries. Black Hamburgh was also good.

The large Orchid house contains a great variety of subjects, and is a source of much interest during the greater part of the year, not only to the owner, but to those who have the privilege of inspecting the same. The accompanying illustration gives a good view of the interior though only along one side of it. Many Cattleyas were in bloom, including *C. Mossiae* and *Mendelii*, there being some large specimens, and some with flowers of excellent colour and faultless form, the substance of the segments and their contour leaving nothing to be desired. Others were *C. gigas* and *C. Forbesi*. *C. labiata* is well

sauvis, *V. tricolor*, *V. caerulea*, and *V. sanderiana* (the latter with seven or eight leading growths) show that the merits of this stately group are not overlooked. *Thunia marshalliana*, *Zygopetalum Mackayi* and others added variety to the display. The greenhouse was gay with Hydrangeas, Fuchsias, Carnations in many varieties from a German source. *Nertera depressa*, laden with its bright red berries, could hardly escape the eye.

The *Odontoglossum* house came next, with its contents in a clean state and vigorous growth. The most popular of all the species—*O. crispum*—was flowering in great variety. The flowering sprays of *O. hastilabium* were 4 ft. long, thus giving evidence of suitable treatment. Other seasonable subjects included *O. maculatum*, *Oncidium varicosum*, in fine form, *O. crispum*, *O. marshallianum* and *O.*

macranthum with a 5 ft. panicle. Cymbidiums were represented here by *C. lowianum*, one of the most useful.

Proceeding in an informal manner, we next were shown into a house rendered gay by Gloxinias, in self, spotted, and banded forms in a great variety of colours. Tuberous Begonias, chiefly singles, occupied a great portion of the house with their bright, cheerful and varied colours. The crested forms (*B. cristata grandiflora*) have also found a home here.

The Cypripedium house contained a collection of some 130 named species, varieties and hybrids, while seedlings are coming up in the pots. All are well looked after, as their clean state and healthy vigour testify. Those in bloom included Cypripedium Stonei, *C. rothschildianum* (several plants, with three flowers on a stem), *C. Parlshii*, *C. lawrenceanum*, *C. mastersianum*, *C. Curtisii* (with an enormous lip), a seedling between *C. bellatulum* and *C. lawrenceanum*, and *C. caudatum Wallisii*, the best of all the long-tailed forms. It is a lovely albino of the type, the pouch being white internally, this being surrounded by a line of purple spots, and those again by a yellow band.

Cool frames at present accommodate a collection of all the best forms and colour varieties of Cypripedium insigne.

The latest vinery next came in this route. The principal varieties noted were Gros Colman, Lady Downes and Alicante, the berries of which had just been thinned.

A recent importation of Odontoglossum Insleayi, under the influence of direct sunlight was just starting into growth. Oncidium varicosum, *O. crispum*, *O. marshallianum* and others of that group were doing well on pieces of Tree Fern stems.

The Tomato house was a fine sight of quite another character, the plants being grown in boxes sunk in the soil, confined to single stems and trained up to the roof. Their healthy character was quite interesting to witness. Many varieties are grown, including Batchelor's Prelude, Conference, Frogmore Prolific, Frogmore Selected, Comet, Rochford's variety, Chiswick Peach and others, all heavily fruited. On the side benches was a fine and very varied batch of seedling Coleus, raised from a packet of seed. Zonal Pelargoniums, in up-to-date varieties, were also gay.

Princess of Wales, Alexandra and Noblesse Peaches, together with Lord Napier Nectarine and others, were well cropped; while Azaleas beneath were making their growth. C. H. Feiling, Esq., is very catholic in his taste, and it would be difficult to say in which of the above subjects he takes most delight.

On the lawns surrounding the mansion various flower beds have been cut out of the grass and filled with plants of a varied character. Running along the front of the house, but on the boundary of the dressed grounds, is a long border, planted with flowering and foliage plants in undulating lines. The first line of the border consists of Pelargonium Mrs. Feiling, a zonal variety with uniformly golden-yellow foliage that deepens in tint as the summer advances. It is a distinct and handsome variety, being much more decided in colour than Crystal Palace Gem that used to be so popular. This is followed by lines of Petunia Countess of Ellesmere, yellow and white Marguerites, Liliun candidum, &c. The back lines are occupied with Roses, Sunflowers, Dahlias, and other tall plants; so that on the whole a varied and lengthened display will be kept up. A bed was gay with the dark crimson-red Pelargonium J. P. Currie. Pelargonium Mrs. Henry Cox, a tricolor with a very dark zone, and Chelsea Gem, having much white on the leaf form the features of another bed. It was too early, however, to judge of the bedding.

The interior of Southgate House itself is very elaborately furnished, with every conceivable article of use or ornament. The pictures in several of the rooms are splendid and evidence great taste in their selection. The house, indeed, is a perfect museum of plaques, or ornamental plates of Chinese, Japanese, and other design; also lacquer ware and other wares representative of the best and highest artistic design. This is somewhat out of the beaten track of gardening; but plants and flowers also find their way here and contribute to the delight of their owner and his household.

The late Mr. Fred. Canham was a familiar figure

amongst Orchid growers, where such were wont to assemble. He was succeeded at Southgate House by Mr. Charles Stocking, the present gardener, whom some may recognise in the illustration of the Orchid house we reproduce; while behind him is one of his assistants. From what we have seen of the establishment Mr. Stocking is evidently determined to keep up the reputation of Southgate House.

THE CLEMATIS.

THIS well known genus of the order Ranunculaceae derives its name from the Greek word *klema*, a Vine branch, and is also known in this country by the familiar name of Virgin's Bower. The species, according to the "Index Kewensis," number about 240, which are to be found mostly in the temperate zones of both hemispheres, so, with few exceptions, are hardy in this country. Only one species, *C. Vitalba*, is a native of England, which is to be seen growing freely in chalky soils, rambling over hedges, bushes and hanging cliffs, covered each autumn with its profuse tufts of grey plumose fruits, which gained it the name of Old Man's Beard.

Several other species are, however, familiar in our gardens—notably *C. Flammula*, *C. montana* and *C. Viticella*, whilst we occasionally find the following: *C. erecta*, *C. integrifolia*, *C. paniculata*, *C. graveolens*, *C. coccinea*, *C. patens*, *C. lanuginosa*, *C. Fortunei* and *C. Standishi*. This is, however, only a small list of species which, in my opinion, deserve more attention; it would take up too much time to go thoroughly into the list, but those which strike me more particularly are the pretty early spring-blooming *C. calycina*, with its small, bell-shaped, yellowish-white flowers, marked inside with purplish spots; *C. alpina* and *C. sibirica*, the blue and white species from the Alps and mountains in Siberia respectively, so useful for the rockery, rootery, or pillar; *C. campaniflora*, with its fragrant small white or purplish-tinted flowers in June and July; the small yellow-flowered *C. Wilfordi*, which blooms profusely in August and September; *C. lathyrifolia*, the herbaceous perennial which produces its small white flowers in loose corymbose panicles from June to August; and the sweet-scented Chinese species, *C. davidiana*, with its tubulose or Hyacinth-shaped flowers of bright blue disposed in elegant clustered heads during the month of September.

For size and beauty the species are mostly far surpassed by the hybrids, which have been mostly obtained from *C. patens*, *C. lanuginosa*, *C. Fortunei* and *C. Standishi*, the last three being sent over by Fortune from China in 1851.

The first person to commence the hybridisation of the Clematis in a systematic manner was Mr. Anderson Henry, of Edinburgh, who, in 1855, crossed *C. patens* with *C. lanuginosa*, from which he obtained *C. Reginae*, though, I believe, the honour of raising the first hybrid must be given to the late Mr. Henderson, of Pine Apple Nursery, who sixteen years previous to the aforementioned date, raised *C. Hendersoni*, but whether it was an artificially produced or chance hybrid I am unable to say.

The next person to take up hybridisation was my father, who, in 1858, raised the still popular *C. Jackmanni*, which he followed up with many other varieties still in cultivation up to 1877. We are also indebted to Mr. Charles Noble, Messrs. Cripps & Son, Monsieur Simon Louis, Monsieur Lemoine, and many others for several fine forms, though from 1877 to 1894 successful hybridisation appears to have been almost at a standstill. This, I believe, was due to two causes; firstly, the want of using fresh blood, secondly, to the insidious "dying off" with which the Clematis has been affected for so long, rendering hybridisation not only disappointing but almost useless.

I am pleased, however, to be able to now inform you, after several years close study and experiments, that I have been able to a great extent to avert this calamity, the losses at Woking being now comparatively small, and these it would be obviously unfair to attribute entirely to the so-called "dying off." I have noted from time to time the different opinions that have been given as to the cause of this "dying off," some persons believing it to be caused by injury from frost, some attributing it to too much nourishment, water and heat; some considering it to be brought about by the bursting of the cells through excessive moisture, whilst others think it is caused

by eelworms or fungus, and also to grafting. There is no doubt that frost is the cause of some deaths, and too much water and bad drainage to others, but I cannot agree with them that either of these is the sole cause of all the losses. My experience is that the plants mostly succumb during the summer months when the ground is driest and the sun has most power, and in the majority of these cases I could not detect any sign of the plants having had too much nourishment or water, or that the drainage was bad.

With regard to insects and fungus, I have often noticed them in the decayed part some days after the branch failed, but not in the first stage. I have often seen eelworms in knobs formed on the roots, more especially of the common *C. Viticella*, but I have never seen this species go off in the same way as the hybrids, so I cannot attribute the cause to them, though they are no doubt very injurious to the plant.

I have frequently examined the roots of the hybrids which have died down, and in most cases they appeared perfectly clean and healthy, the decay having started at or above the graft, and the plant has often shot up again from the base, sometimes only to die down once more. Grafting also cannot be put down as the direct reason, as plants on their own roots go off in the same manner.

I do not think, however, that *C. Vitalba*, which is so generally used as a stock, is entirely suitable for some of the large flowering hybrids. The roots differ from those of the latter, being of a hard wiry character, the hybrids appearing, after they have had sufficient time to get established on their own roots, to ignore the stock, which eventually decays.

Reverting again to the "dying off," I am of the opinion that it is mainly due to loss of constitution through over-propagation, which has been brought about by the great popularity of, and consequent demand for the hybrids, and being of a soft succulent nature, have responded only too freely to the treatment. My other reasons for coming to that conclusion are, as already mentioned, that the plants mostly go off on the hot bright days of summer, and in many cases after having made several feet of growth, and are forming the flower buds, which seems to me to imply that they are wanting in vital power, and are unable to withstand the extra call upon their strength and the extreme heat. If it is not loss of constitution why was the "dying off" not noticed twenty-five years ago, and why has it increased of recent years, not only in this country but on the Continent, and how is it we do not see the rampant robust growths of former years? Again, it seems strange that whilst the large hybrids have been so badly affected, I have never seen *C. montana*, *C. Flammula*, *C. Viticella*, or *C. Vitalba* collapse in the same manner, unless my contention is correct that over-propagation is the cause. I might also mention I have not yet seen signs of the dying off amongst the new hybrids from *C. coccinea*.

As a decorative plant the Clematis is almost unequalled. Few climbers can surpass it for covering a wall or porch of a house, or training over trellis-work, commencing with *C. montana* early in May, and followed throughout the summer and autumn by the large hybrids of the *patens*, *florida*, *lanuginosa*, *Viticella*, and *Jackmanni* types. To these must be now included the new *coccinea* hybrids *C. Countess of Onslow*, *C. Duchess of Albany*, *C. Duchess of York*, *C. Grace Darling*, and *C. Sir Trevor Lawrence*, which, with those of the last type, remain in bloom till frost comes.

The Clematis is also at home planted out or grown in pots, in the conservatory, cool greenhouse, or glass corridor, if the situation is not too shady or confined. Those of the *patens* or *florida* types are often more appreciated in these positions than when grown out of doors, coming into bloom as they do at a time when flowers are somewhat scarce, through escaping the May frosts which sometimes spoil those growing outside. Rambling up pillars and poles, over rootery or rockwork, they are all the more elegant, and when bedded out produce a most gorgeous effect; but when this is done it is desirable that those of the *Viticella* and *Jackmanni* types should be selected on account of their profuse blooming properties. Some of the smaller flowered species, such as *C. Flammula*, *C. graveolens*, *C. montana*, *C. Vitalba*, or *C. Viticella* are also quite in keeping with wild scenery when scrambling over ruins, arbours, tree stumps, banks, hedges, and bushes, whilst several of the herbaceous and sub-shrubby species and varieties are worthy of a place in any herbaceous or mixed border.—(Read before the Horticultural Club, Tuesday, June, 19th, by Mr. A. G. JACKMAN.)

HARDY PLANTS AT LONG DITTON.

ANYTHING relating to hardy herbaceous flowers at the present moment should be of general interest, for in some way or other nearly every garden lover has within years taken a special interest in these plants which require so little care or special cultural knowledge, yet which are as handsome as the best of the flowers produced by Nature. "Orchids" is a word usually taken to typify the noblest and loveliest of aught in the floral world, but surely some of the splendid English Irises now in bloom are worthy to compare even with a beautifully refined *Cattleya* or *Sobralia*. However, we need not be nicely discriminative. Messrs. Barr & Sons, King Street, Covent Garden, and Long Ditton, Surrey, as growers of bulbs and hardy plants in general have a magnificent show of fine herbaceous flowers in their nurseries at present, and the following notes refer to plants which are worthy of attention, and which are grown at Long Ditton. *Armeria plantaginea* is a plant worth the looking after, but we may ask which of the *Armerias* is not worthy of notice? This special species of Thrift grows in close short-leaved green tufts after the usual style of the others, but it sends up long stalked flowers, these latter being white, or nearly white. It forms a good companion to *Armeria cephalotes*, which, instead of being white, is rosy red.

The little Geranium-like plant, *Erodium macradenium* has pretty, greyish, dissected leaves, and bears a profusion of red and dark purple coloured flowers. It is even more suitable for a rockery pocket than for the border, being small and compact. *E. Manescavii* is a bright magenta coloured flower, having a darker coloured centre. The flowers, which are spread out in liberal trusses, are as large as a florin, and the foliage is also large and handsome like those of the smaller *Potentillas*. Another capital little plant, and one that grows with all freedom, is *Ononis rotundifolia splendens*. It spreads out well, and attains also a height of 1 ft., having Pea-shaped bright rosy-pink flowers. Both foliage and flowers are particularly good. *Origanum vulgare aureum* is a dwarf bright yellow leaved variety of the common Marjoram. The foliage is deliciously scented, and certainly no dwarf plant excels the cheery glow of this little procumbent grower. It is a plant to be recommended. *Orobolus lathyroides* attains a height of 15 in. to 1½ ft. It has plenty of deep blue racemes, held conspicuously outward from its wiry looking stems. *Linaria dalmatica* shoots straight up 4 ft. high. The glaucous leaves are arranged all round the stems, which throw out numerous side branches, bearing the sweet pale yellow flowers with deep orange lips. It is a well known and very handsome plant.

That old-fashioned favourite, *Nepeta Mussini*, used for edging low shrubberies with, or for forming big spreading beds of blue flowers to provide beauty for human eyes, and food for the bees, was seen in great perfection. It is a distinct plant and grows freely. *Buphthalmum salicifolium*, when it has space to grow well, forms an erect bushy plant with dark stems, bright lanceolate leaves and deep orange-yellow composite flowers. For a collection of handsome leaved plants, and plants of massive proportions, this *Buphthalmum*, sometimes known in gardens as *Telekia*, is worthy of consideration. *Pentstemon acuminatus* is a fairly showy plant, grows in bushy form and produces any amount of pale blue flowers. *Hieracium aurantiacum* is one of the finest of its genus. The plants do well when socially massed together in a bed, for when the sun is bright the flowers expand and simply glow in their colours of brilliant orange and yellow. The plant grows 2 ft. high, likes a somewhat sandy soil, and is slightly hairy. The very showy but ephemeral *Papaver pilosum* with pale salmon coloured blossoms grows freely in all well-drained sunny soils. *Scabiosa lutea* grows about 6 ft. high, has pinnate leaves and bears numerous large creamy flowers. It is not at all frequently met with. *S. caucasica* is a handsome blue flowered species more to be recommended as an ornamental plant.

The tall *Campanula persicifolia alba*, the well-known white flowering variety, was seen in capital style. *Geum chiloense* with brilliant large spreading flowers, having a yellow centre and crimson edge, is a very fine border or rockery plant. *Crucianella stylosa* Brilliant is like a plant of *Woodruff*, but has larger flower heads, and the colour of these is bright rosy-purple. *Erigeron pulchellus* reaches 2½ ft. and

has bright lavender-blue flower heads. A companion plant for this latter may be had in *Chrysanthemum Leucanthemum grandiflorum*. This, of course, has the large "Gowan" flowers, and attains nearly a yard in height. *Centaurea dealbata* with its ornamental leaves, having silvery under surfaces which glint and glisten in the sun, has large lilac-mauve heads of bloom. It is a wiry-stemmed plant and decidedly picturesque.

Lychnis Flos-jovis is an extraordinary fine plant for a slightly shaded lawn bed. Like many other things its finest effect and beauty is only apparent when the plants are massed. The flower trusses are strong and good, the colour of them being a cheery shade of red. *Lychnis Viscaria* is also a charming hardy plant. *Linum sibiricum* and *L. s. album* are slender growing things reaching 2½ ft. high. Nothing is better for decorations. *Pentstemon ovatus* is a better thing than *P. acuminatus*. The flower racemes are also bright blue, but the habit of the plant is more graceful. The *Helianthemums* or Sun Roses were seen in many distinct varieties. In the months of June and July a collection of these on a sunny exposed border is very enlivening. *Aquilegias* are being strongly taken in hand, and the firm possesses a full collection of the best named sorts. *Thalictrum flavum* forms a conspicuous plant with its large glaucous foliage and yellowish inflorescence 5 ft. high. It is in flower at the present time. *Centranthus ruber* and its variety *alba*, are plants for everybody's garden. *Astrantia major* ought to be more freely used; for though the *Astrantias* are not brilliant bloomers, there is yet a sweetness about them, and they are distinct. *Centaurea pulchra* major sometimes known as *C. raphonticum*, is handsome, having large heads of mauve coloured blooms surrounded by brown bracts.

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SOCIETIES.

NATIONAL ROSE.—July 7th.

EXTRA CLASSES FOR AMATEURS.—The Rumsey Silver Cup and £2 was awarded to P. Burnand, Esq., Reigate, for twelve blooms, distinct. This cup was open to all amateurs who have not twice previously won it. Capt. Hayward, Mrs. S. Crawford, Mrs. W. J. Grant and Mrs. J. Laing were the finest. Rev. J. H. Pemberton was a fair second, having good blooms of Caroline Testout, K. A. Victoria. In Class XLII., for six distinct varieties, Mrs. E. A. Moulden, Stevenage, had a fine first prize lot. This class is only open to those who have not previously won a prize at N.R.S. shows, and brought out a number of exhibitors. S. Morris, Esq., Leicester, was first in the class for six blooms, open only to those who had not previously won a first prize. E. Boswell, Esq., Hitchin, was the winner in the separate class allotted for those who have joined the society since last year's show.

In the class for six distinct varieties of blooms grown within six miles of Charing Cross, G. W. Cook, Esq., N. Finchley, won the Langton Memorial Cup, £1, and as this exhibit contained the best Rose other than H.T., T. or N., he also won the Silver Medal awarded to such Rose, having Ulrich Brunner, a massive, clean, well formed flower. The stand on the whole was of superior merit, having Heinrich Schultheis, Mrs. John Laing, Mrs. S. Crawford, Francois Michelin, and Marchioness of Londonderry. E. R. Smith, Esq., Muswell Hill, was a fair second; J. Bateman, Esq., being third.

The Challenge Trophy and Replica for eighteen Tea and Noisette blooms, distinct, was carried off by A. H. Gray, Esq., Newbridge, Bath, with a wonderful collection. Comtesse de Nadaillac, Bridesmaid, The Bride, Madame Cusin, White Maman Cochet, Souvenir d'un Ami and Catherine Mermet were simply superb. Rev. F. R. Burnside, St. Margaret's Bay, Dover was a capital second with large and fresh blooms; O. G. Orpen, Esq., was second. For eight distinct ditto, A. Hill Gray, Esq., again won, securing a Piece of Plate. There were eight entries. E. M. Bethune, Esq., was second, and Rev. A. Foster-Melliar, Sproughton Rectory, Ipswich, third. These classes were all creditable, though still below the average.

TEA AND NOISETTE SECTION.—Open to growers of not less than 500 plants of T.'s and N.'s. For twelve blooms distinct varieties, Rev. R. Powley, Warminster, was first with a sweet lot of very fair blooms, of which Bridesmaid, Comtesse de Nadaillac, Madame de Watteville, Catherine Mermet, and The Bride were the best. C. Jones, Esq., Gloucester, was second with a creditable and fine display in which Marechal Niel, The Bride, Maman Cochet, Souvenir d'un Ami, Medea, Madame de Watteville and Madame Cusin were conspicuous. T. A. Washbourne, Esq., Gloucester, came third also with a fine stand. This was one of the best competitions in the amateurs' section. R. F. Hobbs, Esq., was first for nine ditto, and C. Jones, Esq., had the first award for six of any one variety, showing a superb lot of Marechal Niels. M. Whittle, Esq., Belgrave, Leicester, won a Piece of Plate in the section for nine distinct blooms, open only to growers of not more than 200 Roses. He had exceedingly fine blooms, of which Medea, Madame Hoste, E. Metz, and Souvenir d'un Ami were charming. C. F. Leslie, Esq., Hertford was awarded first place for six distinct blooms. J. C. Trueman, Esq., for six of any one variety, was first.

For four varieties, three blooms of each, Rev. R. Gowley, Warminster, was the winner of a Piece of Plate presented by R. E. West, Esq. Catherine Mermet, Bridesmaid and The Bride were good. W. Upton, Esq., led the way for six blooms, not less than three varieties.

EXHIBITION ROSES IN VASES.—For nine distinct varieties (to include not more than four varieties of Teas or Noisettes), five blooms of each (space occupied by exhibit not to exceed 5 ft. x 4 ft.) in nine vases, H. V. Machin, Esq., Gateford Hill, Worksop, won the Piece of Plate awarded with a fine display well set apart, a black velvet cloth being used below. Rev. J. H. Pemberton was a good second, though the arrangement was not so fine. O. G. Orpen, Esq., also won a Piece of Plate in Class LX., for six vases of Teas and Noisettes, seven blooms each. Miss B. Langton was a fair second.

In the ladies' decorative section, for a vase of cut Roses, Miss B. Langton was again to the fore, followed by Mrs. J. Fearon, Birdhurst, Reigate, and third, Miss West, Firth Dene, Wray Park, Reigate. There were five entries, and all very fine.

For six vases of Sweet Briers, F. W. Camplon, Esq. (gardener, Mr. J. Flitt), Trumpets Hill, Reigate, was first, with charming bunches of Lady Penzance, Brenda, &c.; H. V. Machin, Esq., second; and third, G. H. Baxter, Esq.

For nine distinct varieties of garden Roses, H. V. Machin, Esq., was here again first; Rev. J. H. Pemberton, second; and Mrs. A. F. Perkins, Oak Dene, Holmwood, third. All were very fine.

For six distinct varieties, not less than three bunches of each, G. W. Cook, Esq., beat Ed. Mawley, Esq.

Mrs. A. G. Perkins, Holmwood, Dorking, was the happy winner of the Girdlestone Memorial Piece of Plate offered in Class LXIII. for nine distinct varieties, not less than three trusses of each. This, as indeed, were all, was a magnificent exhibit. Miss D. A. Nesfield, Speldhurst, was second, and Miss B. Langton, third.

A Silver Cup was won by A. Tate, Esq., Downside, for twelve distinct bunches of garden Roses. O. G. Orpen, Esq., was a strong and close second. These classes for decorative or garden Roses proved to be among the finest features of the show. All were well filled, and the quality of the exhibits was good.

SCOTTISH HORTICULTURAL.—July 10th.

ON Tuesday, July 10th, the Scottish Horticultural Association held their fourth annual summer display of Roses, Strawberries, and herbaceous cut flowers in the compact, pretty, and well lighted hall of the Freemasons in George Street, the show being as a whole very attractive, and decidedly the best the society has yet had. There is ample evidence of the backwardness of the season in the display of Roses, which were very meagre indeed.

Some very fine baskets of Strawberries were shown, the samples sent in by Mr. Scougall, Eskbank, being surpassingly good, Laxton's Leader and Royal Sovereign being the varieties he tabled. Mr. D. Kidd, Carberry Tower, Musselburgh, sent in a splendid sample of Vicomtesse Hericart de Thury, and Mr. McKenzie, Trinity Grove, also tabled a fine dish of Royal Sovereign.

Messrs. Laing & Mather, Kelso, did themselves great credit by the neat but splendid show of Carnation blooms. Yule Tide is a very fine dark crimson; Duchesse Consuelo, a fine large pale yellow; and Lady Nina Balfour, a very sweet, neat bloom of creamy-pinkish colour. They also had some good vases of Malmaisons.

Mr. M. Cuthbertson, Rothesay, exhibited some fine stands of Sweet Peas, prominent among those staged being Firefly, a deep red; Princess Beatrice, splendid pink; Princess May, a fine lavender colour; Countess of Powis, a pretty salmon-pink. Mr. Cuthbertson's arrangement of his blooms was most successful, being placed in a tier of four tubes, thus securing freedom of display, and also assured their being in water.

Messrs. Kelway & Son, Langport, Somerset, showed a nice table of Delphiniums, Gaillardias, and Irises.

Messrs. R. B. Laird & Sons, Ltd., filled up the whole breadth of the hall with a fine table of stove plants and Palms.

On the west side of the hall Messrs. Dobbie & Co., Rothesay, set up a fine show of cut blooms of Pelargoniums flanked on either side by Sweet Peas. Among the Pelargoniums may be noted Emperor of Russia, very dark, edged white; Scarlet Gem, very pretty; Mrs. Harrison, a very rich crimson and white; Atalanta, a fine mauve coloured bloom; but we need not enumerate all that were good.

Messrs. Cunningham & Fraser, Comely Bank, Edinburgh, had a splendid stand of herbaceous and alpine plants in bloom. On their table was noted some fine Irises, Gaillardias, Paeonies, &c. Mention may be made of Helonias extus, very scarce, Potentilla William Rollison, P. Vaise d'Or, Scabiosa caucasica, and also some specially good Campanulas.

Messrs. James Cocker & Sons, Aberdeen, had a fine table set up prominently, their display of Iris being really very fine, a special note amongst them being Admiral, Masterpiece, Ellen Terry, Orpheus,

7. Mr. C. A. Spragg, Technical Institute, Cambridge	135
7. Mr. Alfred Steventon, Coulsdon Road, Caterham	135
12. Mr. John R. Arthurson, Lowther Villas, Wood Road, Halewood, Liverpool ..	130
12. Mr. Samuel H. Brooks, Yew Tree Cottage, Lymm, Cheshire	130
12. Mr. Charles Harwood, The Gardens, Wiseton Hall, Bawtry, Notts	130
12. Mr. J. J. Hurstfield, Rush Green, Lymm, Cheshire	130
12. Mr. Thomas Masters, The Gardens, St. Andrew's House, Droitwich	130
12. Mr. H. W. Spong, The Gardens, Lindisfarne, Bournemouth	130
18. Mr. Frederick C. Halliwell, Technical Schools, Bolton	125
18. Mr. Richard B. Harrison, 75, Bolton Road, Quarlton, Lancs.	125
18. Mr. James Price, East Lodge, Shillingford, Wallingford	125
21. Mr. Arthur Wood, Technical Schools, Bolton	120
22. Mr. John Coombes, Fulford, Arretton, Isle of Wight	115
22. Mr. Arthur Edwards, Wiseton, Gardens, Bawtry, Notts	115
24. Mr. Fred. C. Crack, Wiseton Gardens, Bawtry, Notts	110
24. Miss Annie E. Morris, Technical Institute, Cambridge	110
24. Mr. P. Mossman, Wiseton Gardens, Bawtry, Notts	110
24. Mr. Frank H. Tippling, Church Close Nursery, Clent, Stourbridge	110
28. Mr. E. Rushling, Wiseton Gardens, Bawtry, Notts	105
29. Mr. G. Hayles, The Nook, Shillingford, Wallingford	100
29. Mr. John Twynham, Wiseton Gardens, Bawtry, Notts	100

SCHOLARSHIPS.

Sir Trevor Lawrence, Bart., president of the society, and Master of the Worshipful Company of Gardeners, very kindly offered a scholarship of £25 a year for two years, to be awarded after the examination of the Royal Horticultural Society in 1894 to the student who should pass highest, if he were willing to accept the conditions attaching thereto. The main outline of these conditions is that the holder must be of the male sex, and between the ages of 18 and 22 years, and that he will study gardening for one year at least at the Royal Horticultural Society's Gardens at Chiswick, conforming to the general rules laid down there for students. In the second year of the scholarship he may, if he likes, continue his studies at some other place at home or abroad which shall be approved by the Master of the Worshipful Company of Gardeners, and by the Council of the Royal Horticultural Society.

A similar scholarship was presented by Baron Schröder, V.M.H., after the 1895 examination.

The Worshipful Company of Gardeners continued this scholarship to the end of 1896.

Another similar scholarship was given after the 1897 examination by N. N. Sherwood, Esq., V.M.H., Master of the Worshipful Company of Gardeners.

Another was given for 1898-9 by G. W. Burrows, Esq., a member of the Court of the same Worshipful Company of Gardeners.

Another was given for 1899-1900 by the Right Hon. the Lord Amherst, who presents it also through the Gardeners' Company.

And another is promised for 1901 by Henry Wood, Esq., which will be continued in 1902 by F. G. Ivey, Esq., both gentlemen being members of the Court of the Worshipful Company.

Scholars:—

1894-5-6	M. W. N. Sands.
1895-6-7	Mr. G. F. Tinley.
1897-8-9	Mr. H. S. Langford.
1898-9	Miss Harrison.
1900	Mr. C. J. Gleed.

If the student who is at the head of the examination is for any reason unable or unwilling to accept the scholarship, it is then offered to the next highest on the list, and so on throughout the First Class.

Euclid, Virginata, &c. They also show a fine lot of Potentillas, Scabiosas, Gaillardias, Paeonies, &c., the whole stand being very fine.

Mr. John Downie, Princess Street, had a neat circular table in the centre of the hall, on which was grouped some nice Caladiums, Crotons, Ferns, Gloxinias, &c.

Messrs. John Ford & Co. showed a very prettily dressed dinner table, the decoration being done with Smilax, blue and white Cornflowers, with a dash of scarlet Pelargoniums, the effect being very fine.

Messrs. Todd & Co., Florists, 31, Shandwick Place, showed some works of art in bouquets, floral baskets, &c., a spray or shower bouquet of blue and yellow Irises with Smilax and Gypsophila being very fine. Another good design was made up of dark red, pink, and yellow Roses. Baskets of Roses and Sweet Peas were also good, and the whole table indeed excellent.

Mr. G. Wood, gardener to Jas. Buchanan, Esq., Oswald House, showed a fine lot of stove and greenhouse flowers, there being also a pretty lot of Pansies and Violas.

The proceeds of the show go to the *Daily Telegraph* and *Scotsman* War Funds.

MANCHESTER ROSE SHOW.—July 14th.

THIS important fixture was held in the large annex of the Botanical Gardens in charming weather, the clouds being sufficiently heavy to reduce the power of King Sol to nil. Mr. P. Weathers, the curator, had a light awning stretched over the exhibits for the preservation of the blooms in case of strong sunlight. The entries were more numerous than usual, whilst the quality hardly reached the standard of the Palace in the nurserymen's section, but that of the amateurs' was far in advance.

NURSERYMEN'S CLASSES.—In the class for sixty blooms, Messrs. A. Dickson & Sons, Newtownards, added to their run of successes, having well built, fresh blooms, the best being Mrs. W. J. Grant, Horace Vernet, Bessie Brown, Ulster, Mrs. Mawley, Alice Lindsell, Star of Waltham, Mildred Grant, which was awarded the Silver Medal; M. Beauman, Louis van Houtte, Maman Cochet, E. Y. Teas, Ernest Metz, Duchess of Portland, Catherine Mermet, Gustave Piganeau, A. K. Williams, Xavier Olibo, Mdme. Hoste, Daisy, Alice Grahame (new), Helen Keller, Mrs. S. Crawford, Ulrich Brunner, Mrs. Conway Jones (new), Duke of Wellington, Comtesse de Nadaillac, The Bride, and Mdme. Cusin, Mr. B. Cant, Colchester, was second with many fine blooms, including Bridesmaid, Mdme. Cusin, Kaiserin A. Victoria, Victor Hugo, Horace Vernet, Papa Lambert, A. K. Williams, and Comte de Raimbaud. Messrs. Harkness & Son, Bedale, Yorks., made a very smart third, out of the six competitors.

For thirty-six distinct varieties, Messrs. A. Dickson & Sons again took the lead; Mr. B. Cant and Messrs. Prior & Sons, Colchester, being second and third in this order.

For twenty-four Teas or Noisettes, distinct, Mr. George Prince, Oxford, won with superb flowers of Comtesse de Nadaillac, White Maman Cochet, Souv. d'Elise Vardon, Mdme. Cusin, Catherine Mermet, Miss E. Brownlow, Mrs. E. Mawley, Rubens, &c. Mr. B. Cant and Messrs. A. Dickson followed as second and third.

Twelve Teas or Noisettes, distinct, Mr. J. Mattock, Oxford, secured first honours, he having Souv. d'Elise Vardon, which gained a Silver Medal for the best Tea Rose in the show. Mr. G. Prince was second. Twelve trusses of any yellow Rose, Mr. J. Mattock won with Comtesse de Nadaillac, these being clean blooms; Mr. Prince, second, with the same variety.

For twelve light Roses, Messrs. A. Dickson & Sons scored with massive blooms of Mildred Grant; Messrs. Harkness & Sons, second, with Souv. d'Elise.

For twelve "Crimsons," Messrs. A. Dickson & Sons again had the best lot, with Ulrich Brunner; Mr. J. Mattock, second, with Horace Vernet.

AMATEURS.—For twenty-four distinct trusses, Mr. E. B. Lindsell, Hitchin, led with strong blooms of Mrs. J. Laing, G. Piganeau, Vernet, Duchess of Bedford, A. K. Williams, Victor Hugo, The Bride, and Mrs. W. J. Grant; Rev. J. H. Pemberton was second with smaller but very fresh flowers; Mr. W. Boyes, Derby, taking the remaining prize out of four competitors.

For twelve varieties, Mr. E. B. Lindsell again led with a very strong lot; Rev. J. H. Pemberton and Mr. R. Parke, Bedale, following.

Eighteen Teas or Noisettes, distinct, Mr. Lindsell still held his own, the best being Maman Cochet, Mermet, Souv. d'Elise, Ernest Metz, and Ethel Brownlow; Rev. G. E. Ashley and Mr. Folly-Hobbs were placed as named.

For twelve Teas or Noisettes the winners were Mr. R. Parke, Rev. J. H. Pemberton, and Mr. E. B. Lindsell, each with good lots. For twelve yellows, Mr. R. Parke won with Kaiserin A. Victoria of fine colour; Mr. E. B. Lindsell being second with Caroline Kuster. For twelve light Roses, Mr. E. B. Lindsell scored, with pretty flowers of Maman Cochet. For twelve crimsons, Mr. E. B. Lindsell with A. K. Williams; Rev. J. H. Pemberton with the same variety, second.

In the local classes, Mr. James Brown was first for twelve varieties; Mr. G. N. Midwood had the best six, and Mr. J. G. Wood was first for six Teas.

For the best twelve bunches of Roses suitable for buttonholes, Mr. John Mattock was first for his Ma Capucine, Mr. H. V. Machin was second.

For a display of Roses, Mr. G. Prince was well ahead with a very fine bank set up in baskets, Bamboos, &c.

For the best arranged basket Miss Ada Stanley was a good first. For three bouquets Mr. John Mattock was first; and the only competitor for one bouquet was Mr. J. G. Wood.

For twelve bunches Sweet Peas, Mr. G. Prince won with a very fine lot, well set up.

For thirty-six Strawberries, Mr. R. McKellar won with good fruits of President.

EXTRA EXHIBITS.—Mesdames Hodgkins and Stanley secured the Society's Silver Medal for a beautiful group of dried vegetable skeletons.

Mr. H. Eckford, Wem, got a Silver Medal for fifty vases of Sweet Peas in the newest and finest varieties.

Messrs. Jones & Sons, Shrewsbury, a like award for thirty varieties of Sweet Peas.

Messrs. Hinton Bros., Warwick, for seventy-five vases of Sweet Peas set up in excellent style, also got a Silver Medal.

Mr. Amos Perry, Winchmore Hill, London, N., was honoured with a Silver Medal for a very meritorious collection of hardy cut flowers, Lilliums, Calochortus, Scabiosa, Eryngiums and many other good things were shown.

Messrs. R. Wallace & Co., Colchester, were likewise the recipients of a Silver Medal for hardy cut flowers in which Hemerocallis, Gaillardias and Lilliums showed to great advantage.

Mr. Upjohn, gardener to the Earl of Ellesmere, received an Award of Merit for a group of Amaranthus tricolor.

Messrs. R. Wallace & Co. were voted First-class Certificates for Lillium concolor and Eremurus Bungei, and an Award of Merit for Lillium Henryi and L. Humboldtii.

Mr. A. Perry received a First-class Certificate for Eremurus Bungei.

Messrs. Pewtress Bros., Tillington, Hereford, staged a fine collection of Cherries, amongst the kinds shown were some gathered from a tree planted by Thomas Andrew Knight, first president of the R.H.S.

During the afternoon a large company patronised the many beautiful exhibits.

ROYAL HORTICULTURAL.—July 17th.

HARDY herbaceous plants and Roses were again in strong force at the Drill Hall, Westminster, on Tuesday last. Of stove and greenhouse plants Crotons were in strong force, whether shown alone or in conjunction with Ferns and other subjects.

H. F. Simonds, Esq. (gardener, Mr. Geo. Day), Woodthorpe, Beckenham, staged a large group of Orchids, including fine varieties of Laelia tenebrosa, Cattleya granulosa, C. Mendelii, Miltonia vexillaria, Dendrobium thyrsiflorum, Grammangis Ellisii superba, Odontoglossum crispum in variety, Epidendrum vitellinum majus, Oncidium concolor, and various others. (Silver Flora Medal.)

A large and splendidly flowered piece of Coelogyne sanderiana, with highly fragrant flowers was exhibited by Col. W. E. Brymer, M.P., Ilington House, Colchester. (Silver Banksian Medal.)

Messrs. F. Sander & Co., St. Albans, exhibited a large piece of Dendrobium Phalaenopsis schroderia-

num, together with several well-flowered hybrid Cypripediums, including C. Lord Derby, C. Lady Maple, C. A. de Lairesse, C. kimballianum, &c.

Mr. Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, exhibited a very interesting group of Orchids, including Sarcanthus peninsularis, Masdevallia maculata, Tainia speciosa, and Cirrhopetalum sinense, all of which received Botanical Certificates. Maxillaria scurilis received a First-class Certificate, and Cypripedium rothschildi-lawrenceanum and Angraecum flicornu received each an Award of Merit. (Silver Banksian Medal.)

N. C. Cookson, Esq. (gardener, Mr. Murray), Wylam-on-Tyne, exhibited Phaius oakwoodensis.

Messrs. Barr & Sons, King Street, Covent Garden, London, W.C., occupied their usual position, and showed early-flowering Phloxes, Sidalcea Listerli, Coreopsis grandiflora, Heuchera sanguinea, Pentstemon barbatus, Barr's Scarlet Gem, Lillum Brownii, Eryngiums, Veronicas, Calochorti, Gladiolus of the nanus delicatissimus type, and two beautiful plants of Haemanthus Nelsonii with broad hairy leaves and stout blush flower heads. The collection was very fine. (Silver Banksian Medal.)

Messrs. James Carter & Co., High Holborn, London, showed a collection of Lettuces, most interesting because of their great variety. The best we would judge to be Carter's Continuity and dark Cabbage Lettuce; Carter's Perpetual (new); Malta or Drumhead, Large White Summer, Giant White Cos, Paris Green Cos, and many others. (Silver Banksian Medal.)

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, had a bright collection of hardy herbaceous cut flowers. The little Granthesla procumbens with Lily of the Valley flowers was also included. Lillum Humboldtii magnificum, L. chalconicum, Oenothera speciosa, pure white; Achillea serrata fl. pl. Carnations and Nymphaeas, &c., were shown. (Silver Banksian Medal.)

Messrs. Isaac House & Sons, Westbury-on-Trym, Bristol, showed a collection of new hybrid "Moon Daisies." Certainly these are all larger than any existing Moon Daisies, of which Chrysanthemum maximum, C. latifolium, and others are types. C. l. Moonlight is a splendid large flowered variety, C. m. filifera a fringed variety, and C. m. Purity are fine as now shown, but if they get much bigger they will become coarse.

Messrs. Bird & Vallance, Downham, Norfolk, showed seedling border Carnation Mrs. Vallance, a white variety.

Mr. Amos Perry, Winchmore Hill, London, N., showed a collection of hardy herbaceous cut flowers, including Helenium grandiflorum, Oenothera speciosa rosea, Veronica spicata, Centaurea bicolor, Scabiosa caucasica, Campanula celtidifolia, a beautiful lavender coloured variety; Gentiana Kurroo, a bright and very free flowering thing; Campanula Mariesi, Dianthus barbatus magnificus, Jassione perennis, Erigerons, Geums, &c., &c. (Silver Banksian Medal.)

Messrs. Dobbie & Co., Rothesay, N.B., set up a collection of choice Violas and Sweet Peas. Bronze Kintore is a rich variety, Lizzie Paul a large deep yellow; Primrose Dame, Blue Duchess, Blanche, Nellie Currie, Maggie Thornby, Duchess of Sutherland, Klondyke, Seedling No. 12, '99, and Goldfinch were the best and sweetest. (Silver Banksian Medal.)

Messrs. Jones & Sons, Florists, Shrewsbury, had a splendid collection of Sweet Peas. The well-known Salopian, Gorgeous, Countess Cadogan, Captivation, Lottie Hutchins, Black Knight, and Baden Powell, were one and all included.

Lord Aldenham (gardener, Mr. G. Beckett), Aldenham House, Elstree, had a group of Crotons which obtained universal admiration. The plants were of fine figure, now being in pots larger than 9 ins., mostly confined to the single stem, clear, bright and well furnished. Elegantisimum, Picturatum, Golden Ring, Chelsoni, Heathii elegans, &c., were included. Ferns and Panicum were used between them. (Silver Gilt Flora Medal.)

Messrs. Wm. Paul & Son, Waltham Cross, Herts, staged Tea and other Roses. Souv. de C. Guillot, a lovely Tea, new hybrid Tea Rose Tennyson, H. T. Mdme. Pernet Ducher, Capt. Christy, Niphetos, and others were put up. They were all of good quality. The Polyantha, Mignonette, China Cramoisie superieure, Mdme. C. Guinoisseau, Anne Marie de Mon-

travel, were included among the "garden" varieties. (Silver Gilt Flora Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, S.W., had two tanks of *Nymphaea*. *N. marliacea alba*, *N. m. chromatella*, and *N. m. carnea*, were especially good. *N. Leydekeri rosea*, *N. L. fulgens* were also strikingly fine.

Mr. James Douglas, Seed Grower and Florist, Edenside, had a collection of mostly new varieties of border Carnations, most of them being of the very first rank of quality—stout, large, of good form and colour, and also fragrant. (Silver Banksian Medal.)

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, had a choice and exceedingly well grown assortment of table decorative plants. *Begonia Arthur Malet*, *Croton Superbum*, *Phrynium variegatum*, *Cissus discolor* in pots, *Dracaena sanderiana*, *D. formosa*, *Tradescantia Reginae*, *Asparagus Sprengeri*, Ferns, &c., formed a highly interesting collection. (Silver Gilt Banksian Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, showed *Lilium Brownii*, *L. umbellatum* Cloth of Gold, *L. thunbergianum* Van Houttei, *L. coridion*, bright yellow and dwarf, and fine variety, *L. concolor*, deep red, &c., with Carnations and hardy flowers. (Silver Gilt Banksian Medal.)

Mr. M. Pritchard, Christchurch, Hants, showed a few hardy herbaceous plants, one of which (*Campanula carpathica* Riverslea) received an Award of Merit. *Centaurea ruthenica*, *Heliopsis scabra* major, *Astilbe Silver Sheath*, and *Lilium Brownii* were also shown.

Mr. B. R. Davis, Begonia Grower, Yeovil, Somerset, staged cut blooms of double tuberous Begonias, some of these being among the most massive and fine specimens we have seen this year. Mr. A. M. Barber, rose; *Orion*, crimson-scarlet; *Sappho*, rosy-peach; *Florence Nightingale*, Mr. H. J. Jones, Eldorado, and Mrs. Stothert were the choicest of those set up. (Silver Banksian Medal.)

Mr. W. Rumsey, Waltham Cross, N., showed a collection of Roses, the group including H. P. Mrs. Rumsey, Tea, Francisca Kruger, L'Idéal, &c. (Bronze Banksian Medal.)

Messrs. J. Cheal & Sons, Crawley, had a fine group of standard red and yellow Currants, and standard Gooseberries. *La Fertile* red Currant; *Blanche de Werder*, yellow Currant, and others were simply laden with fine bunches of fruits.

Messrs. Wm. Cutbush & Son, Highgate, London, N., had Carnations, the finer being *Herbert J. Cutbush*, a fine crimson border variety; *King Oscar*, *Lady Grimston*, *Nautilus*, Mrs. Martin R. Smith, a large blush variety; and Mrs. Trelawny. The Messrs. Cutbush always arrange well, and the quality is first-rate. (Silver Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, are always bringing out good new florists' flowers. Their latest evolution is among Poppies. The depth of the fringing and the varied colouring of these varieties of *Papaver somniferum* are strikingly handsome.

Lord Aldenham, Aldenham House, Elstree, besides the group of Crotons, staged by far the largest collection of hardy herbaceous cut flowers put up in the hall. It filled a stage 20 yds. long and 4 ft. or 5 ft. broad. The chief of the subjects exhibited included *Iris Paul Von Sicherer*, *Aconitum Napellus*, *Prunella pyrenaica*, *Lysimachia clethroides*, *Lilium Batemannii*, *Polygonum Brunonis*, *Delphinium* Mrs. Rolland, *Heliopsis pitcheriana*, *Campanula patula* and other things. (Silver Gilt Flora Medal.)

Messrs. Paul & Son, The Old Nurseries, Cheshunt, staged a collection of Roses and Phloxes. The Tea, *I. Pirola*, was very fine; *Mdme. C. Guinnoisseau*, *White Maman Cochet*, *Vicomtesse Folkestone*, *Maman Cochet*, *K. A. Victoria*, *H. P. Victor Verdier*, and some of the finer climbing and decorative Roses were also shown. (Silver Banksian Medal.)

Messrs. G. Charlton, High Church, Morpeth, sent a three-year-old Gooseberry bush of the variety *Victoria*, literally laden with large berries like those of *Whitesmith*.

Messrs. Cross & Son, Daffodil Nursery, Wisbech, showed a fine boxful of Apple Early *Victoria*.

Rev. W. Wilks, Shirley, sent samples of the Logan Berry. This is like a very large dark coloured Raspberry but has a pungent juicy taste.

Messrs. Jas. Veitch & Sons, Ltd., Chelsea, showed two boxes of a new Strawberry of large size, firm flesh, cuneate form and dark shining red colour, named Lord Kitchener. This result as a cross between British Queen and Waterloo and has a splendid aromatic flavour, most appetising. They also showed a boxful of their now popular Raspberry Superlative, a large yellow variety.

L. Pelly, Esq., Rusper, Sussex, sent twelve bunches of Black Hamburgh Grapes, capital bunches all of them, and well finished. (Silver Knightian Medal.)

Lord Suffield (gardener, Mr. Allan), Gunton Park, Norwich, set up three dishes of Lady Suffield Strawberry, the new variety sent out by Mr. Allan last year. It is in every way a meritorious Strawberry, and possesses exquisite flavour.

The Marquis of Salisbury, Hatfield, sent a box of Brown Turkey Fig, large and luscious fruits. (Silver Banksian Medal.)

Messrs. W. W. Johnson & Son, Ltd., Boston, Lincs, sent a collection of 150 dishes of Culinary Peas. There were embrative of all the finest of

the present day varieties, the finest in appearance being *Telegraph*, *Early Marrowfat*, *Johnstone's Standard*, *Californian Giant*, *Prince Albert*, *Boston Hero*, *The Bruce*, *Dickson's Utility*, and *Sutton's Eureka*. The firm also showed a new Pea, *Johnstone's "British Empire"*. It is of the same height and duration as *Daisy*, of splendid flavour, an extraordinary cropper, with pods in pairs, and seeds numerous and large. (Silver Gilt Knightian Medal.)

J. Key Allen, Esq., St. Aubins, Bitten Park, Southampton, showed a fine group of Sweet Peas.

Messrs. J. Veitch & Sons, Ltd., set up a fine batch of their stove *Rhododendrons*.

READ THIS.

The competition continues as usual next week.

The prize last week was awarded to Mr. Charles Blair, Binny, Uphall, N.B., for his article on "The Scotch Rocket," p. 730. The plant in question is *Hesperis matronalis alba plena*, which succeeds well under conditions similar to those mentioned in the article. Climate is a large factor in the success.

QUESTIONS AND ANSWERS.

Fairy Rings on Lawns.—*J. W. Laird*: We have seen fairy rings very often on pastures, meadows, commons, and pleasure grounds, though not so often upon lawns. Any grass land, however, if rich enough, may be infested with these small Mushroom-looking fungi, which live in the pasture, feeding upon the nitrogenous matter usually plentiful in the fibrous turf. To destroy the fungi you should apply dressings of kainit or potash in some other form so as to destroy the fungus. Dressings of lime as heavy as it would be safe to apply the same should also be given. These dressings need only be applied to the circumferential band of the ring in which the fungi are coming up. It might be worth your while during winter to take out a trench all round each ring, outside of that portion containing the fungus. The trench may be 1 ft. deep and as wide. Mix the soil with lime and potash before putting it back in the trench and relaying the turf. The fungus is already dead in the centre of the ring, where it originally commenced, probably from spores, so that you need not trouble about that unless it be to enrich the soil by farmyard manure, &c., to make the grass grow. Fresh turf might be laid or seeds sown after enriching the soil.

Rose Buds and Leaves Failing.—*M. S. G.*: Your Roses are suffering from mildew, consequent upon the recent spell of cold, sunless, and damp weather. Moisture and the lack of sunshine are great evils. You state that they are planted in a very good situation and well manured. Under certain conditions both of these things may be evils in themselves in aiding the disease. Shelter is a good thing for preventing the wind, especially cold, east winds, from injuring the Rose bushes in spring; but it is liable to encourage a moisture laden condition of the atmosphere in summer, when the sheltering trees and shrubs are covered with foliage. Roses are always less subject to fungoid diseases when planted in open, exposed positions, where the wind can play round them, than when overhung or too much sheltered by trees. It is too late now to save your Roses as far as the flowers are concerned; but you might have the bushes syringed with a mixture of flowers of sulphur and water; or, if you prefer it, you could have the bushes damped over with the syringe and then well dusted with flowers of sulphur, that is, with sulphur in a state of powder. Next season you should keep a close watch upon the disease, and as soon as the first specks are detected have the bushes treated as above directed. If taken in time the remedy will save the blooms of your Roses.

Names of Plants.—*W. B. G.*: 1, *Tilia americana heterophylla*; 2, *Tilia argentea*; 3, *Taxodium distichum pendulum*; 4, *Fraxinus parvifolia*.—*A. G. B.*: 1, *Spiraea arlaefolia*; 2, *Spiraea canescens*; 3, *Sibthorpia europaea variegata*; 4, *Statice profusa*; 5, *Linaria Cymbalaria*; 6, *Tilia vulgaris*.—*D. M.*: 1, *Campanula rhomboidalis*; 2, *Campanula carpatia alba*; 3, *Campanula latifolia*; 4, *Iris xiphioides*; 5, *Lythrum Salicaria*.—*W. D.*: 1, *Oncidium ampliatum*; 2, *Oncidium maculatum*; 3, *Oncidium pumilum*; 4, *Cypripedium bellatulum*; 5, *Cattleya gaskelliana*.—*A. T.*: 1, *Clarkia pulchella*; 2, *Eschscholtzia californica*; 3, *Dianthus plumarius*; 4, *Hieracium aurantiacum*; 5, *Digitalis lutea*; 6, *Silene Armeria*; 7, *Lychnis alba*.—*A. P.*: 1, *Pulmonaria saccharata* var.; 2, *Potentilla argyrophylla* var.; 3, *Astrantia major*; 4, *Doronicum caucasicum*.

Communications Received.—*H. Peerless*.—*James F. Allen*.—*J. B. Crichton*.—*J. W. Laird*.—*Ed. Webb & Sons*.—*J. Veitch & Sons*.—*J. Douglas*.—*John Forbes*.—*D. Chisholm*.—*R. M.*.—*A. C.*.—*A. L.*.—*E. D.*.—*W. P.*.—*S. V.*

TRADE CATALOGUES RECEIVED.

HERB & WULLE, Bulb and Seed Growers, Naples, Italy, via Trivio, 24-36.—General Catalogue of Bulbs, &c.

R. B. LAIRD & SONS, Ltd., 17, South Frederick Street, Edinburgh.—Forcing Bulbs and Odds and Ends for the Garden.

SHOW FIXTURES FOR 1900.

JULY.

- 25.—Carnation and Picotee Society's Show, July 25th; Beckenham Horticultural Society's Show; Newcastle-upon-Tyne Flower Show (3 days).

- 26.—Saint Ives Horticultural Society.

AUGUST.

- 2.—Maidenhead Horticultural Society.
3.—Devon and Exeter Horticultural Society.
7.—Abbey Park, Leicester, Flower Show and Gala.
16.—Ladywell, Lewisham and District Cottagers' Flower Show (2 days); Royal Horticultural Society, Aberdeen (3 days).
19.—Newton Stewart and Minnigaff Floral and Horticultural Society (probable date).
22.—Bucklebury and Marlston Horticultural Society.
24.—Falkirk Horticultural Society; Bradford Horticultural Society (2 days).
30.—Stirling Horticultural Society (2 days).

SEPTEMBER.

- 7.—National Dahlia Society's Exhibition (2 days).
12.—Royal Caledonian Horticultural Society (2 days).
27.—R.H.S. Fruit Show (3 days).

OCTOBER.

- 9.—National Chrysanthemum Society (3 days).
NOVEMBER.
6.—National Chrysanthemum Society (3 days).
7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).
8.—Devon and Exeter Horticultural Society (2 days).
15.—Maidenhead Chrysanthemum, Fruit and Vegetable Society (2 days).
23.—Dundee Chrysanthemum Society (3 days).

DECEMBER.

- 4.—National Chrysanthemum Society (3 days).

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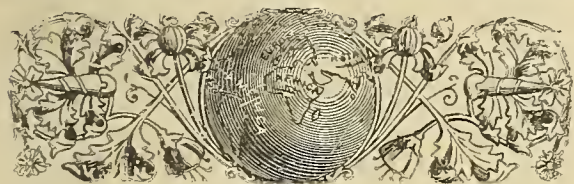
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JULY 28th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 31st.—Meeting of the Royal Horticultural Society.

THURSDAY, August 2nd.—Maldenhead Horticultural Society's Show.

FRIDAY, August 3rd.—Devon and Exeter Horticultural Society's Show.

THE BICENTENARY OF THE SWEET PEA.—

As it was 200 years ago, so it is to-day; the Sweet Pea, or Sweet-scented Pea, as it was called by Miller, is *Lathyrus odoratus*. Some attempts have been made at one time or another to hybridise it with some other species, but beyond records of success or failure, the hundreds of bunches of Sweet Peas tabled at the Crystal Palace on the 20th and 21st inst., were *Lathyrus odoratus*, pure and simple, without admixture of other blood. This accords with the net results of inquiry into the origin and evolution of such garden flowers as the greenhouse Cyclamen, Chinese Primula, Carnation, Pink, Cineraria, and many others. We are face to face with the fact that the Sweet Pea has been grown for 200 years in this country before it was honoured with a special show

and conference, such as has often been done for the Rose, Carnation, Auricula, Dahlia, and others. That the exhibition has been a success has been abundantly proved. Had it been held a week earlier before the advent of the great wave of heat varying from 85° to 95° in the shade, the exhibition would have been finer and the flowers more lasting. They should have been fresher on the second day than the first had it not been for the culminating and overpowering heat of the first day. Organisers of future Sweet Pea shows would do well to remember this. As it was we have the opinion of the Rev. W. T. Hutchins, of Indian Orchard, Massachusetts, U.S.A., the American Sweet Pea expert, that the show on the 20th and 21st was the finest that has ever been held in the history of the Sweet Pea. The reverend gentleman was simply overwhelmed with the quantity of flowers, the uses we can put them to, the size of the flowers, and above all, the rich colour assumed by the flowers of the respective varieties in Britain with its relatively cool and moist climate as compared with the dry and hot climate of the United States. Such warm testimony, even although from a man speaking our own tongue must be very gratifying to us; but we must not forget the fact that we are peculiarly favoured in the matter of climate in our little island, and that we have the advantage of a vast concentration of effort and ability within a short radius of the Metropolis, whereas in the United States there are vast possibilities, but they are scattered over a land that has to be measured by thousands of miles, where the difficulties of concentration or centralisation are very great. There is no lack of ability in the United States, and we give them full credit for what they do and what they can do there.

The fact remains, however, that the origin and full force of the evolution of this popular and beautiful flower has taken place in this island. The Rev. W. T. Hutchins admitted as much, and said that the Americans wished us to retain the lead in the evolution of the Sweet Pea. This was certainly a very graceful concession; and he further stated that the evolution of the Sweet Pea within the last twenty-one years will always remain associated with the name of Mr. Henry Eckford, Wem, Shropshire. Several splendid varieties have been raised in the United States, but Mr. Hutchins said that they were rendered possible chiefly through the efforts of Mr. Henry Eckford. There have been previous workers in the field, struggling with the difficulties of making the original wilding "come out of its buckie," that is, to put out its horns, and depart from the originally simple state of the wild Sicilian plant. The reward for thus responding to the will of man, if reward it could feel, is its being, and that it will be, cultivated over the whole of the temperate regions of the globe, instead of being confined to its wild home in Sicily and the adjacent shores of the mainland of Italy near Naples. It is peculiarly a garden plant, and does not seem to accord with the dry and warm climate of Sicily, for in gardens it likes cool and moist weather, in the absence of which it soon runs to seed in its own interest, it would be fair to assume. We have further testimony to this peculiarity in the statement at the banquet by Herr Fritz Benary, of Erfurt, that the Sweet Pea does well in Germany, but poorly in France, Italy, or any other of the southern countries of Europe. How are we to reconcile this with the recorded history that a variety of the Sweet Pea, differing only in colour from the type, was introduced from Ceylon as a

wild plant? If this plant had ever crossed the equator, even during the glacial period, it would no longer have been the Sweet Pea, as it must have so altered in character, constitution, and probably form, that it would no longer have been *Lathyrus odoratus*, but some other species. The record must have been a mistake, and all good botanists and many practical gardeners now disbelieve the story of a home in Ceylon for the Sweet Pea. The variety was recorded by Miller as the Painted Lady. Might not the Sweet Pea have been taken to Ceylon by some of the early travellers, and the seedlings have given rise to this striking variety as a result of the difference of temperature and climate upon its constitution? As far as we remember, no one has put forward this suggestion. In any case, we believe that differences in climate or even in season, soil and environment, have a marked effect in inducing changes in the colour of the flowers and the constitution of the plant.

Certain it is that the Sweet Pea has never before in its career as a cultivated plant during the past 200 years stood so high in public favour over the length and breadth of the British Isles; and the story of its Bicentenary Celebration will be handed down as the first great climax of its popularity in history. Where a few pounds of seed were sold a few years ago tons pass through the hands of seedsmen independently of those saved by amateurs and gardeners for their own use. The enthusiastic American amateur already mentioned, and who has already done so much for the literature, as well as the cultivation of the Sweet Pea in the United States, said that it is grown in every state of the Union, that planting is carried on during the rainy period, stretching from November to June, "from the semi tropical belt of Gulf States to the Canadian latitude." For the last decade, and from the Atlantic to the Pacific—a distance of 3,000 miles—every garden has had its row of Sweet Peas. What greater popularity for his favourite flower could the warmest enthusiast desire? The growers and seedsmen of the United States handle something between 125 and 150 tons of seed during the year. This may be described as a wave of feeling of vast magnitude for one flower alone. In some places the popularity practically amounted to a craze, but by the time this subsides, the steady cultivation of the flower will be well established in the land. When the next Sweet Pea exhibition will be held in this country it would be difficult to prophesy, but admirers are not wanting who think that its destiny as an annual institution is already assured.

Within the last few years and weeks the history of the Sweet Pea has been given at greater or less length in different publications, including *THE GARDENING WORLD*, and the evolution of the same was discussed at the conference in a paper prepared by Mr. John S. Eckford and Mr. C. H. Curtis. To a considerable extent the history and evolution of the flower are bound up together, and the discussion showed that the speakers had a difficulty in keeping them separate. Nevertheless the stages by which the Sweet Pea has advanced both in size and colour were interesting. The evidence of history and the plants themselves testify that *Lathyrus odoratus*, as a species, remains intact and unmixed; and the trend of the discussion, including that of Mr. Henry Eckford himself, went to show that seed sowing and selection has been the most important factor in the evolution of the flower. As far as we can make out artificial cross-fertilisation has not been a potential agent. Some affirmed, however,

that results do not begin to show themselves till the second year. Still further careful experiments are needed to prove or disprove this view. It is difficult to see where improvement can now be expected, although many advances are still desired and hoped for.

As in the past so in the future we must patiently wait and watch for desired features, seize upon the same and fix them in the usual way well known to raisers. Nothing strikingly new was advanced for 1900. The classification committee had many knotty points to settle on the second day of the conference, in classifying the varieties in groups under their respective colours or alliances of colour. The science of colour is so little understood that difficulties on this point are of frequent occurrence, and the giving of examples of each colour is to be recommended for the guidance of the general public. A very general expression of opinion was that the multitudinous colour varieties of the Sweet Pea were greatly in excess of requirements, that the cultivation of the whole was impracticable, and their indistinctness rendered it undesirable. The work of selection and reduction to fifty or even 100 will be a formidable task. Some varieties are certain to excel others in certain seasons, and many cultivators will have their own particular preferences, which the seedsman cannot ignore. It seems to us that a number of years must elapse before the weeding out system can become thoroughly effective. The classification committee had a turn at this work in the Trial Grounds of Messrs. Hurst & Son, as mentioned by us last week. A full report of the show is given on other pages of this issue, and a condensed report of the conference as far as space permitted.

The Midland Carnation and Picotee Society.—Owing to the excessive heat of the past fortnight, it has been thought desirable to again alter the date of the above society's show. This is now definitely arranged for the original dates, viz., the 1st and 2nd of August.

Pilea muscosa in Jadoo.—Since the use of fire heat was discontinued in the greenhouses of Col. Halford Thompson at Eastcliff, Teignmouth, the *Pilea muscosa* or Artillery Plant has ceased to come up. It may be remembered that it came up in Jadoo Fibre after that had been boiled in the process of manufacture.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, July 31st, in the Drill Hall, James Street, Westminster, when special prizes will be offered for "Cacti." A lecture on "Cherries and Plums" will be given by Mr. H. Somers Rivers, at 3 o'clock.

The Most Nutritious Fruit.—I believe the Banana to be the most nutritious fruit grown. Its main constituent is, in the unripe state, starch, which in process of ripening becomes converted into sugar. Of very luscious taste, it is a wholesome and nutritious food. The tree yields, for the same extent of ground covered, more food than any other vegetable. According to Humboldt, 1,000 sq. ft. of ground will yield of Potatoes 462 lbs., of Wheat, 38 lbs., and of Bananas 4,000 lbs., and in a shorter period of time. About 6½ lbs. of the fruit or 2 lbs. of the dry meal, with ¼ lb. of salt meat or fish, form in tropical America the daily allowance for a labourer, whether slave or free. The unripe fruit keeps better than the ripe, because of the carbohydrate being yet starch, and when dried in this state forms a kind of bread. Meal is prepared by pounding and sifting the dried fruit. The leaves are used for thatching, basket making, &c., and the quantity of fibrous tissue in the stalks makes them useful for the production of flax. Manilla hemp is yielded by a tree of the same order (*Musa textilis*).—A. M. S.

The Derivation of "Ulex."—If you are not tired of the subject I would venture to make a few comments on this controversy. J. C. S. says that "ac" does not occur in Keltic. As I have no dictionary of that language I cannot dispute his statement. However, I find in *Skeat's Etymological Dictionary*—an authority which I am sure J. C. S. will be the first to recognise—that "ak" is a Sanscrit root meaning "to pierce," whence the Latin *acus*, *acumen*, *acid*, &c. With regard to the "ex" of *Ulex*, I find that "X" is an extended form of "ak" = "aks." Greek "*oxus*" sharp. No doubt in any description of the Furze its most prominent characteristic, the sharpness of the spines, would be reflected in its name. As regards the first part of the word "ul" which appears in "ulmus," "ulva," &c., the same authority derives it from the root "al," "to grow," "to nourish." With respect to the use of the word "legendary" as applied to Pliny, although I find that it may bear the meaning of "a writer of legends," I submit that in its ordinary acceptation it means, as in the case of "a legendary Saint," an individual whose existence is only known of by tradition. You do not speak of a writer of fables as "a fabulous" author. Finally, J. C. S. will find "*sapientum octavus*" not "*octavis*" in Horace's Satires.—Sigma.

Bournemouth and District Gardeners' Mutual Improvement Association.—The 12th annual excursion of this society took place on Thursday, July 12th, when about sixty members availed themselves of the opportunity of visiting the Royal Seed Establishment of Messrs. Sutton & Sons, Reading. The party were met at Reading station by two of Messrs. Sutton's staff, and conducted to the seed warehouses, where they were very cordially welcomed by the following members of the firm:—Mr. Arthur W. Sutton, Mr. Leonard G. Sutton, and Mr. M. Hubert Foquet Sutton. After viewing the extensive warehouses and offices they mounted the conveyances which were in readiness, and were driven to the Portland Grounds, where they saw much to interest them in the various houses devoted to the culture of Gloxinias, Begonias, and other flowers that are made a speciality by this firm. They were then conveyed to the seed trial grounds, where an excellent lunch was provided, to which ample justice was done. Mr. M. H. F. Sutton, who presided, expressed in a few appropriate remarks the pleasure of himself and partners at meeting the members of this society on this occasion. At the conclusion of the luncheon a hearty vote of thanks was passed to Messrs. Sutton for their kind and generous hospitality. An inspection of some of the numerous varieties of flowers and vegetables grown for trial in these extensive grounds occupied the remainder of the afternoon. On returning to Reading the party partook of tea, and afterwards visited some of the places of interest in the town. A pleasant journey home in the evening brought to a close a most enjoyable and successful outing.

Ealing and District Gardeners' Society.—On the 18th inst., the annual excursion of this society took the form of a river trip from London Bridge to Margate. The party numbered about thirty, and met at London Bridge soon after 9 a.m., whence they proceeded down the river by the "Southend Belle." This fine paddle steamer is well appointed in every respect, the accommodation ample, and the catering of the best description. The arrangements, which were carried out to the entire satisfaction of the party, were negotiated by the chairman, Mr. C. B. Green; the vice-chairman, Mr. H. Burgess; and the hon. secretary, Mr. W. Roberts, being also present. At Tilbury, S. A. Sewell, Esq., F.R.H.S., a former chairman of the society, came aboard, and much good feeling prevailed. The day was superb, and while the cheaper boats were crowded with passengers, the "Southend Belle" had room enough and to spare. At Margate a short stay was made and the brightest flower on the cliffs noted. This was the common Lady's Bedstraw (*Galium verum*), the dwarf, dense, yellow panicles of which formed quite a "golden dream." The return journey commenced at 4 p.m. The breezes from sea and river were most exhilarating after the sweltering heat of the previous days, and all went well until the boat neared North Woolwich, when a perfect Nasturtium (Nose-twister) was discovered in the shape of a guano factory, the products of which, though necessary in the garden, are certainly not nice in the nostrils. London Bridge, however, was reached by 9 p.m. without much more excitement, and great satisfaction having been expressed with the steamboat arrangements, the party entrained for home.

Californian Seeds of some varieties of Sweet Peas possess very hard skins—so hard, indeed, that they require to be filed. This is largely due to the thorough baking which the Peas undergo during the harvesting.

Chinamen are mostly employed on the Sweet Pea ranches of California. Their acute imitative faculty enables them to rogue the Sweet Pea beds with speed and certainty. They are good at comparing varieties.

Blanche Ferry Sweet Pea was, oddly enough, first discovered in a small garden off a wayside country road in New York State, by Mr. Tracey, a seed traveller. It is the most popular variety in America at the present time, twenty-five tons of it alone being sold annually.

Chiswick Lectures.—The series of four lectures delivered gratuitously by Rev. Prof. Geo. Henslow, M.A., V.M.H., for the benefit of the students and others around Chiswick, having now terminated, W. Marshall, Esq., offers three prizes for competition, to be won by examination on six questions drawn up by the Professor, and bearing on the course he has just completed. The prizes are, 1st, 15s.; 2nd, 10s.; and 3rd, 5s. The lectures throughout were well attended, and were thoroughly appreciated by all who heard them.

Johnson's Culinary and Sweet Pea Show.—The Sweet Pea must have a great lift upward to greater popularity after such a year as this. Societies large and small have had special Sweet Pea shows and the large seed supplying houses have nearly all made a special effort. Messrs. W. W. Johnson & Son, Ltd., Seed Merchants, Boston, Yorks., held a special Sweet Pea show on July 11th. They offered two Silver Medals and £30 in prizes for competition, the produce to be grown from seeds supplied by the Messrs. Johnson. There were fourteen classes in all, and altogether 700 bunches were staged for competition. Mr. H. Costar obtained first and a Silver Medal in the class for twenty-four varieties of Sweet Peas; and Mr. H. Marriott obtained a like award for ten varieties of Culinary Peas. Other winners in the various classes were: Messrs. Garfit, M.P., G. Todd, R. Slowe, J. T. Bealy, J. W. Thorns, Z. Ingold, A. S. Black, T. Dann, H. Pett, J. Bell, and others. Now that the public have had an opportunity of realising what may be achieved in the cultivation of this simple flower, it should be seen liberally in every garden in the kingdom.

Sweet Peas at Croydon.—If the Sweet Pea was a conscious thing and could think, it would no doubt be feeling proud of itself at the present time. An exhibition, under the auspices of the Croydon Horticultural Mutual Improvement Society, was held on Wednesday, the 18th inst., and proved a huge success. The officials (and we would specially mention the secretary, Mr. John Gregory) are to be congratulated on the result of their efforts. The decorative uses of Sweet Peas in baskets, vases, bouquets, and fancy dishes formed one of the strong features of the show. Mr. W. J. Simpson, of Falkland Park Gardens, South Norwood, was a prominent exhibitor. He is chairman of the society. Mr. W. J. Prebble, of Shirley House, Croydon, was also conspicuous. Mr. Wood, of Rozel, Morland Road; Mr. Thos. Butcher, George Street; Mr. Thrale, of Coombe Road; and Mr. Bryant, The Sycamore, Woodside, were other exhibitors. Mr. Matthews, of Wood Lodge, West Wickham; Mr. Wratten, of Dingwell Avenue; and Mr. J. R. Box, of West Wickham and Croydon had also fine collections. The number of exhibits altogether totalled about 300 vases, baskets, &c. Pianoforte music was provided during the evening, and the exhibition was visited by a large turn-out of visitors.

PEOPLE WE HAVE MET.

MR. HENRY ECKFORD, F.R.H.S.

It is our pleasure on this occasion to make a few references to the career and work of Mr. Henry Eckford, Wem, Shropshire, who, after the testimony of many witnesses during the past week, may justly be considered entitled to the name of "Sweet Pea King." He has also been called a prophet, who, contrary to the usual rule, has been honoured in his own country. After this, "High Priest of the Sweet

Pea" would be equally appropriate. Notwithstanding all this he takes such compliments with equanimity and quiet reserve.

The early years of Mr. Eckford's life were spent in Edinburgh, his natal city, and sometime after entering the profession of gardening he became



MR. HENRY ECKFORD, F.R.H.S.

gardener to Dr. Sankey, an ardent lover of flowers, whom he served for many years. He has now been associated with Wem, a village almost on the borders of Wales, for so many years that his ardent admirer, the Rev. W. T. Hutchins, has spoken of him as a "dear old, Scotch-Welsh Englishman." One by one Mr. Eckford took up different florists' flowers with the object of improving them. Pansies, Cinerarias, and Primulas engaged his attention before he became truly engaged upon his real life work. We do not forget, however, that he also cultivates culinary Peas with great intelligence.

He has now seen some seventy-six years of life, considerably over fifty of which have been devoted to the cultivation and improvement of various subjects. Though he has attained to a hale and mature age he is as enthusiastic as ever in his life work, the crowning or masterpiece of which has undoubtedly been the Sweet Pea, the cause of which he adopted just twenty-one years ago, so that his connection with the popular flower of to-day has reached its majority, but whether the work of evolving the Sweet Pea as a garden flower has reached its zenith remains to be seen. Even should it be discovered that the variation in colour has reached its limits, much improvement still remains to be accomplished in the form of the flower, and in the behaviour and constitutional vigour of the plant.

Since he undertook the improvement of this graceful, handsome, and fragrant flower, at a time when the varieties could be numbered on less than the fingers of one's hands, he has raised some eighty, more or less, of new and handsome varieties, such as he himself in his fondest dreams could scarcely have imagined twenty-one years ago. The fame of his work has already gone out to the ends of the earth, and his name will ever be associated with the improvement of the Sweet Pea. At the Sweet Pea Conference he showed himself calm and unassuming. He had no fairy and incredible tales to tell of wonderful hybrids and cross-bred varieties which he had accomplished. The honest truth was that he selected the seedling varieties which Nature in her own peculiar way had fashioned so frailly, beautifully, and strikingly new to cultivation; and separating them from the common herd nursed and tended them in a way well known to florists generally, till they became fixed and stable as variable and truly garden flowers may well be expected to become, and able to perpetuate a separate existence. In the

face of these facts the Sweet Pea remains *Lathyrus odoratus*; as, indeed, the facies of the garden forms shows it to be, and Mr. Eckford makes no effort to dispute it.

Besides being a raiser of the first rank, as a cultivator and exhibitor he is equally so, and has been for many years, during some of which we have been privileged to see his handiwork at the Drill Hall meetings of the R.H.S., at the Crystal Palace, Windsor, and other places where flower shows are held. He does not now make his appearance at all these exhibitions as formerly, but his son, Mr. John Stainer Eckford is following in his father's footsteps, having taken over all the more arduous duties requiring the activity, strength, and vigour of a young man. We hope that both of them may be able to pull together for many years to come, and that the Sweet Pea through their efforts will annually rise to great and greater perfection.

BEGONIA GLOIRE DE LORRAINE.

I WAS glad to read Mr. Brewer's experience with the leaf propagation of this Begonia, which coincides with mine, selfish though it may seem. I tried them two different ways by cutting the petiole clean away, and cutting horizontally across the lamina or back of leaf, similar to the Rex type when increasing them, as I have always found the latter root much quicker so served. The rest I cut with the petiole or leaf stalk attached, with a piece of old wood, but all to no purpose, and contrary to my expectation the young shoot on the fen that did start showed at the back of the leaf. I quite thought it would come away at the front of the leaf. I may add that those that did start are at a standstill.—*J. Mayne, Bilton.*

THE PHENOMENA OF GERMINATION.

THE lectures by Rev. Prof. Geo. Henslow, M.A., V.M.H., &c., at Chiswick, maintain their high power of interest. His lecture on Wednesday, July 4th, on "The Phenomena of Germination," if it announced nothing new, was yet ably expounded. Recalling his finishing sentences of the previous week's lecture, Prof. Henslow detailed how, by repeated divisions of the working cell in the centre of the embryo-sac, the endosperm is formed, until, as in a Wheat grain, it fills the whole seed. The grain of Wheat, Oats, &c., has the greatest percentage of the pure starch in its centre, while as we get toward the side cells and the investing skin, besides the carbon, hydrogen, and oxygen, composing starch, nitrogen also is found, and this element in combination with the elements of starch forms aleurone, largely found in brown bread. Brown bread, by the way, is more nourishing than white bread, and, indeed, the whiter the bread the less nourishing it is.

Approaching the matter of germination, three main things are stated to be necessary:—(1) a liberal supply of moisture; (2) a right temperature according to the kind of seed; (3) a soil free from any injurious ingredient. Mustard and Cress seeds will germinate at a temperature a few degrees above freezing point, while Palm seeds, at the opposite extreme, require 90° Fahr. English plants, as a rule, germinate best at 40° Fahr. Until the seedling has roots and leaves developed it cannot live by its own exertions, but uses up the starch, the oils, and the aleurone which has been previously prepared.

Prof. Henslow recapitulated the recent discoveries made in France on the point of symbiosis in plant life, a report on this theme having appeared at page 668 of THE GARDENING WORLD, June 16th, 1900. The radicle of the Date protrudes through a soft spot in the shell of the Date seed, and under the force of gravity it grows gyratingly downward. The plumule, on the other hand, is affected by the light, and it develops in the opposite direction, and it also has a "wagging" or circumnutating motion. From experiments made, the lengthening of roots has been proved to take place by growth only at the apex. Before the starch (which the seedling utilises) can be of any use to the plant it must become liquid. By the aid of a ferment which is secreted, by the absorbent cells of the embryo, this matter is accomplished. The reason why newly ripened seeds and bulbs, tubers, &c., do not, as a rule, start growth so readily in autumn, lies chiefly in the fact that this ferment within them has not developed far enough at that time. By spring it has accumulated and,

whether the conditions are particularly propitious or not, growth begins to push forth. As showing the amounts of starch in the seeds of different plants the following figures were given:—In Pea 42% is found, and only 2% of fat. After germination, however, the percentage of starch drops to 33%. In Hemp we find oil to the extent of 33%, and this drops to 17% after germination.

The moment germination begins, respiration likewise starts. The plantlet requires force, and the respiration yields that power. The C., H. and O. of starch is united by an enormous force to keep the molecules together, but the respiring movement sets up a burning or consuming power which lessens the pressure and liberates some of the existing force previously holding together the starch and oils. Sugar is another compound of C. H. and O., and for a man who wants force and physical energy, sugar is a capital item for supplying these powers. Thus,

course of the growth of roots. Grown in a narrow box of damp moss the roots of some Bean seeds soon made their way through the bottom, but finding little moisture there they bent completely back and turned again to the moss. Thus the sensibility of protoplasm.

Cotyledons or seed leaves, as a rule, perish after having yielded their nourishment. Cress and Mustard are exceptional. Prof. Mohl in 1840, tried an experiment to prove the effect of light on the direction of growth. He placed a strong mirror below a box of seedlings, the result being that the plumules all turned toward the light.

The susceptibility of roots to touch was also demonstrated by Darwin, who gummed a small piece of stone on one side of a root-tip and the presence of this caused the root to bend in an opposite direction. Good examples of this twining habit consequent on contagion with some irritating cause,

The innocent traveller comes along, makes enquiries, offers a sum of money perhaps, and is allowed the great privilege of searching for a few seeds. These seeds are sown and germinate, and then we hear of the aeons-old grain having germinated, with this fact and that fact battered on to substantiate the announcement. "But," said Prof. Henslow, "real mummy seeds never did, and never will germinate."

SWEET PEA BLANCHE BURPEE.

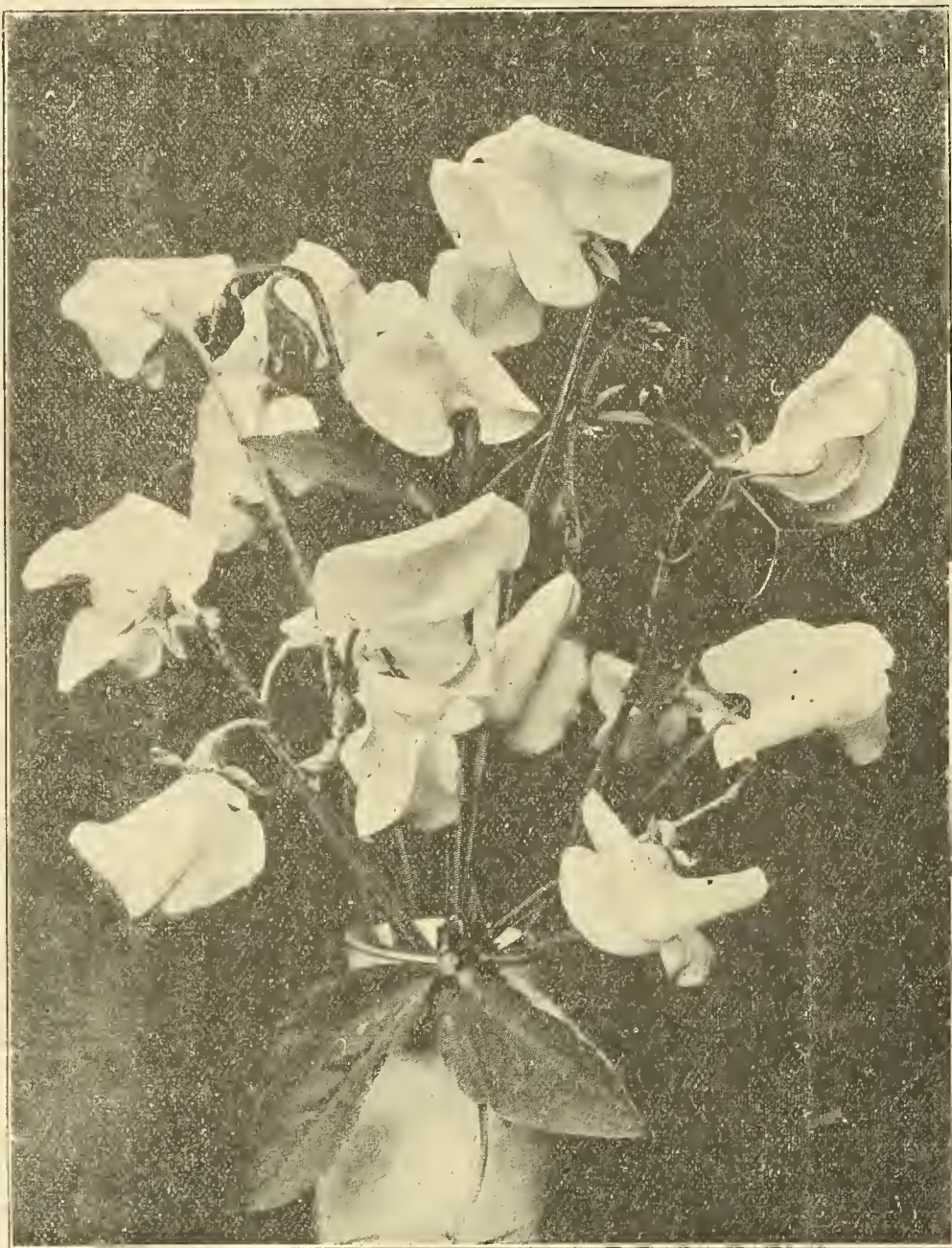
THIS is a large flowered, white seeded and white variety raised by Mr. Eckford who considers it one of his greatest acquisitions amongst white varieties; and indeed, there are many who regard it as the best hooded white variety. It has taken many years to develop it to its present size. Our illustration was prepared from a photograph of some flowers we gathered in the Trial Grounds of Messrs. Hurst & Son, Feering, Kelvedon, Essex, on the 16th inst., the occasion of the visit of the classification committee of the Sweet Pea Conference. In all literature pertaining to the Sweet Pea, the term "hooded" is of frequent occurrence, and we selected this as a sample of that form of flower. There are many varieties with a more decidedly hooded standard, but an excess of development in this direction often spoils the beauty and decorative value of the flower; hence our selection of this moderately hooded form. The top of the standard or upper petal becomes more or less incurved during the progress of development of the flower, and to all such as exhibit this peculiarity the term "hooded" is applied.

MASSING SHRUBS.

UNQUESTIONABLY the grouping together of foliage shrubs, both evergreen and deciduous, is most effective and attractive, and deserves to be practised much more extensively than at present. Of course, the larger the grounds the larger must be the masses, but the plan is equally suitable when judiciously carried out for large and small gardens, and when once planted, except thinning out and pruning, little expense is needed for their up-keep; and I venture to say one dozen plants placed together will produce a better effect and attract more attention than 100 of the same when planted on the dot-and-carry-one-system. As much as possible select bold points and open beds. Care should be taken that the various coloured foliage blends and harmonises properly. For instance, let the eye rest at the same time on a point of Golden Elder and Copper Hazel, and the effect produced is all one can desire. In this brief article I can only mention a few of the most suitable for this purpose for summer display, though equally good results may be obtained in winter, which I shall hope to deal with later. *Samhucus nigra aurea*, *S. racemosa serratifolia aurea*, Copper Hazel, *Acer Negundo variegatum*, variegated Kerria, Golden Yew, *Rhus typhina* and *R. Cotinus*, *Rosa rugosa*, variegated Dogwood, *Hypericums*, *Cotoneasters*, and Japanese Maples of sorts are among the most beautiful and interesting that I have noticed.—A. Thatcher, Aldenham, Elstree.

AZALEAS.

THE majority of these will have finished up their growth by now, and if re-potting was deferred in the early spring, it could take place now, not giving too large a shift; $1\frac{1}{2}$ in. to 2 in. all round between the ball of roots and the side of pot will be sufficient, using mostly peat with a little fibrous loam and coarse sand added. It should be unnecessary, say, to let the pots be clean and carefully drained, potting very firmly with a rammer. Do not water for two or three days after this operation; and if a house or pit could be given them for a fortnight, so much the better, where they could be lightly shaded from the sun and thoroughly syringed in the morning before 8 a.m. and again at 5 p.m. in the evening, and closing the structure the plants would soon get hold of the new compost. In our case we stand them in the open early this month, choosing a north aspect, and well plying the syringe up under its foliage where thrip is sure to lurk, if any is about. In a month's time we give them clear weak soot water, as well as syringing overhead with it. This puts on the desired dark looking foliage all growers covet to see



SWEET PEA BLANCHE BURPEE.

in the liberation of "force," the seed is actually losing, and this accounts for the lesser percentages of starch in the case of the Pea and oil in the case of the Hemp, which are noted after germination.

In its downward growth the radicle excretes an acid from the tip, the purpose of the acid being to attack and make the surrounding film of soil soluble. In its descent, Darwin found by experiment that a large amount of force is expended by a root. A hole was made in a piece of flat board. On both sides of the centre of the hole, a slit was made in either direction by sawing. A root was then conducted through the hole and when it had grown and rather more than filled the hole, the power it then exerted caused the slits on either side to open widely. When the root was taken out Darwin found that it required $8\frac{1}{2}$ lb. to open the slits to the same width the root had expanded them. The hydrotropic influence upon roots received attention. Moisture has a wonderful effect on the conduct and

is noted among Carrots. Sometimes two roots twine round each other down their whole length.

In the germination of the Cocoa-nut the radicle or root comes out as it ought to do, but the plumule instead, presses inward, always keeping in touch with the meat of the nut, and so forms a puffball-like structure. Eventually the plumule does extract itself and lengthen upward. Some seeds (monocotyledons) have an appendage (a siphon indeed), which continue to pump up the stores of nourishment in the seed even after the plumule and radicle have escaped and are growing free.

Prof. Henslow concluded with a reference to Mummy Peas and Mummy Wheat. According to Brookes Brugsch, the negroes have a trick worth the knowing. They secure a handful of Peas or Wheat, get some grey Nile mud, plaster the seeds with this matter and so get them something of the colour of real mummy seeds, and these they place in the hands or among the clothes of the mummies.

in this class of plants. If much rain should fall on newly-potted plants, lay them on the sides until it has passed over.—*Grower.*

HYDRANGEAS

ARE useful subjects grown in pots for the embellishment of the greenhouse during May and June, and for this display cuttings from bushes that are planted outdoors should be taken during the next week or two, choosing firm short jointed growths, placing the same in thumb pots or three in a larger size. A compost of loam, leaf soil and sand will suit them, standing the cutting pots under a handlight in a shady corner, kept moistened overhead twice daily until rooted, when air should be given, eventually placing them outdoors in a sunny aspect, and keeping well watered. When well rooted, shift on into 5 in. and 6 in. pots respectively. No stopping must be done, but endeavour to thoroughly ripen the growths before winter sets in. I find they will not withstand severe frosts. The points of the shoots often get killed back if left out, so I put them under glass early in November, keeping them fairly dry until February, when the plumpest-looking are brought into an early Peach house and kept as near the glass as possible. As soon as growth advances feed well with a stimulant, keeping a sharp watch for greenfly, and dusting them with tobacco powder if they put in an appearance. Remove them into the greenhouse as soon as the flowers begin to open. Heads 9 in. to 12 in. across of *H. hortensis* are still in flower with us. Thomas Hogg, the white one, does well under this treatment.—*J. Mayne, Bickton.*

"ON TREATING BEGONIAS, DOUBLE AND SINGLE."

A GOOD many gardeners use chemical manures with which to feed Begonias, especially about the time of flowering. I have often done so, as it gives a healthy look to the plants, and also deepens the colour of the flowers. To grow them well for show purposes, chemicals cannot well be done without; but my experience is, with the very best sorts, that when highly fed they generally go off in winter; whereas others that only get pure water have kept all right. Now, I think the reason is simply this: that the tubers so fed are too artificially forced, and like Onions and several other bulbs when very much forced, never keep well. I have watched this with particular attention for some years, and I notice that when growth ceases and water withheld, that they seem to shrivel up to half the size, and by February they have disappeared all but the shell. After decay sets in, a small mite settles in them and completes the work. I would, therefore, strongly advise young growers, especially when growing expensive sorts, to use nothing stronger than sheep manure water, with a little soot in it once a week or so. By September stop this, and allow the tubers to get firmed up or ripened. Do not give any water in spring until they have started at least a quarter of an inch when they can be repotted. Almost every bulb starts strong and vigorous.—*John C. Dick, The Gardens, Champfleury, Linlithgow.*

BANANAS.

THE fruits are much esteemed on the dinner table, especially so if cultivated at home; but it is no use attempting to grow them unless you have a fairly lofty house, for they require plenty of headroom. The winter temperature should not fall much below 60°. The best way to grow them is to have brick pits 2½ ft. square, and as much in depth, with a pipe or two at the bottom, so that water can escape, which they require in quantity when in growth, and when swelling up their fruit. Good and perfect drainage must be prepared for them. They enjoy a really rich soil and to be well fed as soon as the fruit begins to swell.

The Banana can be fruited in twelve months from putting in the sucker. February is a good time to make a start; but where established plants are, young suckers are put out at any time they can be got, which make a succession. Keep the plants well syringed twice a day until the bunch of fruit appears, when water must be kept from it or decay may set in. Expose the bunch to all the sun and light possible by drawing aside the huge leaves. As soon as the fruit is set and nicely swelling, the top should

be cut off, and the huge bunch of fruit, oftentimes weighing from 40 lb. to 50 lb., must be supported with strong cord or wire.—*J. L. Reynolds, Sidbury Manor, Sidmouth.*

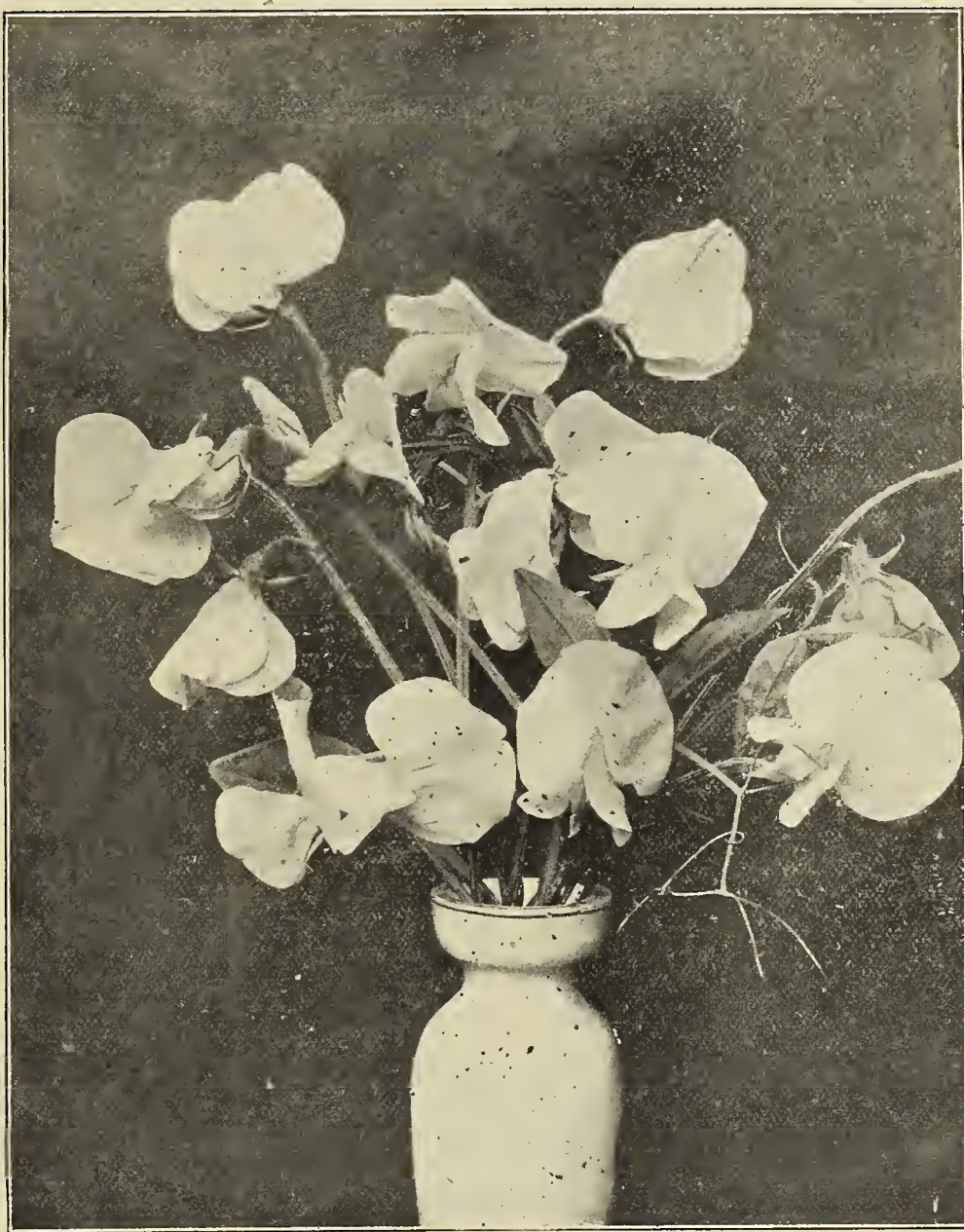
SWEET PEA EARLIEST OF ALL.

THE special feature of this variety is its earliness, as it comes into bloom in the open ground several days in advance of *Blanche Ferry* (extra early), which was put into commerce in 1895. The latter in its turn was selected from *Blanche Ferry*, which was sent out in 1889. All three are of American origin. Little Dorrit, belonging to the same group, was raised by Mr. Eckford. Painted Lady, a very old variety, may be considered the prototype of all the four just mentioned, and which are characterised by having the standard of one colour and the wings of another hue. The standard of Earliest of All is rich carmine-rose, and the wings white, thus constituting what is termed a bicolor. We brought the flowers from

the full influence of the sun and afford plenty of air. Very little water will be required at this stage, but it is not wise, however, to let them shrivel unduly thus early for the want of it. Let the ripening process be gradual and you will succeed. A syringe through and overhead in the morning and afternoon of bright days will be of great benefit to them.

PERISTERIA ELATA.—This noble plant is now pushing spikes, some of which have nearly reached maturity, and should be encouraged by weak doses of liquid manure about once a week. Drainage from the stable or cowsheds is what they like. Soot water is not bad but of too hot a nature to our mind, so that it should only be employed when no other can be procured.

LYCASTE SKINNERII, and, in fact, all of the terrestrial Orchids, are much improved by a little help in the way of stimulants. You see, they derive no nourishment from the hot water pipes, and the compost they are potted in is generally devoid of much plant food. I may add, though, that whilst believing



SWEET PEA EARLIEST OF ALL.

Kelvedon for the purpose of showing the flat, erect standard by way of contrast with the hooded one, the two varieties we illustrate being characteristic of the two primary groups or sections into which Sweet Peas are divided when attempts are made to classify them according to form.

The Orchid Growers' Calendar.

DENDROBIUMS.—Those plants that have completed this season's growths, which will include the earliest *D. nobile*, *D. wardianum*, *D. leechianum*, *D. Ainsworthii*, &c., will require removing from the growing house to cooler and drier quarters so as to prevent them again starting into growth.

Generally at this season a space at one end of the greenhouse can be set apart for that purpose. Be careful though to shade from the full sun for a time; but as the pseudo-bulbs become firm inure them to

in affording stimulants to most Orchids, it should be given in moderation, and only to plants that are in good condition, with a view to helping them tide successfully over the flowering period and not with any idea of bringing unhealthy plants back again to their former vigour; for, unless there are plenty of healthy roots to assimilate the food thus supplied, it does more harm than good, and soon makes the compost sour, so that the last stage of the plant is worse than the first.

Work in the houses consists of thoroughly damping down morning and afternoon, and, in some cases, later in the evening.

Fire heat may be dispensed with altogether whilst the tropical weather lasts, but the damping down of the warm division should be done early, so that it dries up a bit by night.—*S. C.*

Potatoes sometimes form small tubers at the nodes of their haulms, and these will reproduce the variety just as well as underground tubers.

HINTS FOR AMATEURS.

Eremuri.—The Eremuri are somewhat fickle to do well. Moderate success can generally be attained, but a poor spike of Eremurus compared against a tall and beautiful one is apt to canker our regard for anything that is not just perfection. A little shelter is necessary, more especially where spring frosts are likely to do damage. The flower spikes appear early, and, like Yuccas, soon become damaged unless care is taken. A friable loamy soil, thoroughly well drained and well exposed to light, is the site generally found to suit them best. The flower spikes attain from 3 ft. to 12 ft. when grown to their greatest development, Eremurus robustus generally getting highest. They are natives of the northern parts of India, and extend to the north regions of Asia. Thus they are quite hardy, but, as a means of surety, a covering of straw or bracken may be put around the young stems in spring. The tubers should be planted 1 ft. deep (or deeper in dry soil) in October. The spikes are strong enough to uphold themselves without the need of support from stakes, and it is to save them from violent gusts that planting in a sheltered spot is recommended. One of the newest of the Eremurus is *E. Bungei*, a pretty little species growing 3 ft. high and having moderate spikes of yellow flowers. At present, while it is still rare (though none of the Eremurus are plentiful), it will be highly appreciated. Still, I would rather have *Senecio macrophyllum*, which flowers at the same time (July) as *E. Bungei*, and in the appearance of the flower greatly resembles the Eremurus, although the spike is much larger. *S. macrophyllum* was mentioned by me when I wrote a few weeks ago about fine foliage hardy plants. *E. robustus* has been repeatedly figured in the gardening press and in trade catalogues. It is probably the finest of all, and has enormous spikes of pink flowers. *E. r. elwesianus* is a dwarfier variety, very vigorous, and also has pink flowers. *E. himalaicus* attains a height of 8 ft., and has white flower spikes. It is a fine variety. *E. Kaufmanni* and *E. Olgae* are not quite so well known.

Arundo Donax.—The Great Reed is a fine plant to grow in a clump for the ornamentation of a lawn. The foliage and stem growth is superior to that of the Pampas Grass (*Cortaderia jubatum*), but the flower spikes are much inferior. The Arundo requires a deep rich soil. Some surface protection should be afforded during winter when the plant is grown in northern gardens. It is propagated by division in spring or from seeds. Another very fine plant, very much resembling the Great Reed, is *Miscanthus sacchariflorus*, the treatment here being similar to Arundo. Other Grasses of a like nature might be mentioned, yet I would prefer to give prominence to the two just named.

Gloxinias.—Gloxinias for seed should now be kept on the dry side. This will cause the seeds to develop and ripen while other growth is retarded. A cool and buoyant atmosphere should be maintained. Shade is required during a large part of the day. Young seedling Gloxinias, on the other hand, must be given abundance of room to allow them to develop; they also like plenty of water at the roots and moisture on the stages, shade being given as for the older plants. The temperature may be let down to 60° during the day. Of course, on some of the days, lately, the shade temperature has been higher than this.

Ferns and Palms.—Shade, heat, and moisture, these three factors go a long way toward the development of fine, healthy plants. Shade is necessary under glass, and heat, of course, is always required for the tropical species. Space out the plants as they develop, turning them round occasionally, else they are apt to grow one-sided. Keep the gravel on the stages clean by frequent shifting and brushing up. Do not let the edging plants become long and entangled, but pluck off dead leaves and keep growth a-going by stimulants when watering. Cool house Ferns need just the same attention as the stove species, only fuller ventilation should be given.

Heaths.—Where Heaths are making their growth out of doors, the roots in the pots are apt to receive injury from burning unless some means of protection is adopted. They may be plunged or they may be

mounded round with ashes, sack, or anything that will keep the soil more moist and the roots cooler. Attend to pinching as needs require.

Carnations.—Examine plants in pots for green and black fly and thrips. Syringe or wash with warm soapy water if any pests are seen, care being taken to save the blooms from injury. Fumigation may more safely be done, only I never like to fumigate plants in full bloom. Plants in beds and borders should be protected from rabbits, which devour the leaves and thus cripple them. Where peacocks are kept and allowed to walk about they too should be warded against for they have little respect for Carnations. Attend to the watering of the plants in the evening. Water the roots, but keep it off the flowers. The calyx of some of the blooms is often not strong enough to hold the flower, so that bursting takes place. A band of matting tied neatly around this part will save it from falling loose.

Dahlias.—As mentioned a week ago, heavy evening waterings are beneficial and necessary indeed to the proper growth of Dahlias. They are just beginning to flower, and may be watered overhead. This will clean the foliage and wash off Aphides. Liquid manure is very helpful.

Pansies and Violas.—Nothing is sweeter or more loved in spring time than a well flowered potful of Pansies or Violas. If cuttings be taken now and struck in small pots of sandy soil, these being placed in hand-lights, plants for potting-up to winter in a greenhouse or even window case, will be obtained. If they are infested with insects plunge them into soapy water and thus wash them.

Violets.—Violets in the open air do best if let alone. All that they require is to be freed from weeds, and to have a deep cool bottom. Their own leaves will cover and keep the surface roots cool. Too much puddling about is wrong in Violet culture.

Indoor fruits.—Peaches, Nectarines and Vines which are in full course of growth require constant attention. There is the watering to see to, the foliage to syringe, thinning, tying, and pinching to do, and a steady temperature to maintain. Do not allow the berries of the foliage to become scorched by neglect to put on air during one of these fine mornings.

Poinsettias.—A late batch of cuttings may be taken now, but if they be left any later they will be comparatively useless. Place them in thumb pots and strike them in a propagating pit with a little bottom heat.

Salvias in pots should be staked. Do not pinch them. They require a liberal supply of water when growing vigorously. Keep them clean by means of the syringe or by fumigating. If they are in frames afford them slight shade and free ventilation.

Heliotropes.—There are few choicer plants in pots for spring conservatory decoration than Heliotropes, and they are liked by everybody. The difficulty is to get them to the height of their perfection,—it takes care and knowledge. It is not too late if cuttings be taken at once and rooted quickly in a warm case, otherwise large plants may be lifted from the open in a little while and potted up into 6-in. pots or larger as the case may demand. Pinch off the flowers and induce the plants to make new growth. This should be firm. From such plants an early spring display may be expected.

Winter Flowering Begonias.—There are some charming new varieties of winter flowering Begonias now offered. Every encouragement should be given to the raisers of such strains. Young plants for winter blooming are now doing well in 52-size pots. They require cool conditions with moisture kept plentifully dewed between the pots and over the stage. Do not water them carelessly else they are apt to make rank and soft growth.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Showy Plants for Dry Grounds.—*A. B. C.*: Many plants succeed fairly well in light soils, including *Lysimachia punctata*, yellow, very showy, vigorous, and growing 2 ft. or more in height; *Epilobium angustifolium*, 5 ft. to 6 ft., with tall racemes of bright purple flowers; *E. a. album*, a white variety;

Inula hirta; *I. britannica*; *Centraurus ruber* and its white variety; *Salvia virgata* does fairly well; *Stachys alpina*, tall but not very showy; *Lychnis chalcidonica*; *L. coronaria*, and various others of the genus. Such foliage subjects as *Negundo aceroides variegatum*, Golden Elder, Cornus and Ribes, the golden forms, and such like, would also do well.

Annuals and Biennials for Autumn Sowing.—*"Spring Display"*: The undermentioned annuals may be sown on open, sunny borders during August. Most of them will transplant if good care is exercised. A selection might be obtained from *Asperula azurea setosa*, *Silene pendula compacta*, *Candytuft*, *Clarkia*, *Collinsia bicolor*, *Phacelia tanacetifolia*, *Limnanthes Douglasii*, *Virginian Stock*, *Godetias*, *Eschscholtzias*, *Violas*, *Centaurea Cyanus major*, *Nemophila lutea*, *Antirrhinum*, &c.

Summer Pruning of Wall Trees.—*W. H.*: The usual course of procedure is to thin out or cut out the shoots not required, to lay in young shoots in place of old, and to shorten back the breastwood.

Scirpus species.—*A. D.*: *Scirpus lacustris* is the Bullrush found native in some of the streams and ponds in Britain. It grows 5 ft. high, having dark green, round, terete stems generally quite erect and bearing dark brown spikelets at the apex. It is very handsome and worth securing. On the Continent this "Rush" is largely employed for chair bottoms, mats, &c. *S. riparius* is the little greenhouse edging grass better known as *Isolepis gracilis*. *S. triquetus* is a species about 3 ft. in height with erect bright green stems. *S. Tabernaemontani zebrina* usually called *Juncus zebrinus*, is a dwarf but very bright member. They are readily increased by division, or from seeds. In all cases a boggy or wet soil suits them.

Budding Apples.—*J. H. D.*: In large fruit nurseries where there are a great many young stocks to bud it is necessary to start early. Some of the growers have already budded hundreds in the southern counties. Whenever the bark is firm they begin. Young stocks a year old are budded mostly in the T fashion, and are bound firmly with broad bands of bast or matting. Nothing else is put round, and, of course, the bud itself is not covered. Budding is an operation that requires experience. If possible you should secure the advice of an experienced fruit grower in your neighbourhood.

Vine Border Surface hard.—*W. W., Chester*: To aid the Vine roots, which no doubt find the hard soil difficult to glean nourishment from, you might here and there bore a hole about 2 ft. deep, or deeper, and fill this with rich good soil. Make it firm and cover in. This plan is tried with success in cases where the roots of Vines or other fruit trees happen to be below paved paths. If the stones or "flags" be lifted and some holes picked up, returning good soil in place of poor stuff, the roots soon find these places, and benefit therefrom.

Green Foliaged Climbers for Back Wall of House.—*A. Edgar*: *Ampelopsis* in variety; *Ivies*, *Habitia tamnoides*, *Smilax rotundifolia*, *S. aspera*, *S. tamnoides*, *Tamus communis*, *Bryonia dioica*; *Liquidambar formosana*, *Ficus Carica*, *Jasminum*, *Periploca graeca*; *Muehlenbeckia varians*; *Polygonum ciliolatum*; *Stauntonia hexaphylla*, *Vitis orientalis*, *Vitex Agnus-castus*, and other things, all of which succeed so far north as London, and most of them in well-sheltered spots will stand through the winter much further north. Most of these are interesting and decidedly ornamental.

The Logan Berry.—*W. Fraser*: You will not find any mention of this "large Raspberry" in such books as you have named. The best description will be found in the fruit catalogue of Messrs. Geo. Bunyard & Co., Maidstone, who figure it and describe it thus: "A new American fruit likely to prove a valuable addition for cooking or for jam. It bears very freely treated like a Raspberry. The fruit is borne in clusters, and is long and dark in colour, with a sharp acidity when half ripe, but of rich flavour when black-ripe, when it is fit for dessert. It may roughly be described as a Raspberry x by a Blackberry. A. M., R.H.S., to Messrs. G. Bunyard & Co., July 13th, 1897." The Messrs. Bunyard are

cautioned by Judge Logan, the raiser, in the use of seed for propagating as it does not always come true. Messrs. Bunyard propagate from the original stock.

Rhubarb, Fruit or Vegetable.—*Schedule*: Rhubarb is vegetable, used as a fruit.

MESSRS. WEBBS' SWEET PEAS AT WOLVERHAMPTON.

SWEET PEAS are at present the order of the day, and in this place we refer not to the splendid exhibit of Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, at the Crystal Palace, Sydenham, last week, but to their display at the Wolverhampton Floral Fete on the 10th, 11th, and 12th inst. The accompanying illustration shows their Sweet Pea and Tomato exhibit, the latter being arranged along the back of the

SWEET PEA BICENTENARY.

July 20th and 21st.

IN the following pages we furnish an account of the International Celebration of the Bicentenary of the introduction of the Sweet Pea to Great Britain. The event took place at the Crystal Palace, on Friday and Saturday of last week, and may have a great bearing on the horticultural prospects of the Sweet Pea of the future in more ways than one. But as we have already summarised our views and gleanings in the leader, more need not now be said on these points.

The opening day was almost unbearably hot, causing great inconvenience to the exhibitors, judges, visitors, and the Sweet Pea itself. The visitors were not so numerous as we should have liked to see on the opening day; but Friday, in our experience, is generally an "off" day at the Crystal

THE LUNCHEON.

Those who attended the luncheon will remember it specially for one reason—it was "stewing" hot. And what with toasts and speeches, two-and-a-half hours of mild torture was borne by the company, which nevertheless was in high good spirits. There was Sir W. Treloar, 6 ft. 2 in. in the chair, dressed in his handsome civic costume; Lady and Miss Treloar on either side of him; and variously disposed on right and left along the great length of tables we noticed: Mr. N. N. Sherwood, V.M.H., Rev. W. T. Hutchins (Indian Orchard, Massachusetts), Herr Fritz Benary (Erfurt), Messrs. R. Gofton, Salmon, William Sherwood, Edward Sherwood, John W. Moss, Mrs. Moss, Messrs. John Green, Henry Gillman, John Collingridge, T. W. Saunders, William Cuthbertson, W. Balchin, Junr., J. Hudson, V.M.H., H. C. Prinsep, G. Stanton, Henry Eckford, John Stainer Eckford, R. Dean, V.M.H., Geo. Gor-



MESSRS. WEBBS' SWEET PEAS AT WOLVERHAMPTON.

tabling. They also had at the same show exhibits of Gloxinias, double Begonias, culinary Peas and vegetables. The latter exhibit was a very fine one, but the pressure on our space prevented us from reproducing a photograph of it. The Peas, Long Pod Beans, and Cauliflowers were very fine. They also had Melons, Cucumbers, and Onions. Behind the vegetables were Tomatos trained on upright supports and on arches. The light and gay character of the Sweet Peas had a cheerful effect, and being shown so much earlier than those at the Crystal Palace, they had the advantage of the cooler weather, while the plants themselves were still in their virgin freshness. Sweet Peas are naturally later in the midlands and northern districts, and the exhibit of which we reproduce the photograph was particularly fresh and handsome. The thirty-six varieties shown were grown on the Kinver Seed Farms of Messrs. Ed. Webb & Sons.

Fruits—Juicy fruits are said to partially destroy an inebriate's love for alcohol.

Palace. They came in great numbers on the second day, which was comfortably cool; but, unfortunately, the Sweet Peas were in bad condition on account of the heat of the previous day. They ought really to have been in finer condition on Saturday, and we hope this exceptional experience will not give the general public the idea that Sweet Peas are ephemeral, for such is really not the case.

OPENING THE EXHIBITION.

At half-past one Alderman and Sheriff Sir W. P. Treloar received the foreign visitors, judges, and committees, and after a few congratulatory remarks upon the success of the celebration, he introduced his wife, Lady Treloar, who had courteously consented to open the exhibition. In a few well-chosen words in which her Ladyship declared herself to be honoured in being asked to perform the opening function, and wishing the committees and all others interested in the movement success in their labours, she formally declared the show open. The Misses Sherwood then presented her Ladyship and daughter with two lovely bunches of Sweet Peas.

don, V.M.H., Percy Waterer, E. Beckett, H. J. Jones, H. A. Needs, R. Sydenham, Lewis Castle, Edward Laxton, W. P. Wright, H. Wright, S. B. Dicks, H. Dunkin, C. H. Curtis, J. Fraser, &c.

After the substantial banquet had been partaken of, the loyal toast was proposed by the President from the chair. The speech volunteered with the toast proved that in Sir William Treloar the company had secured an ideal chairman—handsome, able, and full of humour and good nature. It would take pages of *THE GARDENING WORLD* to do justice to all the laughable anecdotes, suggestions, and hints of either Sir William's speech or that of any other speaker. Most of them might have been shorter. The toast was drunk upstanding.

The next toast, "Success to the Bi-Centenary Celebration," was also proposed by the President. Mr. Geo. Gordon, V.M.H., Chairman of the Committee, replied. Mr. Gordon described how the movement first originated at a meeting in Edinburgh last September, and explained the various steps which have led up to so satisfactory a result. Mr.

W. P. Wright proposed "The Donors of Special Prizes," and pointed out how very liberal and serviceable the donors had been. Without them the exhibition might have been abortive. Mr. Leonard G. Sutton and Mr. J. Collingridge answered. Mr. T. W. Sanders gave "The Exhibitors and Judges," and was answered by Mr. Wm. Cuthbertson (Dobbie & Co.), and Mr. W. Balchin, Junr. "The Foreign Guests" came from the President, and was responded to by Rev. W. T. Hutchins, Indian Orchard, Massachusetts, U.S.A., known from the Sweet Pea named after his wife, "Lottie Hutchins"; Herr Fritz Benary, Erfurt, and Mr. Henry Gillman, Crystal Palace. Mr. N. Sherwood, V.M.H., proposed "The Officers and Committees of the Celebration," Mr. R. Dean, V.M.H., Hon. Sec. and Treasurer, answered. Mr. R. Gofton Salmon last of all wound up with "The President and Vice-Presidents," the President and Mr. J. W. Moss replying. The company then dispersed, and at 4.33 p.m. the Conference meeting was started.

Competitive Classes.

The special prizes offered by Messrs. Sutton & Sons, Reading, brought seven entries, making an imposing display on one of the long tables towards the central transept. The premier award was secured by Mr. Peter Blair, The Gardens, Trentham, Staffs., with a very superior exhibit. The varieties most prominent here were Salopian, Gorgeous, Sadie Burpee, Duchess of Sutherland, Sensation, Prince Edward of York, Captain of the Blues, Navy Blue, Fascination, Countess Cadogan, Mars, Chancellor, Lady G. Hamilton, New Countess, Alice Eckford, Lottie Hutchins, Queen Victoria, Venus, Primrose, Mrs. Eckford, Mrs. Fitzgerald, Duke of Sutherland, Black Knight, Monarch, Duke of Westminster, Othello, Duke of Clarence, Royal Rose, Lovely, Prima Donna, Triumph, Blushing Beauty, Prince of Wales, Princess of Wales, Aurora, and America. The colours in this class were massed in banks or groups and colonies embracing the allied colours, and mixed with *Gypsophila paniculata*, and though very telling were rather flat, owing to the uniformity of the vases. The size and quality of the flowers were excellent.

The second prize was secured by Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Glendaragh, Teignmouth, who had a fine and very varied lot, though the Asparagus and grasses were rather too prominent in the vases. The flowers to come from such a distance were remarkably fresh. The third prize went to Mr. F. Ackland, gardener to A. G. Hayman, Esq., Hapford House, Frome. Many of the flowers here had lost their freshness, but they had been fine. The fourth prize went to Mr. R. Warren, gardener to Mrs. Geo. Gosling, Stratton Audley Park, Bicester. Sweet Pea foliage had been used here.

Mr. Henry Eckford, Wem, Salop, offered special prizes to commemorate the "Coming of Age" of the firm, as it is just twenty-one years ago since Mr. Eckford commenced to cross fertilise Sweet Peas. The premier award was secured by Mr. Edwin Beckett, gardener to Lord Aldenham, Aldenham House, Elstree. This was for forty-eight bunches of Sweet Peas in not less than thirty-six varieties, with any appropriate foliage. The back line consisted of Blanche Burpee (two bunches), Senator, Salopian, Mrs. Sankey, Chancellor, New Countess, Empress of India, Navy Blue, America, Princess of Wales, Splendour, Duke of Clarence, Mrs. J. Chamberlain, Maid of Honour, and Mrs. Fitzgerald. The second line contained Black Knight, Gorgeous, Wawona, Duke of Westminster, Queen of the Isles, Stella Morse, Royal Rose, Lemon Queen, Countess of Powis, Primrose, Mrs. Dugdale, Lord Kenyon, Lady Grisell Hamilton, Mikado, Purple Prince, and Venus. The front line consisted of Her Majesty, Countess Cadogan, Lady Beaconsfield, Firefly, Emily Henderson, Duke of Sutherland, Countess of Lathom, Lady Mary Currie, The Queen, Celestial, Calypso, Gaiety, Hon. F. Bouverie, Duchess of Westminster, Golden Gleam, and Fascination. This exhibit secured the Carter Commemorative Cup, offered by Messrs. J. Carter & Co., High Holborn, for the most meritorious collection of Sweet Peas, exhibited by amateurs or gardeners.

The second prize was awarded to Percy Waterer, Esq., The Briars, Fawkham, Kent, who had a very pretty and tastefully arranged exhibit. Mr. Peter Blair was third in this case with a beautiful exhibit. Mr. Wm. Simpson, gardener to R. C. Forster, Esq.,

J.P., The Grange, Sutton, Surrey, was fourth. Herbert Hicks, Esq., Branwoods, Great Baddow, Chelmsford, was highly commended. There were eight entries in this class.

OPEN TO ALL.

Special prizes by Messrs. Hurst & Son, Seed Merchants, 152, Houndsditch, London, E.C. For thirty-six bunches of Sweet Peas, in not less than twenty-four varieties, and not more than two bunches of one variety, Sweet Pea foliage only to be used and the bunches to be staged in vases, Mr. R. Bolton, Warton, Carnforth, was first. The size and good form here were remarkable, the depth of good colouring was very fine. Messrs. Isaac House & Son, Bristol, were second; Messrs. Hinton Bros., Warwick, third; and Messrs. Jones & Sons, Shrewsbury, fourth.

In Class IV., Messrs. Cooper, Taber & Co., 90 and 92, Southwark Street, S.E., presented the prizes. The class asked for one bunch each of the three best white, three best scarlet, and three best blue varieties of Sweet Peas, nine bunches in all, distinct varieties, to be set up tastefully in vases with Sweet Pea foliage only.

Messrs. Jones & Sons, Shrewsbury, were first; Percy Waterer, Esq., The Briars, Fawkham, Kent, came second; Mr. R. Chamberlain, The Gardens, Cressingham Park, Reading, third; and fourth, Mr. W. Smith, Mount Park, Harrow.

In Class V., for twenty-four bunches of Sweet Peas, distinct varieties, set up with appropriate foliage (prizes by Messrs. E. Webb & Sons, Royal Seed Warehouse, Wordsley, Stourbridge), the first prize fell to Mark Firth, Esq. (gardener, Mr. F. J. Clark), Weston Hill, Leicester. The flowers were strong, large, and of good form and colour. Mr. Peter Blair, came in a good second; and third, Mr. Wm. Howe, Park Hill, Streatham Common. The latter had a needless amount of grass. Mrs. Blackburn (gardener, Mr. T. Stanton), 9, Sion Hill Place, Bath, was fourth. There were thirteen entries.

Special prizes by Messrs. W. Atlee Burpee & Co., Seed Merchants, Philadelphia, U.S.A. For twenty-four bunches of Sweet Peas, in not less than eight varieties and not more than three bunches of one variety, selected exclusively from the following distinctly American varieties introduced by W. Atlee Burpee & Co.: *Admiration*, *Aurora*, *Brilliant*, *Burpee's Earliest of All*, *Burpee's New Countess*, *Creole*, *Daybreak*, *Dolly Varden*, *Fashion*, *Gray Friar*, *Gorgeous*, *Juanita*, *Lottie Hutchins*, *Maid of Honour*, *Modesty*, *Navy Blue*, *Oddity*, *Oriental*, *Pink Friar*, *Ramona*, *Sensation*, *Snapdragon*, *Stella Morse*, *Wawona*. To be set up tastefully in vases, with any appropriate light foliage. Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, Elstree, was first, followed by Messrs Isaac House & Son, Westbury-on-Trym, Bristol; and third, Mr. R. Bolton, Warton, Carnforth.

For eighteen bunches of Sweet Peas, distinct, Messrs. W. H. & J. Collingridge, proprietors of *The Gardener's Magazine*, offered three prizes. Messrs. Isaac House & Son were the winners, their collection being amply set off with Asparagus. Mr. F. G. Foster, Havant, was a good second; and Mr. E. Beckett, third.

In the class provided for by Herr F. Benary, Erfurt, Germany, for eighteen stems of Sweet Peas, of any varieties, having the greatest aggregate of expanded blossoms, Mr. F. G. Foster was first, and Messrs. Jones & Sons, second.

Special prizes by M. M. Vilmorin-Andrieux & Cie, 4, Quai de la Mégisserie, Paris. For one bunch of any dark variety, maroon, deep bronze or purple, Messrs. I. House & Son were first with Black Knight; Mr. G. Prebble, Shirley, Croydon, second; and Mr. R. Chamberlain third.

For one bunch of a scarlet or crimson variety (prizes by Mr. Ernst H. Krelage, Bloemhof Nurseries, Haarlem, Holland), Mr. H. Aldersley, Aldersley Hall, Chester, was the winner with Salopian; Mars was second, from Mr. P. Waterer.

In Classes XVII. and XVIII. Messrs. H. Cannell & Sons, Swanley, Kent, offered the prizes. These were for one bunch of any "erect standard" variety, in which Messrs. I. House & Son, were first with Mrs. Dugdale; Mr. P. Waterer second with a very fine bunch of *Triumph*; and third, Messrs. Hinton Bros., Warwick, also with *Triumph*. For one bunch of any hooded variety, Messrs. I. House & Son were again first with *Countess of Lathom*; Messrs. Hinton Bros. were second; and third, Mr. P. Waterer.

Mr. H. Aldersley won Mr. R. Wilson-Ker's first prize for one bunch of any deep blue or violet variety, having *Duke of Westminster*; Mr. R. E. Ryman, second, with *Black Knight*; the Messrs. House, third, with *Navy Blue*.

For one bunch of any yellow or primrose variety (prizes by Mr. Henry Deverill, Banbury), Mr. H. Aldersley won with *Queen Victoria*; Mr. P. Waterer, showing *Mrs. Eckford*; and Mr. R. Chamberlain, with the same, followed in this order.

Special prizes by Messrs. Carter, Page & Co., 52, London Wall, E.C., for one bunch of a pale blue, mauve, or lavender variety: first, Mr. R. Bolton, with *Lady Grisell Hamilton*; second, the Messrs. House, with ditto.

Mr. H. Aldersley won Messrs. Barr & Sons' first prize for one bunch of a white variety, showing *Sadie Burpee*; the Messrs. House were second with the same. Rev. L. Knight Smith, Rudcote, Brighton, Isle of Wight, came third, also with *Sadie Burpee* (very good); and fourth, Mr. Wm. Howe, who had *Sutton's Giant White*.

For one bunch of a blush or a flesh-coloured variety (prizes offered by Messrs. Laxton Bros., Bedford), Mr. R. Bolton, with *Venus*, beat Mr. H. A. Needs, Heath View, Horsell, Woking, who had *Mrs. Fitzgerald*.

Messrs. Isaac House & Son won for a bunch of a dark striped or flaked variety, having *America*. Mr. Lewis H. Hatting, The Nest, Emerson Park, Hornchurch, Essex, was second, with *Princess of Wales*; and Mr. E. Wilkins, Dalton-on-Lees, Darlington, third, with *Ramona*. For one bunch of a light striped or flaked variety, Messrs. I. House & Son, were first, with *Pink Friar*; Mr. R. Chamberlain, second, with *Aurora*; and third, Mr. W. H. Apthorpe, 94, Hills Road, Cambridge.

All of these classes were so keenly competed for, that we may be pardoned for reporting them so fully. In most of the classes there were ten, twelve and up to fifteen entries, and most of them of merit. All the bunches were stipulated to be set up in tall vases, and light appropriate foliage was allowed. The main object of the classes was to bring out the best varieties of each colour and type, and thus assist the work of classification.

DIVISION II.: AMATEURS.

Special prizes by Messrs. Fidler & Sons, Royal Berkshire Seed Establishment, Reading, for eighteen bunches of Sweet Peas, distinct. Mr. Thos. Aldersley, Shrewsbury, stood first. There were a number of entries and all were good.

Mr. E. Ryman, with twelve bunches of Sweet Peas, won Messrs. Toogood & Sons', of Southampton, first prize. Mr. T. Aldersley carried off Mr. R. Sydenham's first prize in Class XXVIII.; while in the next class the first award went to Mr. J. D. Powell, Crofton Lodge, Theydon Bois, Essex. In the foregoing classes each bunch had to contain twenty-five sprays of any one variety.

DIVISION III.: FLORAL DECORATIONS, OPEN.

In Class XXXI., for a decorated dinner table, 6 ft. in length by 4 ft. in width, arranged with Sweet Peas and their foliage only, Miss C. B. Cole, The Vineyard, Feltham, Middlesex, was first, having a table all of pink Sweet Peas. Mrs. W. Green, Jun., Harold Wood, Essex, was second, with a mixed arrangement of pink and blush varieties; Mr. Arthur Edwards, Arnold, Notts, came third. There were thirteen tables.

For a bouquet of Sweet Peas, arranged with any appropriate light foliage, Messrs. Jones & Sons, of Shrewsbury, were first; Miss C. B. Cole came second; Miss Bawtree, Clapham Lodge, The Downs, Sutton, third; and the Misses Boff, 203, Upper Street, Islington, N., fourth. The heat played havoc with these bouquets, the flowers of which were mostly wired.

The competition for a table of Sweet Peas illustrating the different methods in which the flower can be used for decorative purposes, proved one of the best features of the show. In this class Messrs. Jones & Sons, Nurserymen, Shrewsbury, were awarded first prize. The taste displayed in all of the entries here was of an exceedingly high order, baskets, horseshoes, ovals, wreaths, vases and shower bouquets being employed in the composition. Mr. Norman Davis was second, with a table that many thought should have had the first award. The shower arrangements here were specially fine. Mr. Henry Anstey, Knight Hill Road, West Norwood

S.E., was a very strong third, having lovely harps, anchors, show vases, &c. All of the competitions were very fine and certainly one of the strongest of the show features. There were five entries.

Mr. R. Chamberlain, of Reading, won Mr. H. J. Jones' first prize for an epergne or other suitable design for dinner table. Miss C. B. Cole was second; Mrs. W. Green, Jun., Harold Wood, Essex, third; and Mr. R. Jeffery, fourth. The competition brought over a dozen entries.

MISCELLANEOUS EXHIBITS.

Messrs. Dobbie & Co., Florists to the Queen, Rothesay, N.B., filled a space of over 300 sq. ft. the plan of the arrangement being a series of raised groups and undulations. There were 182 new and old varieties of Sweet Peas shown, to show the development that has taken place during the last fifty years. Festuca and Calamagrostis grasses, Cocos and Maidenhair Ferns were used effectively. The stand was perhaps slightly too flat, yet it was one of the finest groups in the show. Half a dozen of the finest varieties were Creole, lavender; Oriental, rosy-salmon; Countess of Powis, salmon-pink; Navy Blue; Lovely, pink; and Duchess of Westminster, purple. (Gold Medal.)

Messrs. J. Carter & Co., High Holborn, London, arranged their stand uniquely. The plan was briefly this:—A central "trellis structure" consisting of brass upright rods surmounted with the Prince of Wales' feather. A broad top-fitting held a profusion of deep crystal tubes, which were filled with Sweet Peas and Gypsophila. The central spaces between the rods were filled in with small looped chains, which also were beautifully furnished with Sweet Peas. On the table at the foot of this erect trellis were small raised stages, having mirrors surmounted with *Isolepis gracilis*. These stands contained collections of Sweet Peas, mostly of one colour, for facile comparison. In the centre of the stand Carter's Commemorative Cup (a magnificent article) was placed. Altogether this was an expensive and lovely arrangement, and a dark background would have greatly aided the effect. (Silver Gilt Medal.)

Mr. F. G. Foster, Brockhampton Nurseries, Havant, had a small but very select collection beautifully blended and relieved with Ferns, &c. The flowers were very large and fine, of deep, good colour and shapely form.

Mr. H. B. May, Upper Edmonton, had a stand of *Campanula isophylla* Mayi, profusely flowered and trained in different styles, some drooping, others pyramidal, and yet others balloon shaped.

Mr. B. Ladham, Shirley Nurseries, Southampton, set up a group of cut hardy herbaceous flowers, including splendid spikes of *Platycodon grandiflorum*, *Coreopsis grandiflora* var. *Eldorado* (a larger form than the type), *Heliopsis*, *Galegas*, *Achilleas*, &c. On the whole this was a select group. (Silver Gilt Medal.)

Messrs. H. Cannell & Sons, Swanley, set up a couple of groups of Sweet Peas in pots, edged with the Cupid strain. These were indeed very fine. Their chief show, however, was that staged in the east portion of the nave, and which covered 250 sq. ft. This group was high in the centre, and sloped evenly away on both sides towards the edges. The bunches, in nice glasses, were massive and finely spread. Chancellor, Colonist, Capt. of the Blues, Oriental, Othello, Countess of Powis, Her Majesty, Duke of Sutherland, Black Knight, &c., were remarkably strong and fine. (Gold Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., filled over 250 sq. ft. of convex tabling at the east end of the nave. The table was raised 3 ft. or 4 ft. high, and sloped from the front backward, culminating about 10 ft. high at the back. At this part there were three large arches decked from end to end with mixed Sweet Peas. The central mass on the stage was built up of plants in pots, while on the flanks were massed bunches in vases. The edge was lined with light maidenhair plants in pots, while Peas in pots and others in vases were placed on the floor around the base of the table. Tall vases occupied the left and right-hand corners. This was certainly a masterpiece in Sweet Pea decorations. The quality of the blooms was up to the usual, about 150 varieties being staged. (Gold Medal.)

Messrs. Hurst & Son sent from their Trial Grounds at Kelvedon, Essex, a collection of Sweet Peas which filled three sides of a large oblong. The vases were smartly arranged, the colours

well blended, and the quality of the blooms very high class. The latter fact was very striking. Black Knight was Ar, Duke of Westminster was good, Prima Donna, very sweet, Navy Blue, handsome, Countess of Powis and Mrs. Eckford were exceedingly sweet, and all the distinct kinds were represented. (Gold Medal.)

Messrs. Harrison & Sons, Seed Growers, Leicester, had a collection of Sweet and culinary Peas. The Sweet Peas had plenty of space, and being good they formed an attractive exhibit. (Small Silver Medal.)

Messrs. Dicksons, Ltd., Chester, had 100 bunches of Sweet Peas, including old and new varieties. Coming the distance they did, closely packed, and all the rest of it, they were yet specially fine. Navy Blue, Black Knight, Dorothy Tennant, blue; Lovely, Countess of Powis, Chancellor, Princess May, and Lady Grisel Hamilton were some of the more outstanding varieties. The arrangement left nothing to be desired.

Mr. Robert Sydenham, Tenby Street, Birmingham, also arranged a select assortment. Mr. Sydenham's name is inseparably bound up with florists' flowers in general, and his efforts in Sweet Peas, which he offers in collections to suit the pockets of all classes, still uphold his reputation as one of the foremost veterans. (Large Silver Medal.)

The Ichthemio Guano Co., Ipswich, had a table with samples of their manures in tins and packages of various sizes.

Messrs. E. W. King & Co., Coggeshall, Essex, had a table of bright varieties of Sweet Peas, comprising the leading varieties, and all of high merit. The Messrs. King grow mainly for the sake of supplying seed wholesale or retail. (Large Silver Medal.)

Mr. A. Edwards, Arnold, Notts., showed his "Edwardian" table and room decorations, which now-a-days are finding such patronage from those who have much of this work to do.

Messrs. Barr & Sons, King Street, Covent Garden, London, staged a collection of hardy herbaceous cut flowers, the arrangement of which was perfection, and the quality of the stuff was very high. *Lilium chalcedonicum* was good. *Hemerocallis aurantiacum* major, *Lilium Kramerii*, *L. Humboldtii* magnificum, *Inulas*, *Iris laevigata*, *Gaillardias*, *Pentstemons*, *Roses*, &c., were all included. They also showed sixteen dishes of exhibition culinary Peas, of which *Gradus*, *Magnum Bonum*, *Criterion*, *Telegraph*, *Duke of York*, and such other first water varieties were seen. (Large Silver Medal.)

Messrs. John Peed & Son, Roupell Park Nurseries, Norwood Road, S.E., set up a group consisting for the most part of Sweet Peas, and hardy herbaceous cut flowers. Their collection of ornamental grasses was much admired. Border Carnations, *Pentstemons*, *Achilleas*, *Gaillardias*, &c., were included in this attractive and meritorious stand. (Large Silver Medal.)

Messrs. Jones & Sons, Nurserymen, Shrewsbury, as big growers of Sweet Peas and seeds in general, were well represented on this occasion. They had many prizes also in the competitive classes.

Messrs. B. S. Williams & Son, Upper Holloway, London, N., had a splendid collection, their array being set up in large, massive bunches. (Large Silver Medal.)

Mr. Henry Eckford, Wem, Shropshire, "The Sweet Pea Specialist," as may be guessed, had a magnificent stand. The numbers of the varieties were not so numerous, but they were all chosen kinds of great distinctness, large, strong, fragrant, and in every way superior. He also showed bottles of the Essence of Sweet Pea blossoms, which, judging from its ready sale at half-a-crown a time, must have been of high value. (Gold Medal.)

Mr. F. A. Roscoe, The Golden Orchard, Steeple-Morden, Royston, had a small but very choice collection of meritorious varieties set up with taste and judgment. (Small Silver Medal.)

Mr. R. Bolton, Warton, Carnforth, had one of the best Sweet Pea groups in the show. It was not the largest, but the blooms were large and strong—good in every respect. (Large Silver Medal.)

Messrs. Webb & Sons, Royal Seedsmen, Stourbridge, took uncommon pains to arrange what proved to be one of the foremost groups in the exhibition. The collection filled three sides of a square, and was bounded at the back with a background covered with white and blue muslin. The collection was large and of first-rate merit, the

blooms being strong and fresh on the second day. (Silver Gilt Medal.)

Mr. L. H. Ching, The Crescent Nurseries, Forty Hill, Enfield, N., had a very smart collection of highly-coloured Sweet Peas. In a small space, Mr. Ching arranged a collection comprising a very large amount of varieties. (Small Silver Medal.)

Mr. F. C. Fowle, Devon Chrysanthemum Nursery, Teignmouth, and 59, Maddox Street, Bond Street, London, also came out well in the non-competitive groups. He is evidently a good cultivator and skilful in arranging. (Small Silver Medal.)

THE CONFERENCE.

On Friday afternoon the first of the conference papers was delivered in the Board Room, Crystal Palace, by Mr. S. B. Dicks, the chair being occupied by Mr. R. Wilson-Ker, of Messrs. R. P. Ker & Sons, Liverpool. There was a moderate attendance. As the whole of the papers may yet be published in pamphlet form, we merely give a summary of them.

HISTORY OF THE SWEET PEA.

One thing the conference ought to do, said Mr. Dicks, was to set at rest the confusion about the native habitat of the plant. The earliest mention of a Sweet Pea dates back to 1695 when Father Cupani, an Italian monk, described the *Lathyrus odoratus*, now so-called, in his "Hortus Catholicus." This Father Cupani who figures so conspicuously in early references to the Sweet Pea, was born in 1557 and became a monk in 1681. In addition to theological works, he prepared the "Hortus Catholicus" above mentioned. Even in early times there were doubts about the native country of the Sweet Pea. Sicily, of course, has always been justly maintained as its home, but confusion exists about a variety having come from Ceylon. No species of *Lathyrus* has been found there since strict search has been made. One named Sprenger, of Sicily, writing on the matter, said he thought that the white form of Painted Lady might be native of Ceylon. Mr. Dicks mentioned the various instances of early notice by Plukenet, Petiver, Ray, Burmann and others, and dilated on some of the earliest and most important varieties which all along have had an important bearing on the Sweet Peas of later days. Thus Luscombe's Black, Invincible Scarlet, Lord Anson's Blue, &c., were particularised. But as these are mentioned in "The Evolution of the Sweet Pea" we may pass them in the meantime. The paper was thoroughly exhaustive and well expressed.

THE CLASSIFICATION OF SWEET PEAS.

This very important subject, and one which will have the greatest effect on the future of this flower, now for the first time officially classified as a Florist's Flower, was taken in hand and dealt with by Mr. W. P. Wright. Though his paper was prepared in printed form, Mr. Wright contented himself with a verbal resumé of his classification system.

First of all he divides Sweet Peas into two main classes—the first with erect standard, the second hooded, a type he considered inferior.

In its youthful state the Sweet Pea is naturally hooded; when fully matured it may be erect (some varieties never have erect standards, e.g., Lady Nina Balfour, Chancellor, Mr. Sankey, Lovely, &c.), and when fading it generally again becomes hooded. The hooded flower then, though it may look pretty and pleasing, is still to be regarded as an inferior form. The hooding is generally the result of flimsiness.

Between these two types there are intermediate forms, "half hooders," like Blanche Burpee and Sadie Burpee. There are also revolute forms, but these are bound to be discarded.

It comes to this, then, that probably only two forms will be retained—the erect and the hooded. Mr. Wright's summary of the points of a perfect Sweet Pea are these:—

"The standard must be erect, well rounded, smooth at the edge, free from notch or serrature, and not less than 1½ in. across.

"The wings must be about half the size of the standard, spreading at the base, but slightly folded and hooded at the top, so as to hide the tip of the keel.

"The colours, whether self or parti, should be clear and well defined.

"There should be at least two perfect flowers on a stem.

"COLOUR.—Colour must play an important part

in a system of Sweet Pea classification; and the future may allot to it the leading position in view of the few variations that they are likely to be in form. By the exercise of a very little ingenuity we can get nearly all the leading varieties into one of several well defined groups. We have:—

"(1) SELFS.—This is a large, important, and beautiful class, and perhaps no better example of a pure self could be found than Salopian. Many of the bright red 'selfs' have a distinct tint of magenta in the wings, but Salopian has not. In this section natural subdivisions occur to the mind. Thus we have Countess of Radnor as the type of lavender selfs, Navy Blue of blue selfs, Dorothy Tennant of mauve selfs, and so on.

"(2) FLAKES.—A fairly large class, and one likely to increase in popularity. We have crimson flakes such as America, mauve flakes like Gaiety, rose flakes like Aurora, blue flakes like Grey Eclair, and maroon flakes like Senator.

"(3) BICOLORS.—In one sense flakes are bicolors, but it would be logical to adopt a system of classifying as bicolors those varieties which have one well defined colour in the standard and another in the wings. Sub-sections come naturally if we take as the distinguishing colour that of the standard. For instance, in Little Dorrit and Empress of India (rose standards with white wings) we have Rose bicolors; in Orange Prince, Countess of Powis, &c. (salmon standards and pink wings), we have salmon bicolors. And so forth.

"(4) FANCIES.—There are, and must be, no inconsiderable number of varieties which refuse to be disposed of so easily as the rest. Take, for example, the lovely Lottie Hutchins, which is lightly splashed with pink on an ivory ground. It is not a true self, nor is it a true flake. Again, there is the brilliant Mikado, which is mottled almost like an herbaceous Calceolaria. These varieties might be classified as fancies, with the sub-divisions White Fancy, Rose Fancy, &c., taking the ground colour as the distinguishing feature.

"(5) PICOTEE EDGES.—A very small class at present, but one that may increase."

Mr. Wright, in his paper, enumerates and describes 165 varieties. He then tables lists of these Peas classified according to form. The following are types which serve to show his arrangement:—Erect-flowered varieties: Emily Henderson, Painted Lady, Boreatton, and Countess of Powis. Hooded varieties: Colonist, Imperial Blue, Sensation, and Oriental. Partially hooded varieties: Navy Blue, Sadie Burpee, and Salopian. Revolute varieties: Invincible Scarlet, Peach Blossom, and Daybreak. He also furnishes lists of varieties classified according to colour. This colour classification is almost identical with that adopted for Carnations—selfs, flakes, bicolors, white-ground fancies, Rose fancies, and Picotee-edged as detailed above.

The classification committee hope to reduce the number of varieties to fifty.

SOME POINTS ON THE CULTURE AND DECORATIVE USES OF THE SWEET PEA.

This paper, by Mr. H. Dunkin, was held over till Saturday afternoon, owing to lack of time on Friday. On the Saturday Mr. Dunkin gave a verbal resumé of his suggestions. He advocated earlier sowing—autumn sowing, indeed, because when the ground is at all suitable and sheltered, far harder, sturdier, and better plants develop. The use of phosphatic and nitrogenous manures (kainit and nitrate of soda) during the early autumn growth was also advised. Even although we hear of bacteria which aid leguminous plants to obtain free nitrogen from the air, it has nevertheless been found of inestimable worth to apply half an ounce of nitrate and phosphate per gallon of water, to the plants on occasion. Deep working and enriching of the soil was advised. Unduly thick sowing was condemned, timely staking, watering, and mulching were also pointed out as necessary if perfect Peas were desired.

Speaking of decorations, one of Mr. Dunkin's most commendable suggestions was to adopt a massing system oftener than is done. To be seen to their fullest effect Sweet Peas should be set up in ample banks, mounds, or groups of one distinct colour. Then in table decorations, Mr. Dunkin divided these into upper and lower decorations. Too often decorators attend only to the one phase. Having tall, elegant vases beautifully filled with Peas and their own foliage or Fern fronds, the stems of the vases ought also to be draped, and bouquets should be

knotted about on the table itself. The most effective arrangements in table decorations are got by using bunches of one variety by itself.

Herr Fritz Benary, of Erfurt, in speaking after Mr. Dunkin had finished, suggested sowing the Sweet Pea in deep square pans of convenient size, and training the growths to a somewhat bee-hive shaped structure. When properly and well done such an arrangement is very decorative.

THE EVOLUTION OF THE SWEET PEA.

The second paper delivered before the conference on the Saturday was that by Messrs. J. S. Eckford and C. H. Curtis, on "The Evolution of the Sweet Pea." The subject is elaborate and was exhaustively treated. It will form one of the most valuable and interesting of the papers contributed. It, with the others, may be published in booklet form as a sequel to the celebration. The evolution of the Sweet Pea from the first mention of it in Cupani's "Hortus Catholicus," onward right down to last year's introductions was fully surveyed. The earlier stages of its evolution are described in "The History of the Sweet Pea," published last week and this week in THE GARDENING WORLD. A coloured plate of *Lathyrus odoratus*, which appeared in *Curtis' Botanical Magazine* in 1788 was shown at the meeting. The improvement both in size and form, though not so much in colour, between the Sweet Peas of that date and the varieties of to-day was readily apparent. In the specimen of 1788 the small standard was shown to be deeply notched, the wings turned inwards, and entirely exposed the lower part of the very conspicuous keel. When compared with a good present-day type, Sweet Pea specialists and fanciers have reason to be satisfied with the advance so far accomplished.

Major Trevor Clarke's work in first obtaining a blue-edged variety from the annual white Sweet Pea crossed with the perennial Lord Anson's blue was remarked upon, and some discussion on the proof of a true cross between an annual and a perennial Pea ever having been made, was raised after the reading of the paper. Scarlet Invincible was sent out by Messrs. Carter in 1865, and in 1878 they also introduced Violet Queen. In 1892 the bronze shade was secured by Mr. Eckford in his Bronze Prince.

One of the earliest varieties secured by cross fertilisation is stated to be Messrs. Laxton's Invincible Carmine. Eckford's Etna, Mme. Carnot, Rising Sun, &c., followed. As soon as the Cupid strain of Sweet Peas originated the Messrs. Laxton took and crossed these with the ordinary forms. For a year or two no results were apparent in the seedlings, but in the third season the break occurred, and that secured a strain suitable for massing in beds. The Cupid Peas do not seed so freely as the ordinary Sweet Peas, but the tremendous profusion of flowers more than compensates for the other detraction. Invincible Carmine (annual) and *Lathyrus grandiflorus* (perennial) have been tried in hybridisation without successful results.

Up until about 1840 there were only a few distinct Sweet Peas—red, white, black, Painted Lady, Butterfly, &c. For twelve years, that is till 1852, scarcely anything was done, and new sorts came slowly till 1878.

Since the introduction of Violet Queen in that year rapid advance has been made. This was practically the forerunner of the large formed sorts now grown, and from that time Mr. Eckford has been busy bringing out an annual set of new and better varieties. The crosses of most of these are contained in this paper on Sweet Pea evolution, and all those interested in this engrossing subject may be referred to the published proceedings of the conference when they appear at a later date.

THE SWEET PEA IN AMERICA.

Rev. W. T. Hutchins, Springfield, Mass., U.S.A., tackled the above subject. His paper was full of interest, being lightened with flashes of wit and humour, and a charm of composition which made the essay a delight to listen to. "The Sweet Pea has a keel that was meant to seek all shores; it has wings that were meant to fly across all continents; it has a standard which is friendly to all nations and it has a fragrance like the universal gospel."

Speaking of Mr. Henry Eckford's splendid service, Mr. Hutchins observed that a few years ago we Britishers did not seem to have discovered Eckford, but to-day he was glad this floral prophet was not without honour in his own country, and Mr. Hutchins would call him a dear old Scotch-Welsh Englishman.

In the floral calendar of America no name stands higher than his. We who have been born and reared in the sweet English love of the garden, will rejoice that America is now more and more showing her ethical and spiritual evolution in the abundant uses to which she is putting flowers. Every year an increasing number of men and women are busy about their lawns and beds and borders, and putting sweeter meaning into the word "home." Within the last decade the school yards have begun to add on this branch of education. And now the railroad stations have recently begun a lively competition in substituting little slices of paradise for the unsightly remnants of chaos that formerly prevailed.

I feel sure, said the lecturer, that America has overtaken Europe in the magnificent and elaborate layout, of the floral part, at least, of our public parks and gardens. We preach floriculture as a hobby to busy men, who are in danger of suicidal application to business.

Twelve years ago Mr. Hutchins began to get together a collection of varieties. In those days Scarlet Invincible, Adonis, Butterfly, Crown Princess of Prussia, and Princess Beatrice were treasures indeed. The first vision of Mr. Eckford's work which Mr. Hutchins saw was in Boreatton, Splendour, Orange Prince and Countess of Radnor.

The Eckford sets of 1892 and 1893 set the United States ablaze on Sweet Peas. California was just in time to prove that Sweet Pea seeds could be grown in America to meet the enormous demand.

The seed houses jumped from a few pounds to stocks of tons. A small florist would sell a hundred pounds; an ordinary seedsman two or three tons, and one jobber has had twenty-five tons in stock in a season. Ten years ago a Boston seedsman declared that Sweet Pea seed could not be grown in America. Within four years of the time, Mr. Hutchins visited the Pea fields of four growers in California who had altogether not less than 350 acres. Sixty varieties were represented at that time, and were ranged carefully to name and type.

Sweet Peas are grown in every state of the Union, from the semi-tropical belt of the Gulf states to the Canadian latitude. The American seed trade handles somewhere from 125 to 150 tons of Sweet Peas annually. The Sweet Peas of the present time in America do not have such fine fibrous roots as they possessed five or more years ago. The result is felt in a poorer display of bloom. This is one thing they must endeavour to rectify.

In July and August the Sweet Pea is the leading market flower in America. For several years Sweet Pea shows have been an annual event. At Springfield, Mass., where Mr. Hutchins lives, they are still competing for an Eckford Cup. The cup was taken last year by a gentleman who sent his flowers 300 miles from Western New York. He had sent magnificent bunches of the complete set of Eckford's latest introductions. As near as could be reckoned, it cost him \$10 per bunch to grow and transport and table them at the show. But the whole town where he lived celebrated the event of his winning the cup, for it has had a Sweet Pea craze for three years!

In America the scorching summer sun sometimes almost spoils a whole season's work in one day. It burns out and ruins all except the strongest colours. They have to translate our descriptions into much narrower vocabularies of colours and markings.

There are three main points in the production of good seed. First, conditions that will produce a strong, well-nourished plant, and bring it speedily to full maturity; second, conditions that will, at the best stage of the plants' strong growth, throw out promptly and ripen uniformly, just as much of a seed product as the plant can, at one normal effort, carry out; third, conditions ensuring good sunshine for uniformly ripening and harvesting the seed. The seed ranches of California are located where the most wonderful virgin soil is found in abundance. It is of inexhaustible depth.

The Californian year is pretty well divided between six months that are wet and six months that are rainless. As far as possible they sow to catch the winter rains, and the winter is mild enough to allow root and stem growth to go on all winter. The Peas begin to bloom about April and May, and this is the best time to visit these immense ranches. Thirty acres of one variety in bloom at one time is a sight to be remembered. No storms ever beat their crops down, and just at the right stage they pull up those vines loaded with pods and lay them upon great sheets to dry.

HISTORY OF THE SWEET PEA.

(Concluded from p. 742.)

1837. We now come to the operations of Messrs. James Carter & Co. I find in Mr. Carter's list for 1837, that he offers about the same kinds as were in vogue at the commencement of the century, with the addition of striped, but whether he originated this kind or not I am unable to say, as we regret having no list of his older than 1837. As he was looked upon by Loudon and other great horticulturists of the day to be the greatest living authority on the seeds of the garden, there is no doubt that he took the Sweet Pea under his wing as he did other plants.

1845 and 1849. In 1845 he offers for the first time new striped Sweet Pea, and in 1849, new large purple Sweet Pea. This will convince you of his interest in this particular flower.

1860. I have traced through several seed catalogues and cannot find any other additions to the list until we come to the blue-edged as brought out by us in 1860. Sweet Peas were only in their infancy in popular favour in these days, and we did not submit this variety to the Royal Horticultural Society until August 22nd, 1883, when it was given their First-class Certificate. It was understood to have been a true cross between the annual white Sweet Pea and the perennial Lord Anson's blue. It was the outcome of a series of experiments made with the object of raising a real blue flowered variety by Major Trevor Clarke of Daventry.

1865. As far as our records go the first First-class Certificate of the R.H.S. was awarded to Scarlet Invincible on July 11th, 1865. Although we did not actually raise this Pea (it was created by a neighbouring seed grower), we had a good deal to do with its introduction to the public, as it will be found both illustrated and described in our seed catalogue for 1866. This is the first illustration of a novelty in Sweet Peas that I have been able to find in any seedsman's catalogue.

1871. Mr. C. Sharpe offers a Pea called Princess of Prussia, new with rosy lilac flower. I don't know if he was its originator, but I have not been able to trace it elsewhere in that year.

1878. The next introduction was one of our own, and we consider the Sweet Pea I am now going to describe as the forerunner of all the large flowering types so popular. Indeed, when I read you the description we attached to our announcement, you will admit that this opinion has been more than justified, in some respects it seems prophetic. The coloured illustration that accompanied is, so far as we can trace, the first that ever appeared of a Sweet Pea novelty in a seed catalogue.

A NEW AND DISTINCT SWEET PEA—

VIOLET QUEEN.

It is now several years since any novel form of this popular flower has been introduced, and the charming variety offered above will, we feel sure, be universally welcomed. Violet Queen Sweet Pea originated at our Seed Farms, and whilst we are thus enabled to give it most unqualified recommendation, we cannot, we feel sure, speak in too great praise of its beauty and novel character. It is dwarfier in habit than the other varieties, and the seed is also quite distinct in appearance, the flowers ranging in colour from deep mauve petals to light violet at the keel, suggestive of the beautiful Bougainvillea. Our manager at the St. Osyth Seed Farm considers this Pea to be entitled a subspecies, and for the uses of botanical registration we purpose identifying it as *Lathyrus odoratus heterosperma*—and we look forward with much interest to other introductions from this parentage, which appears likely to be the forerunner of quite a new form of this favourite summer flower.

1882. We introduced Adonis.

1883. Carmine Rose was introduced by Messrs. Hurst, but I cannot now find it in their catalogue.

I think I have now convinced you that we are fully entitled to fill the link of the chain between the original types and those of Mr. Eckford, now so popular; and, so far as I can trace, nothing was done for Sweet Peas beyond Mr. Carter from 1837 to 1871, and until Mr. Eckford received the first recognition of his work in the early eighties, which we are pleased to give him due credit for.

You may ask, why did we not go on with the work of creating new types. The fact is, in the conduct of a large establishment like ours, it is exceedingly difficult to devote sole attention to any one tribe of plants where thousands of things are dealt with in the course of a year.

Some writers on the Sweet Pea pretend to use illustrations several centuries old. As far as I have seen them, they have been taken from old Herbals and represent the Everlasting Pea, a species which grows wild in certain parts of the country and is without scent.

The first and only true representation of the Sweet Pea is that in Plukenet's Herbarium, now located at the Natural History Museum at South Kensington. I saw the actual specimen one day this week, and I believe this to represent the first plant brought to England.

Amongst the 200 sorts we have now growing in these grounds are included all the latest types that have been put on the market.

We have also obtained several from America, and are sorry to find that amongst the latter many old favourites under new names.

The dwarf types, of which the first was called Cupid, also come from the United States.

It may interest you to know that during the last eighteen months we have handled thirty-one tons of seed, which is convincing proof of the popularity of this beautiful hardy annual.

We are also showing some seeds of various types to illustrate their distinctive characteristics.

You will notice particularly the seed of Violet Queen, as being distinct from any other variety, the seed having prominent corners, whereas all previously and most of the varieties since introduced are perfectly round.

The seed of Countess of Radnor, you will observe, looks as if it were a badly harvested sample, but this is not so. The fact is, the flowers of this variety are so beautiful that they seem to put forth their full strength in the petals, disarranging the reproductive organs so that little nourishment is left for the production of seeds.

We also exhibit a sample of white Sweet Pea seed, which you will observe is light coloured, and another variety which is almost black. The sample shown of mixed Sweet Peas may also be considered to be interesting.

In conclusion, I would just state that we are offering a fifteen-guinea silver cup to the gardener or amateur who exhibits the finest collection of Sweet Peas at the Crystal Palace Show. Particulars are given in the schedule.

FRUIT TREES AT FOREST HILL.

As a rule southern nurserymen, even though they may cultivate and supply all classes of garden stock, are usually best known from their identity with a certain section or genus of plants. The present is a case in point. It surprised the writer, as no doubt it would surprise many another person, to view the nursery of Messrs. J. Laing and Sons, Forest Hill, London, S.E., and their acres of fruit trees and bushes of all description, including shrubs, Roses and hardy plants. A visit had been made to see the splendid strain of tuberous Begonias by which the firm is most widely known, and though great collections of large, clean, finely formed and magnificently coloured fruits had been witnessed coming from the Messrs. Laing, it had never been considered that this phase of garden furnishing was so liberally attended to. At the present time in their fruit-tree nursery they have an orchard-house filled with young pot Peach, Nectarine and Pear trees. A finer lot it would be difficult to find. They are all in large pots, and each plant is both producing stout wood and a good crop of fruits. These by the end of the season will have formed fine bushy plants suitable

for forcing next season. Pitmaston Duchess, Louise Bonne of Jersey, Marle Louise, Marle Benolst, and Mdme. Treyve, were included among the Pears of the orchard-house. The Peaches were more numerous. Two good Strawberries were also pointed out by Mr. Laflan, the foreman in charge of this section. These new varieties of Strawberries are Jarles and General Chauncy. The latter is the better flavoured of the two and is slightly deeper coloured. The shoulders are sloping so that the berry on the whole is oval. The flavour is quite distinct, sharp and very agreeable. Jarles is lighter in colour and milder in flavour. Water Melons are being grown in pots and trained as any of the ordinary garden varieties. So far they appear to be quite content.

Out of doors the trees, all in a young state and in splendid condition, are doing remarkably well this season. The frequent showers have kept them free from insect pests such as greenfly or American blight, and being in a capital piece of soil, the growth is marvellously fine. The training process had just been started on the occasion of a recent visit, so that by this time many of the younger horizontally trained and fan-shaped trees will be more into the form of their future selves. Certainly no better Apricots could be found anywhere in the country than those at Forest Hill. And it is not as though the wood was unduly coarse, for though luxuriant it is yet even and of fine quality for forming a good fruiting framework. Care is taken to have all young wood thoroughly ripened each autumn, and so soon as the lines of Peach, Apple, Pear or Plum trees become too closely massed, they are lifted and rearranged in the autumn. Thus the roots, by the shifting, never become too rampant but form that fine fibrous quality without which good fruit and plenty of it is not possible.

Apples on the Paradise stock for wall cordons and others on the Crah for orchard standards are as fine as the Apricots, the Peaches and the Plums. A mulching is afforded to some of the Apples, for in a dry season, even with good deep loamy soil, young plants shifted in winter time are apt to suffer from drought in summer. Particularly good was Peasgood's Nonsuch, Lord Derby, Stirling Castle, Blismarck, King of the Pippins, Alexander, Celini Pippin and indeed all the Pippins were vigorous, clean, well-shaped and fruitful. It is a great point to have trees with these merits. If they have not got a robust constitution and free from disease to start with, few have skill enough to bring them up to a proper standard of perfection afterwards. Manx Codlin was good; as also was Golden Spire, Lord Suffield, Lord Grosvenor, Norfolk Beeding and Worcester Pearmain. Of these latter varieties there are some valuable three-year-old trees. It will be seen from the selection of varieties already named that all the choicest and most recommendable sorts are propagated and grown, and it is just the same with the Pears. Such dessert Pears as Sonvenir du Congres, Pitmaston Duchess, Doyenné du Comice, Durondeau, Beurré Clairgeau, Winter Nellis, Doyenné Boussoch, Clapp's Favourite, Jargonelle, Emile d'Heyst, &c.; and the stewing Pears Catillac, Uvedale's St. Germain, Vicar of Winkfield, and such like, are grown in liberal quantities.

Almonds are being raised in goodly numbers. Last year, according to information, Almond trees could not be had for love or money. So many are being used in decorative planting and for Peach stock, &c., that the demand seems to have exceeded the supply. Still, one should scarcely have thought Almond trees would have been less numerous than the demand for them. Standard Cherries are grown.

Roses, herbaceous plants and ornamental trees and shrubs, including a specially fine collection of Ivies, are under Mr. Laflan's charge. Of the Roses, Mrs. John Laing, the most popular H.P. there is, as is natural, finds large accommodation, or rather occupies large accommodation, and, of course, the best of the other Roses, chiefly H.P.'s, such as Caroline Testout, Clio, Duke of Edinburgh, Dupuy Jamain, Charles Lefebvre, Margaret Dickson, Gen. Jacqueminot, &c., find a place. Teas and H.T.'s are also favoured. Of China and Provence Roses some 20,000 plants are grown. Other kinds, and all forms of trained Roses as has been said, are likewise grown by the hundred or thousand as the case may be. So we see that though the Messrs. Laing do an enormous trade in tuberous Begonias, they are not behind in the other and wider departments of the nurseryman's business.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. J. Wallace, King's Lynn, Norfolk, for his article on "Freesias," p. 741.

QUESTIONS AND ANSWERS.

Strawberry Runners not Rooting.—A. J. M.: The walking about amongst the plants in gathering the fruits, coupled with the dry weather, is no doubt responsible for the runners not rooting. The ground may also be of a light nature, or the surface trodden very hard. You should not have any difficulty in getting them to throw out plenty of roots presently if you throw down some fresh soil between the rows and lay a small stone over each runner, close to the young plant to keep it in position. A good watering or two after that just before leaving off work will cause roots to become active in a very short time. The lengthening nights with their dews are also coming to your aid.

Poplars being Destroyed by Caterpillars.—D. A. W.: The caterpillars upon the leaves are those of a sawfly; and as they live exposed upon the leaves which they eat from the edges inwards, you can destroy them by syringing the leaves with London Purple at the rate of $\frac{1}{2}$ lb. to 30 gallons of water. After the London Purple is thoroughly mixed with the water, keep stirring the latter while the syringing is being done. Just sufficient should be given the trees to moisten the leaves and no more. This should be done late in the afternoon when the sun is losing power. The caterpillars will get destroyed by eating the poisoned leaves.

Delphiniums Flowering a Second Time.—Sims: As soon as the main stems go out of bloom you can cut them down to half their length, but not more if they have fresh leaves upon them. If there are no leaves you can cut them to the base. Mulch the ground with short manure, and give it a good watering afterwards. The plants will begin to develop fresh stems, which will bear flowers later on. If dry weather continues a good watering once a week will help the plants greatly in developing strong stems.

Budding Apples and Pears.—Quince: You can commence budding operations as soon as the shoots are sufficiently firm that you can remove the bud

from the piece of wood you cut off without destroying the little knot or root of the bud, that is its central axis or core. The buds should be inserted on the stem where there is old bark, that is, bark which is of the ordinary brown colour. It may be a little troublesome to lift the bark during dry weather, but you must work carefully if you find any trouble in this respect.

Good Exhibition Hardy Herbaceous Plants.—T. Weston: There is a great variety of subjects from which to make a selection, but the following are favourite plants:—*Spiraea Aruncus* (male plant), *Galega officinalis compacta alba*, *Campanula persicifolia alba grandiflora*, *Eryngium alpinum*, *Eryngium giganteum*, *Helianthus rigldus*, *Rudbeckia laciniata* Golden Glow, *Coreopsis lanceolata*, *Coreopsis grandiflora*, *Dracocephalum speciosum*, *Pentstemon barbatus*, *Monarda didyma*, late flowering *Phloxes*, &c.

Propagating Cheiranthus Marshalli.—W. M.: This plant being a hybrid, and, possibly for other reasons, does not produce seed. Your only means of increasing it is by cuttings, which are not plentifully produced, as a rule. You should take them as they are beginning to get firm, and after dressing them with a sharp knife insert them firmly in pots of sandy soil. Keep them moist with a rosed can and cover with a bell glass or hand light. Shade them from direct sun during the day. After they are rooted and commenced to grow you can take the tops of them as cuttings. They will root sooner and more freely than those from the open.

Names of Plants.—E. C. H. D.: *Asperula cynanchica*.—Sigma: 1, *Salix Caprea* (does not seem to differ from the ordinary broad leaved English form); 2, *Lonicera bracteata*; 3, *Polemonium caeruleum*; 4, *Stachys lanata*.—R. M.: 1, *Melissa officinalis variegata*; 2, *Thymus Serpyllum citriodorus*; 3, *Epilobium angustifolium*; 4, *Campanula pumila alba*; 5, *Stachys grandiflora*; 6, *Campanula latifolia*, generally known as *C. grandis* in gardens; 7, *Achillea Millefolium roseum*.—T. M.: 1, *Oncidium crispum*; 2, *Odontoglossum Pescatorei*; 3, *Cypripedium lawrenceanum*.—A. P.: 1, *Escallonia macrantha*; 2, *Galega officinalis alba*; 3, evidently a form of *Rhus Toxicodendron*. Could you send full grown leaves and flowers?—General Reader: *Conium maculatum*, the Hemlock. —J. D. W.: 1, *Polemonium caeruleum*; 2, *Campanula latifolia pallida*; 3, *Campanula persicifolia alba plena*; 4, *Centranthus ruber*; 5, *Lonicera japonica aureo-reticulata*; 6, *Nepeta Glechoma variegata*.—A. W.: 1, *Lysimachia vulgaris*; 2, *Melittis Melisophyllum*; 3, *Euphorbia Lathyris*; 4, *Centranthus ruber pallidus*; 5, *Rhododendron hirsutum*; 6, *Inula Helenium*.—Geo. Russell: It is the Cloudberry (*Rubus Chamaemorus*). We have heard it called by the name you mention in Kincardineshire, and took it for a local name; but whether it should be spelt "evern," "avren," "averen," or "averine," we have never been able to discover. The natives gather and eat it.—W. McIver: That with the pseudo-bulb was *Oncidium longipes*; the smaller flowers were *Oncidium pubes*.

Communications Received.—A. R. Sale.—W. H. P.—Wm. Carmichael.—H. P. K.—W. Garton, junr.—L. H. Salmon.—Publishing.—W. B.—D. McGregor.—H. Peerless.—A. C.—M. C.—R. H.

SHOW FIXTURES FOR 1900.

AUGUST.

- 2.—Maidenhead Horticultural Society.
- 3.—Devon and Exeter Horticultural Society.
- 7.—Abbey Park, Leicester, Flower Show and Gala.
- 16.—Ladywell, Lewisham and District Cottagers' Flower Show (2 days); Royal Horticultural Society, Aberdeen (3 days).
- 19.—Newton Stewart and Minnigaff Floral and Horticultural Society (probable date).
- 22.—Bucklebury and Marlston Horticultural Society.
- 24.—Falkirk Horticultural Society; Bradford Horticultural Society (2 days).
- 30.—Stirling Horticultural Society (2 days).

SEPTEMBER.

- 7.—National Dahlia Society's Exhibition (2 days).
- 12.—Royal Caledonian Horticultural Society (2 days).
- 27.—R.H.S. Fruit Show (3 days).

OCTOBER.

- 9.—National Chrysanthemum Society (3 days).

NOVEMBER.

- 6.—National Chrysanthemum Society (3 days).
- 7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).
- 8.—Devon and Exeter Horticultural Society (2 days).
- 15.—Maidenhead Chrysanthemum, Fruit and Vegetable Society (2 days).
- 23.—Dundee Chrysanthemum Society (3 days).

DECEMBER.

- 4.—National Chrysanthemum Society (3 days).

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, AUGUST 4th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, August 7th.—Abbey Park, Leicester, Flower Show and Gala (2 days).

THE GRANGE, SOUTHGATE, MIDDLESEX.—

It is always pleasant to visit the establishment of a real amateur, that is, one who loves his garden and the plants in it for their own sake. On visiting The Grange, Southgate, recently, we found J. Bradshaw, Esq., busy tying up some of the plants in the herbaceous border, because, the weather being warm this was a more enjoyable pastime on a Saturday afternoon than being in the hothouses which, together with their contents can be better enjoyed in winter and spring, than at mid-summer. Nevertheless, Mr. Bradshaw was pleased to accompany us through the Orchid houses where he has many real treasures. *Laelia tenebrosa* was carrying five flowers on a spike; while the flowers of *Cattleya Warneri* were large and richly coloured; and those of *C. granulata* perfectly distinct from either. He proudly

pointed to seven fine plants of *Cattleya nobilior*, *C. John Bageley* (*bowringiana* × *hardyana*), three plants of the choice *C. intermedia alba*, and *Laeliocattleya Thorntoni* (*digbyana* × *gaskelliana*), the recollection of which when in bloom had filled him with enthusiasm. The same may be said of *C. Maroni* (*velutina* × *aurea*), *C. exoniensis*, many large plants of *C. gigas*, special varieties of *C. Trianaei*, *C. Skinneri alba*, fine varieties of *C. labiata*, *C. Empress Frederick* var. *Leonata*, *C. gaskelliana alba* in sheath: pure white *C. labiata*, save for a triangular blotch on the lip; another one with only a pink blotch to mask its purity; another of the same autumn-flowering species close to *Princess of Wales*, but having a blush tint in the throat; and *C. Prince of Wales* (*fimbriata* × *Mossiae Wageneri*). Other fine things referred to with pride were *Laeliocattleya Henry Greenwood*, and *Lc. Hon. Mrs. Astor* (*gaskelliana* × *xanthina*). Some promising seedlings of *Cattleya Warneri* × *Laelia digbyana* have not yet flowered, and will no doubt receive a considerable amount of watching till they reveal their secrets.

Being a few days late we missed seeing the cool *Odontoglossum* house in its beauty, for the bulk of the blossom had been cut in aid of a bazaar in the village. A few had been left, including *Odontoglossum Pescatorei*, *O. cordatum*, and a good amount of variety in *O. crispum*, which is received with particular favour at Southgate. Some of the spikes were 2ft. long, a large specimen being notable for its fine white flowers, and others selected on account of the beauty of their markings. *O. excellens Lowiae* was noted for its big round flowers and the richness of its markings; while other varieties of this natural hybrid were excellent in every

respect. To these may be added fine forms of *O. wilckeanum* and *O. loochristiense*, the latter a supposed hybrid between *O. crispum* and *O. triumphans*. It is now well-known that *Odontoglossums* are grown with great success on the Continent, in a compost consisting chiefly or entirely of leaf mould in a moderate state of decay. A batch of plants has accordingly been potted in this compost by way of experiment. The first part of the evidence already to hand is that the plants have rooted splendidly in the (for this country) new potting material. Lath blinds are used for shading, and prove very serviceable in keeping the houses cool. One Orchid house had been demolished for re-construction, and lengthening. A large and deep tank was being constructed below the ground level in the new house for the reception of rain water.

It is always a pleasure to us to note the success attendant upon the cultivation of hardy plants in the borders and shrubberies of this garden, the owner being as enthusiastic over the many choice hardy subjects, as over the Orchids. No formal order is observed in the planting of herbaceous subjects, the object being to get bold masses of showy and effective, as well as choice subjects; and it must be admitted Mr. Bradshaw succeeds beyond measure. *Hesperis matronalis alba plena* is as effective as a white Stock, and as fragrant. *Phacelia campanularia* rivals the blue of the Gentian. A sowing of the double *Campanula persicifolia* gave rise to double white and pale blue varieties. A *Delphinium* raised from seed and said to come from the Himalayas proves to be a handsome form of *D. formosum* having larger flowers of a more brilliant blue than the type; and scarcely calling for improvement in any way. A large patch of the Mule

Pink was one mass of flowers. The sky blue Delphinium Belladonna is a continuous bloomer, and does not produce seed. The Winchmore Hill variety of Geum coccineum flore pleno is notable for the great size of its glowing scarlet flowers. Hardy plant lovers will also recognise value in Salvia argentea, Pentstemon barbatus, Hieracium villosum, Inula glandulosa, Linum perenne, Lychnis Viscaria fl. pl., Centaurea macrocephala, Aster Thompsoni (lilac-blue), the glorious blue Echium vulgare, collected in its wild habitats and reared from seed, and the pink flowered Heuchera brizoides, a hybrid between H. sanguinea and H. hispida, with the bronzy foliage. The giant Bellflower, Owstrowskya magnifica is generally considered a troublesome subject to grow, but it succeeds splendidly here. A plant we have seen before, reached, on this occasion, the height of 6ft., carrying blooms 5 in. in diameter. Can any grower of it excel that record? Incarvillea Delavayi had just passed out of bloom. One of the finest of late flowering Irises is I. ochroleuca, with the large yellow blotch on the white fall. Spiraea kamtschatica, otherwise known as S. gigantea, had not completed its growth at 5 ft. Pinks, a fine strain of Gaillardia, seedling and other Phloxes, Petunias, Lilium umbellatum and others formed bright masses of colour. The last named is a great success at Southgate, forming massive heads of glowing red flowers. The stems were in many cases fasciated. The same plants have bloomed for years in the same border.

The hybrid Penzance Sweet Briers grow and flower profusely, half under the shade of trees. Distinct and handsome are Spiraea lindleyana and S. canescens, the contrast between the foliage of the two being very great. Roses of various kinds are grown in different parts of the garden. Crimson Rambler was one mass of flowers upon an arch. The crimson-red Lord Salisbury is valuable for bedding, as it does not change colour in the sun. La France and Teas were grown in quantity, parts of the mansion being draped with climbing Roses.

Vegetables are not neglected, and some fine sowings of Peas were shown us by Mr. H. Whiffen, the gardener, who had commenced picking May Queen on the 9th June. They had been sown in the open, and as well as other varieties had made excellent growth. Sutton's Dwarf Defiance, 2 ft. high, formed a succession to May Queen. Sutton's Conqueror was 2½ ft. high, yet far from being ready at that time; and Sutton's Satisfaction was even later. A warm day did not prevent us from enjoying a ramble through this interesting and well kept garden, so admirably stocked in every quarter with a great variety of subjects, that contribute immensely to their owner's enjoyment.

Sweet Peas in the ranches of California are never staked.

Chiswick Lectures.—The prize-winners in the botany examination following Prof. Henslow's lectures were Mr. F. S. Sillitoe, 93; Mr. W. Good, 84; Mr. J. Dick, 82, the maximum being 100.

Weather in London.—The excessive heat wave, which lasted for a fortnight, culminated on Friday, the 27th ult., in a violent thunderstorm. Some amount of damage was done in districts around London by the lightning. Since then the air has been decidedly cooler and more healthy. Showers have also occasionally fallen, and the sky frequently becomes overcast. Though only about 1 in. of rain is recorded, everything looks fresher and brighter from the washing and watering.

Big Strawberries.—This seems to have been the year of big Strawberries, in Scotland at all events. At Kelso we read of one weighing 2¾ oz., while at Liberton, Midlothian, a fruit was picked weighing no less than 3 oz. I myself picked one 2¾ oz., and have had many quite up to the 2 oz. Curiously enough "Royal Sovereign" has in every case produced the giants.—C. Blair, Binny.

Record of Water Consumption at Kew.—All the water used at Kew Gardens, both in the houses and outside, is taken from the river Thames to large reservoirs within the grounds and elsewhere. Usually during each day in summer 300,000 gallons are used. The record, however, was broken on one of the very hot days recently, when no less than 384,000 gallons were utilised in one day.

Tourist Guide to the Continent.—The twenty-first annual issue of the *Tourists' Guide to the Continent* published for the Great Eastern Railway Company, is to hand. Among its fresh features are particulars of the new Oher-Ammergau tours, express services to Norway, Denmark, and Sweden, via the Royal Mail Harwich, Hook of Holland, route; new tours in the Luther country, and Thuringian and Hartz Mountains, &c. A series of Continental maps, and a chapter of "Dull Useful Information," which gives particulars of the cost of Continental travel, &c., are, all of them, features worthy of notice. The "Guide" is suitable for a coat pocket, is interesting, clear and complete enough to keep any novice from going far wrong. The price is sixpence and is published at 30, Fleet Street, London, E.C., and may be had at bookstalls.

Asplenium Clutei.—The *Fern Bulletin* for the July quarter describes two new Ferns from Jamaica. One is Asplenium Clutei which belongs to the same section as the better known Asplenium viride. It is an extremely tiny and delicate Fern, almost as thin and translucent as a filmy, and is as small as A. pygmaeum which Hooker described as being "the smallest of the Ferns." A figure of Asplenium Clutei, natural size, is reproduced in *The Fern Bulletin*, and shows the rachis to be very slender, having six to twelve pairs of pinnae, stalked on the lower two-thirds of the frond, above that they are slightly adnate-decurrent, wedge-shaped, three to four mm. long, and one to three mm. broad. The sori are generally on the exterior vein opening toward the inferior vein. It was discovered by Mr. Clute, the editor of *The Fern Bulletin*, in New Haven Gap, Jamaica, W. I., at an altitude of 5,600 ft., where it was growing on the moist soil at the base of an overhanging rock. Mr. Clute is to be congratulated on the discovery of this tiny species, inasmuch as it was on ground that has been frequently traversed by preceding botanists.

The Composition of Soils.—Mr. H. H. W. Pearson, M.A., presents some interesting figures in his article on "Plants and their Food," continued in this month's issue of *Knowledge*. He says:—"Soils are divided into numerous classes according to the relative amounts of clay and sand which they contain. A 'sandy' soil, for instance contains over 70 per cent. by weight of sand in addition to clay, lime and other mineral substances and humus. A 'clay' soil is composed of the same constituents but in different proportions, half its weight at least consisting of mineral matter so finely divided as to be included under the term 'clay.' In a gramme-weight of a sandy soil which contains only 4.77 per cent. of clay, there are about two million particles. In another case, a subsoll containing as much as 32.45 per cent. of clay, there are estimated to be fifteen million particles in a gramme weight. If the surface areas of all the particles in a given bulk of soil be added together, we should expect the total to be very large. We are therefore not altogether surprised to learn that the average total surface area of all the particles in a cubic foot of soil is no less than 50,000 square feet. If the soil be sandy, containing only about 2,000,000 particles to the gramme, the total surface area in a given bulk will of course be less than in a clay soil in which are a much larger number of smaller particles. The importance of such calculations as these is seen in dealing with the relation between the soil and the water which penetrates it."

Hampton Court Vine.—The famous Vine at Hampton Court Palace, which was planted in 1768, is now bearing 1,200 bunches of Grapes, the usual number it is allowed to bear.

The Horticultural College, Swanley, Kent.—We have to hand the syllabus of work for the above horticultural college, for midsummer, 1900. A glance through the contents of the pages prove that the subjects open to students, if thoroughly studied and practised, should, coupled with experience, fit those who undergo tuition at Swanley, for any position in gardens or gardening which could be opened to them. The college aims chiefly at giving a thorough fundamental training to those men and women who wish to become market growers, and gardeners in private places; but the course is also useful in fitting students to become land owners, lecturers, stewards, colonists, &c. The college also aims at meeting the demand for scientifically and business-trained persons for fruit growing. Bee and poultry keeping and dairy work are also included. Communications about the college should be addressed to either of the hon. secretaries, Miss Martineau or Miss Sieve King, The Horticultural College, Swanley, Kent.

A Hybrid Calceolaria.—From Mr. D. Chisholm, gardener to Lady Belhaven, Udston House, Hamilton, we have received flowers and leaves of a very interesting hybrid between the old bedding Calceolaria Golden Gem and the old Dalkeith greenhouse strain. The flowers are three or four times as large as those of Golden Gem, and golden yellow, with a line of crimson spots round the mouth of the pouch. The leaves have the fascies and general appearance of those of Golden Gem, both as to colour, form and wrinkling of the surface; but the size more nearly approaches that of the greenhouse type. The hybrid has the constitution of Golden Gem, and appears to stand the weather very much better. Mr. Chisholm has a few plants hedged out and they stood the fearful deluges of rain and hail that have fallen this summer in the wet district of Hamilton, without suffering the least damage, while Golden Gem was much cut up and bespattered with soil. Mr. Chisholm attributes this superiority to its strong stems and its more rigid character generally. It grows in the form of a close bush, spreading, with immense trusses of flowers. He had various colours ranging from very dark ones to the palest canary; but the one here mentioned has the largest bloom; and while none are poor blooms, this he considers the best. It is certainly handsome, and we think it would prove a very showy, distinct-looking and useful plant for bedding and pot culture.

Reading & District Gardeners' Mutual Improvement Association, July 24th.—The annual outing of the above association was held on the date named, and proved a great success, although the heat was exceedingly trying for sightseeing. The outing took the form of a river trip to Henley, when, by the kind permission of F. C. Crisp, Esq., and Mrs. Noble, visits were made to Friar Park and Park Place. The party included the president, C. B. Stevens, Esq.; Messrs. Fry, chairman; Hinton, vice-chairman; Neve, Sindlesham; Barnes, Bearwood; Pope, Wargrave; Baird, Henley Park; Townsend and Ritchings, Wellington College; Wise, Blackwater; Moyse and Pontin, Wokingham; Pigg and Butler, Maidenhead; Fisher, Brimpton; Cox and Bowie, Calcot; Martin, Sonning, &c., &c., Reading. Arriving at Friar Park the party was conducted through the gardens and grounds by Mr. Knowles, and although everything was of the first order yet without doubt most interest was centred in the magnificent rockery and the wonderful caves. After a two hours' ramble the visitors proceeded to Park Place, where, under the shadow of the Old Archway built by material brought from the Reading Abbey some 120 years ago, luncheon was partaken of. Afterwards, under the guidance of Mr. Stanton, an inspection of this place was attempted. The Sweet Peas, Carnations, and the enormous crops of fruit claimed great attention. A special privilege which was greatly appreciated was the opportunity of inspecting Mrs. Noble's wonderful collection of foreign birds. The ramble ended and tea partaken of, the boat started for Reading, which was reached about nine p.m. The arrangements made by the hon. sec. left nothing to be desired.

Louis Leroy, the well-known nurseryman of Angers, France, has been appointed chevalier of the Legion of Honour by the President of the French Republic.

The Chilwell Nurseries of Messrs. J. R. Pearson & Sons have been removed, the new premises and nursery extending to 100 acres, and the firm intends to devote its energies to the specialising of fruit tree and Rose culture. The cultivation of Zonal Pelargoniums is discontinued.

Bristol & District Gardeners' Mutual Improvement Association.—The monthly meeting of the association was held at St. John's Parish Room, Redland, on Thursday, July 26th. A large attendance was presided over by Mr. A. J. Hancock. The subject for the evening was "Sweet Peas," opened by Mr. J. C. House, of Coombe Nurseries, Westbury-on-Trym, who is a recognised authority on the subject. In opening the subject, he paid an eloquent tribute to the efforts of Mr. H. Eckford, of Wem, who has done more than any other man to bring the popular flower to the high level of culture and beauty we have in it to-day. Mr. House claimed for Sweet Peas an attractiveness and usefulness for all forms of floral decoration to be found in hardly any other flower, and gave very clear details as to the methods of culture likely to secure the best possible results, urging the need of planting thinly, firmly, and in well manured ground. He also gave many useful hints as to sticking, watering, and shading, closing with a list of the varieties he thought the best for ordinary and exhibition culture. Mr. House's lecture was much appreciated, and a vote of thanks to him for his attendance was carried by acclamation. Prizes for six bunches of Sweet Peas attracted keen competition, the awards being: Mr. Curtis, 1st; Mr. Maidment, 2nd; Mr. Harford, 3rd. Prizes for six Carnation blooms went to Mr. Harford, 1st; Mr. Staddon, 2nd.

Southwark Flower Show.—On Saturday, July 14th, in the Red Cross Hall, Southwark, a little flower show was held. To those who are used to seeing the finest shows in the kingdom it was amusing and somewhat pathetic to view the efforts of the city workpeople as displayed in their flower show. The commonest of cut flowers, "Geraniums" in pots, boxes of annuals, and one Musk, one Fuchsia, one "Creeping Jenny," and so on formed the chief classes composing the schedule. None of the prizes are greater than a total of 5s. In the class for one plant of a Creeping Jenny (*Lysimachia Nummularia*) there were fifty-five entries—rather keen competition! There are also prizes for window boxes, but these, of course, are judged at the dwellings of the competitors. The Countess of Halsbury distributed the prizes at 5 o'clock. Altogether, however, the spirit of the show is good, and those who are responsible for its maintenance have much to receive thanks for. We hope they will continue to foster the love for flowers, and, if possible, to teach the people something more of plants than can be advanced by having a yearly show composed wholly of Geraniums, Creeping Jenny's, and the like. In front of the Red Cross Hall there is a pretty little garden, having a fountain, Fig trees, Jasmine bushes, Ampelopsis, and various other pretty shrubs. Seats are placed about liberally, so that on a fine day the Red Cross Gardens ought to be well patronised. The hall was planned and erected by donations, £2,000 being contributed by the late Hon. Henry F. Cowper for the inhabitants. The garden was given by the Ecclesiastical Commissioners, and laid out by the Kyrle Society, the whole cost (£1,000) being defrayed by the late Countess of Ducie. An adjoining line of cottages, overlooking the garden, was built with money given by Lady Jane Dundas, and the interest from this money, supplied by fees for letting the hall, meets the standing expenses of hall and garden. The hall is used on Sunday afternoons in winter as a sort of drawing-room for grown-up people. Singing and carving classes occupy it during the week. The trustees appoint a committee of a management as follows:—Chairman, Mr. W. Richardson; Treasurer, Miss Octavia Hill; Hon. Sec., Miss Eardley Wilmot; Mr. Chubb, Mr. Benton Fletcher, Misses Gardner, Grimston, Mr. S. Lewis, Se-well, Mrs. Herron, Mrs. Orr, Mrs. Vincent, Mr. Roberts, and Mr. Waters. More of such exhibitions are wanted in thickly populated city districts.

The Derivation of Ulex.—It is a pleasure to read the letter from your correspondent, "Sigma," who is not above giving authority for what he writes. I am glad, too, that he quotes so eminent an authority as Skeat. Pliny, however, uses the word Ulex as the name of a shrub closely allied to the Rosemary, which, so far as I know, is not a prickly plant. Anyhow, I quite accept Sigma's derivation as being very ingenious, and, should occasion ever require, I shall quote it with pleasure. "The legendary Pliny" can, I fear, have but one meaning, namely, "fabulous," as "The legendary Amazons," *Tennyson's Princess*. I trust that Sigma will not take Horace's advice as applying to himself, but that we may soon and often see his signature in THE GARDENING WORLD.—*J. C. Stogdon.*

ROSES AND THE FROST.

MANY of us were astounded at the severe havoc made by the phenomenal frost during the last week of December of 1899; it came on so suddenly and severe after such a mild period, which was experienced for some weeks previous, while growth seemed to be progressing freely. It is worth noting that Roses which are not gross in their wood growth are generally more hardy than those which grow late and of strong habit. When looking over our stock of dwarfs, climbers and others, we noticed how severely some suffered from frost compared with others. On a very damp piece of ground which is too low to be drained, the plants were cut down to the surface of the ground by frost. They were planted well below the junction of stock and sown at the end of 1898, earth drawn round the collar, and evergreens placed thickly among the plants. Now all have started freely into growth. Many of them have made shoots from 3 ft. to 4 ft. long. To make up for lack of drainage on this untoward space, a foot of broken bricks was placed in the bottoms of the beds, over which was placed a quantity of very rough soil, rather light. The beds stand well above the level of the surrounding ground, and by this means we have an abundance of Roses from two hundred plants. Teas have started away as freely as perpetuals. We have not fared so well with climbers and others over wire archways, &c. Though few of them have been killed many suffered severely, but the vacant spaces are being rapidly filled up, and many of the plants individually, are crowded with hundreds of blossoms. Strong growers (some of which made 12 ft. of growth last year), have been thinned severely. Madame d'Arbly, is the greatest sufferer of the lot. Early in spring we removed the surface soil and placed about 3 in. of good manure all over the border space, and covered it with the soil. The result has been excellent.—*M. Temple, Carron, N.B.*

HORTICULTURAL COLLEGE, SWANLEY.

THE annual distribution of prizes won by students at the Horticultural College, Swanley, in subjects taught at the college and examined by the instructors, took place on Friday, July 20th. Parents and friends of the students, who now number about ninety, including about sixty-five young ladies, assembled at the college in large numbers. In the lecture room there were specimens of bottled fruits and jams, besides dishes of fruits, vegetables and Sweet Peas; sections of honey, and the students' diaries were also shown.

The table decorations, bouquets, and floral designs were staged in the botanical laboratory, and were judged by Mr. Henry Cannell, of Swanley. The prizes were distributed in the saloon by Mrs. Cornwallis. Mr. F. S. W. Cornwallis, M.P., Maldstone, presided. The following awards were presented:—

Miss E. Welthin Winlo: The College Silver Medal for highest distinction in examinations; Silver Gilt Medal and First-class Certificate of the Royal Horticultural Society; 1st prize, principles of horticulture (advanced); 1st prize, theoretical botany (advanced); and best diary two years (women's). Miss L. Gibbs: 1st prize, practical botany (advanced), and 1st prize practical botanical note book (advanced). Miss E. Bedell: 1st prize, principles of horticulture, and 1st prize, theoretical chemistry. Mr. F. Tremain: 1st prize, entomology, and 1st prize, bee-keeping (second year). Miss L. Hanson: 1st prize, physics, and 1st prize, geology. Miss E. Varley: 1st prize, elementary botany (theoretical), and 1st prize, practical chemistry. Mr. C. Buck:

Best diary (men), and highest aggregate of marks first year. Miss M. Macara: 1st prize, practical elementary botany. Miss Dowding: Best note-book of practical and elementary botany. Miss H. Draper: 1st prize, dairy work; and First-class Certificate for second place in Royal Horticultural Society's examination. Mr. Gleed: 1st prize, poultry keeping. Miss L. Landgren: 1st prize, practical work (second year). Miss Boorman: 2nd prize, practical work (second year). Miss Morrell and Mr. Hurst: Practical work prizes (first year). Miss Smit: 1st prize, bee-keeping (first year).

Students' plots: 1st prize, Miss Carlyon; 2nd prize, Miss Fearnley; 3rd prize, Miss Squire.

Best table decorations in college during term, Mr. A. Say. Best table decorations on prize day, Miss E. W. Winlo. Best bouquet (prize presented by Mrs. Watson), 1st, Miss E. W. Winlo; 2nd, Miss Mordaunt.

Wreaths and crosses: 1st, Miss Meadmore; 2nd, Miss E. W. Winlo. Sprays and buttonholes, 1st, Miss Neiderhuber; 2nd, Miss Powell. Collection of fresh wild flowers, 1st, Miss Young.

The successful students in the recent Royal Horticultural Society's examination, whose names we have previously given, also received Certificates.

PINEAPPLES

MAY be grown by anyone with care and a good stove. I remember a situation I had some time ago where the ladies brought the growths off some Pineapples they had had for dessert with a request I should try and grow them "just for a novelty." I removed a few leaves from the base of the growth, and put them into 60's in some good loam and silver sand, and placed them in a propagating case where they soon rooted. When well rooted I potted them on into 24's in some good loam, silver sand, and a little artificial manure, and watered them very carefully. I left them in the 24's for about a year when I potted them into large 16's, using same mixture as before, adding a little more artificial manure. As the pots filled with roots I gave them a little manure water. When fruit began to appear I ceased feeding, and kept the house drier till the fruit had set, when I resumed feeding, giving it stronger than before. When the fruit began to ripen I withheld feeding and gave clear water only. Care must be taken that moisture is not allowed to remain in the heart of the pine, or it will cause decay, and I must impress careful watering one of the chief things in growing Pines successfully. I may here add that the fruit was medium size, and I was told of excellent flavour.—*R. Maybury, Silver Medallist of the Wolverhampton Horticultural Club.*

ABOUT STRAWBERRIES.

As the season has almost arrived for making new Strawberry plantations, a few notes on suitable varieties for securing a good supply for as long a season as possible, of this most popular fruit, will be interesting. I have had experience of the culture on many different soils, and that experience proves that a medium to heavy loam is the most suitable. Where possible the soil should be trenched 2 ft. deep, and unless very rich a heavy coating of manure must be incorporated with the soil. For heavy clay land, stable manure, and plenty of rough leaf mould is best, while light soils require heavy dressings of cow manure. As regards varieties they are legion, and I find that different districts require different varieties. However, a few varieties are so universally good, that they are worthy of particular notice. The earliest variety here is Laxton's Noble. It is a fine showy fruit, and in a dry season the flavour is excellent. The universally grown Royal Sovereign comes next. It is good in every respect except one, and that is, it will not stand the weather. This season I had as fine a crop as probably anyone ever saw. With the long spell of wet weather I lost 50 per cent. of them. Another fine variety is Duke of Edinburgh, a mid-season variety. Probably this is one of the best varieties grown. Old President continues to be almost the finest flavoured and heavy cropping variety. Sir J. Paxton is also hard to beat; while for later work, Oscar and McMahon, are most excellent. The old Elton Pine is also still well to the front. I have no great experience of the newer varieties, but can thoroughly recommend all those I have named.—*Chas. Blair, Binny, Uphall, N.B.*

CANTERBURY BELLS.

No delay should take place in sowing seed of these useful Campanulas, whether for indoor decoration or the herbaceous border. I prefer the cup and saucer one (*Calycanthema*), getting the seed from a reliable house, and sowing thinly in large pans or boxes, similar to those used for *Pelargonium* cuttings. A mixture of loam, leaf soil, and a little sand is a good compost, prepared in the usual way. Water the soil before sowing, covering lightly with fine soil, and place in a north frame, putting large pieces of slate over the box. This prevents the soil from drying so quickly. As soon as the little plants appear remove the covering, keeping fairly moist, and pricking off 2 in. to 3 in. asunder in similar boxes, guarding against damping and their worst enemy, the slug. Before crowding takes place plant them out in a well prepared plot about 9 in. asunder each way. Keep well watered if necessary and the flat hoe plied among them occasionally. Towards the end of October they should be lifted with nice balls of soil and roots, and placed in 6 in. and 7 in. pots. Put in cold frame, and keep near the glass with an abundance of air after the first week, removing the lights on favourable occasions. They can be had in flower toward the end of May, but the less coddling they get better the results. Feed with a stimulant from March onwards.—*J. Mayne.*

HERBACEOUS PHLOXES.

THIS summer, like the two or three preceding ones, has been very unfavourable to the Phloxes, which, to bring them to perfection, must have a wet season; but where time can be found to water them, a fairly good display may be expected. Nothing, I think, can look more effective when in flower than a border of these. Perhaps the best position is one facing west, about 50 yds. long and 12 ft. wide. The distance between the plants should be 4 ft., and from row to row 3 ft. They should be taken up and divided every three or four years, as they quickly exhaust the soil. Another way to propagate them is by cuttings, taken in the autumn and wintered in a greenhouse or frame. These, if planted out in the spring, will produce very fine spikes of bloom the second year. A neat stake is required, and the plants tied loosely to it, but care must be taken not to tie them tightly as each spike should be separate to show its beauty to perfection. They delight and revel in a strong loam well enriched with good farmyard manure. The ground should be well trenched, and the quality of the flower and size of the spike will be greatly improved if the plants are thoroughly mulched with half-decayed stable litter early in July, and thorough soakings of water given in dry weather.—*A. Thatcher, Aldenham, Elstree.*

ACACIAS.

THIS is a family of handsome shrubs, some, indeed, attaining the dimensions of large trees, belonging to the order Leguminosae. Independently of their beauty, the genus claims our attention from a commercial point of view, as some of the species yield valuable drugs, &c. Many yield a valuable tanning material largely used in the preparation of leather, whilst from the seeds of some kinds the Indians of South America produce an intoxicating liquor. Most of the varieties produce an abundance of beautiful flowers during the spring and early summer months, which entitles them to take first rank amongst greenhouse shrubs. They are amongst the most desirable for greenhouse and conservatory decoration, and are plants of easy culture. For soil they prefer about equal parts of loam and peat, or loam and leaf mould, with a little sand added to keep the mould open and porous. Acacias require an abundant supply of water, and the pots in which they are growing should be well drained, for bad drainage is as inimical to plant as to animal life. Sometimes they become infested with a small white scale, which, if allowed to increase without checking, will not only disfigure the plant, but will speedily affect the health of the victim. Whenever this insect makes its appearance, the plants should be syringed with a solution of hot water, soft soap, and a little paraffin oil added, but care must be exercised in its application, and by no means should it be allowed to reach the roots.—*W. Hogarth, Norton Gardens, Ratho, Midlothian.*

FUCHSIAS.

OWING to their easy culture and beautiful flowers, Fuchsias are favourites everywhere, and when grown in a basket are quite as effective as any basket plant grown. The method is simple and well repays for the little attention required. The cuttings may be struck in autumn or spring, and when about 4 in. high should be pinched. Very probably three or four breaks will result from this first pinching; if not pinch again. The young growths should be trained as required, in fact, very little training is necessary, only the leading growth need be tied close to the basket, leaving the lateral growths more or less free. They succeed well in a compost of two-thirds good fibrous loam, and one-third manure, with a little sand. A temperature of 60° with a rise by sun heat is one most suitable, and when growing freely a good supply of water should be given with a syringe in the afternoon. Plenty of ventilation and a slight shading are necessary in summer, especially when flowering. Any free-flowering varieties are suitable for baskets. When growing pyramid plants, the cuttings should be struck in autumn and kept growing through the winter, potting on as required. Do not pinch but keep one straight stem, for when given plenty of room the side branches develop and form fine specimens. If required for another season, water should be partially withheld during October and November. Prune hard, starting them again early in spring.—*C. P. Cretchley, The Honeys, Twyford, Berks.*

PEOPLE WE HAVE MET.

REV. W. T. HUTCHINS.

By this time many of our readers will have heard of the name of the Rev. W. T. Hutchins, the Sweet Pea specialist, of Indian Orchard, Massachusetts, U.S.A. Some may, indeed, remember our review of his little book, entitled, *Sweet Peas Up-to-Date*. It is with peculiar pleasure that we again refer to the reverend gentleman, and at the same time place his portrait before our readers.

He is known in the United States, quite extensively, as "the Sweet Pea Minister," a title at which he is not likely to take umbrage, seeing that it is so suggestive of many pleasing associations in various parts of the world. He has written several small books, including that mentioned above, and an earlier one, indeed the first, on the subject, entitled *All About Sweet Peas*.

In 1894, Mr. Hutchins visited California at the invitation of Messrs. C. C. Morse & Co., the largest seed growers, to assist in setting them right on the true type and the names of the varieties. The fame of the Sweet Pea had previously made itself felt on this side of the Atlantic, and accordingly we find him making his next journey or pilgrimage in the following year (1895) to see the veteran, Mr. Henry Eckford, at Wem, Shropshire, a visit in which Messrs. W. Atlee Burpee & Co., of Philadelphia, and Messrs. C. C. Morse & Co. were interested, so that we see the title of "the Sweet Pea Minister" is not an empty one, but takes real and tangible shape in practical utility. First we find him admiring Sweet Peas, then conceiving the idea of getting a collection together, and becoming an ardent and enthusiastic cultivator. Success crowned his efforts, and he vowed that the Sweet Peas should be missionaries, and his friends of the Congregational Home Missionary Society spoke of them as the "Missionary Sweet Peas." He himself may be regarded as the prime mover in their missionary work. Then he set about doing some pioneer work in creating a literature for the flower, producing in succession the books above mentioned.

Mr. Hutchins is otherwise connected with horticulture, for he has been president of the Springfield Amateur Horticultural Society, in his native town of Springfield, a society that has flourished for ten years. He has also been an exhibitor for the last eight years at the Sweet Pea shows, at Boston, Worcester, Springfield, Hartford and Eltenhere. He has also read papers before the Massachusetts Horticultural Society at Boston, the Rhode Island State Society, the Connecticut State Society, and many other places. As a judge at these shows he is frequently called upon to act as a judge. Thus we see that there is an ample outlet for his great enthusiasm concerning one beautiful and popular flower—too great, perhaps, when one considers the vast amount of expense which his hobby must entail, not merely in money, but in time

and labour it involves in the preparation of papers, articles, the writing of books and the buying of others, besides the journeys in connection with the subject (he has been twice to Europe purely in the interest of the popular flower), and above all in the endless correspondence which must be conducted with others of a kindred spirit in various parts of the world.



REV. W. T. HUTCHINS.

Mr. Hutchins considers his thirteen years of special work on the Sweet Pea as simply that of a "promoter." He has simply found "a pearl of great price," and wishes others to participate in the delight and rejoicing over his discovery. He was led to the cultivation and study of the Sweet Pea by having suffered a serious nervous breakdown, from which he suffered for a period of five years, and on regaining sufficient health he made this his "diversion" as a means of out-door life. He has now become a missionary and a minister in the cause, for do we not read that he preaches floriculture as a hobby to the business men of his native country, or of the world for the matter of that, who are in danger of suicidal application to business.

Mr. Hutchins was born at Springfield, Mass., U.S.A., on January 20th, 1849, is a graduate of the theological department of Yale University, and was ordained as a congregational clergyman in 1876. At the present time he is pastor of the "Evangelical Church," Indian Orchard, Mass., a suburban ward of Springfield. He has one son, a senior in Yale College.

We have one evidence of the simple devotion he pays to the Sweet Pea in the pride he takes in the naming of the variety "Lottie Hutchins" in compliment to his wife by the raiser, Mr. Burpee, of Philadelphia. It is a delicately coloured and pretty variety, of a creamy hue, pencilled or streaked with pink on the standard, and is fast becoming a favourite with cultivators and admirers everywhere. It defies classification according to the ordinary and popular canons of colour, so that it has been placed in a special creation—the fancy class—and we hope that, like many other delicately lovely flowers, it has come to stay. It was much in evidence at the Sweet Pea Bi-centenary Celebration recently, where Mr. Hutchins, also in evidence, did much useful work on the classification committee, and by reading a paper upon "The Sweet Pea in America." He is courteous and communicative to a degree, and we should like to meet many such congenial "foreigners." (He himself seems to regard the word "foreigners" as a singular misapplication of terms when applied to one speaking the same language as ourselves.) We first met him at Windsor, when on his first pilgrimage to this country in connection with the Sweet Pea in 1895, and were struck with his affable demeanour and enthusiasm for a flower. He is now paying a visit to the Scottish capital before returning home. We hope he will long be spared to preach from the pulpit and the garden.

OUR COMING FRUIT CROP.

As there are several large fruit growers within a few miles of this village, I made up my mind to have a good look round, not particularly from a market point, but to get an idea of what the crops look like. Apples are in abundance, far too many for the older trees to finish. Some of the smaller sorts hang five and six in a bunch. The branches of the younger trees are already beginning to feel the weight of the heavy crop, and unless the fruits are thinned the crop will be inferior. The scorching sun, with smart drying winds, is already beginning to tell tales. Plums are a heavy crop. I noticed the young branches of the Victoria drooping with their weight of fruit. Damsons are heavy. Pears are a fair crop. Gooseberries will hardly pay for gathering; in fact the report comes from Ely in Cambridgeshire that they will not pay for gathering. Currants are plentiful, Red and White. Why not grow more Black? The disease could be fought by raising young stocks, destroying the old trees as soon as the mite affects them. This I find is the best remedy. Let the trees have plenty of room, and crop between the rows with early Potatoes or Strawberries, taking care to keep the runners from under the trees. There is always a ready demand for Black Currants at a good price. Peaches, Apricots, Nectarines, and Figs in private gardens are carrying good crops.—*J. Wallace, King's Lynn.*

Kitchen Garden Calendar.

SPRING CABBAGE.—To ensure early crops of these a sowing should now be made, if not already done, of some kind such as Ellam's Early. In late districts it is advisable to make the first sowing during the last week in July, but in the south the first week in August will be soon enough. A second sowing should be made about the middle of the month of such kinds as Flower of Spring and Main Crop. Every attention must be given after sowing in the way of protecting the seed from birds, watering and affording shade during hot weather. If the soil is kept moist the seed will soon germinate and come up regularly, but when baked by the sun but few plants will appear and these will be of a stunted nature. Keep the plants free from weeds and prick out about 4-in. apart when they have made the fourth leaf.

AUTUMN ONIONS should now be sown. As the seed of these is much longer in germinating than that of Cabbage, take every precaution to have the ground thoroughly moistened previous to sowing, and do not allow it to get dry afterwards or failure will be the result.

LETTUCE AND ENDIVE.—Sowings of these should now be made for winter use. The Brown Cos and Hick's Hardy Green are best, as these being more hardy than the summer varieties are not so liable to be injured by frost. If plants from this sowing are planted in beds where protection can be afforded they will give a supply till well on in the winter. Endive when large enough ought to be planted out from a foot to 15-in. apart according to the variety grown.

TOMATOS.—Plants on walls and against fences will have grown apace during the recent hot weather; this being so, take care that all growths are securely fastened to prevent them being blown off by the wind. Water must be afforded to prevent the plants from flagging; but it is not advisable to over-water as this induces the plants to make a sappy growth. When sufficient fruits are set that there is any prospect of ripening, pinch the points out of the leading shoots, so as to cause the sap to develop the fruit more quickly.

Watering all winter crops must receive attention, for unless these are got forward before the days are too short the growth made will be sappy and therefore more liable to be injured by frost.

CELERY.—The latest batch of this should now be planted, for unless a fair growth is made before frost sets in, late plantings will be of little value. Late Celery ought not to be earthed till about six weeks before it is required for use. Many are of opinion that Celery is a tender plant liable to be injured by frost; this however is not the case unless it is blanched, for being a native plant it will withstand the most severe of our winters, uninjured, if left to grow naturally; but if the stems are blanched they become tender, therefore liable to injury. The most

forward lots should now be blanched as Celery is often in request early in September. For these early batches collars made of brown paper are most useful as the plants can be watered with safety when these are used, without fear of injury to the hearts of the plants.

PEAS.—A sowing of these should now be made in a sheltered position where protection could be afforded in the autumn. Dwarf varieties are best for these late sowings, as they will admit of a temporary frame being put over them when there are signs of frost approaching. We have before pointed out the necessity of having plenty of winter greens put out, and have also drawn attention to the advantage of sowing a good breadth of Turnips for winter use; but repeat the warning here in case some of your readers may have neglected to make preparations. Turnips are one of the most important winter crops we have, and if sowings are made once a week for the next three weeks, ample sweet crisp roots may be had till late in the spring. Late Broccoli is also an important vegetable, and should be planted largely. Carter's Universal is one of the best for this use.

WINTER SPINACH.—This ought not by any means to be neglected, as it is in great demand through the winter. It is well to make a couple of sowings, one early in the month and the other towards the end, the late sowing will be found most useful in spring.—*F.W.J.*

HARDY FRUIT GARDEN.

VINES IN THE OPEN AIR.—Vines on south walls, so far as I have observed this season, are promising remarkably well. The growths which surround the bunches are best left uncut until the fruits are swelling up. By leaving them some slight protection is given, and this is beneficial in cold seasons. But once the bunches are observed to be developing the shoots should be spurred back in some cases, headed in in the case of those bearing bunches, and others may be nailed to the wall. Remove bunches where there are thick clusters. Thinning of the berries may or may not be done. The roots in dry weather should be thoroughly watered, and the foliage may be syringed at least once a day, early evening preferably.

PRUNING FRUIT TREES.—A great deal more summer pinching and pruning ought to be done. The cry is that we do not get our fruits to colour highly enough, yet where the precaution is taken to prune early and to expose the fruits to the influence of the sun, a splendid tone can generally be secured in all fruits grown in southern districts. The small and weakly growths found in the central parts of trees should be entirely removed. And about the time that the earliest budding was started the first summer pruning was performed. So that now the wood is thickening and firming as its further growth continues. By thus pinching after a goodly supply of wood growth is furnished, a great deal more of the existing sap with nutriment is transmitted directly to the crop at a time when it needs it most. Young trees being formed and enlarged will, of course, need less pruning or pinching than an older tree whose structure is already well formed.

PEACHES AND NECTARINES on walls should have their shoots lightly nailed to the wall. Any leaves which may cover the fruits should be removed. Insect pests should be kept under as much as possible by frequent syringings. Artificial manure waterings to trees about to finish their crops should be given. Budding in the north may still be performed. Strawberry layers should be lifted and planted out in nursery rows, to be again transplanted later. Or those in pots may be shifted on into the fruiting size and placed out on an open path. Late layers may still be pegged down.—*D. K.*

Gleanings from the World of Science.

THE undermentioned subjects were brought before the Scientific Committee of the Royal Horticultural Society, on July 17th.

Carnation leaves injured.—Leaves were received from Scarborough, upon which Mr. Douglas reported as follows—

"The three leaves seem to be scalded, but this might not have happened if the leaves had been healthy. They are not. The weather has been unfavourable to Carnations in some places. These may have been badly cultivated. Probably they had too much water, or insufficient ventilation. With ample ventilation, and the plants healthy, scalding does not take place. The eruption or raised process on the single leaf, is similar to what occurs on Vine leaves when the atmospherical conditions are bad—viz., too much moisture and too little ventilation. No plants suffer so much from insufficient ventilation as Carnations, and a moderately moist atmosphere is injurious. This may account for both the ailments in question."

Apple tree attacked by caterpillars.—Specimens were received from Mr. Abbey, Avery Hill, Eltham, upon which Mr. McLachlan reports as follows:—

"I only found one larva in the Apple shoots, and that appears to be some kind of tortrix. It is often hard to name these things without seeing the insects they produce. Apple trees just now are infested with larvae of various kinds, and not the least destructive is that of the Winter Moth, but I do not see it in the box. Hand-picking is all very well in its way, but I should strongly recommend spraying the trees, if not too large, with some of the insecticides recommended in the gardening papers. It is late, but even now it might do good. As a rule two or three applications at intervals of a fortnight or so are necessary, and it should be done in dry weather. The solutions used in spraying are generally poisonous, but they do no harm to the fruit when in a young state, and they render the foliage deadly to insects hatching up from eggs laid on the trees. It soon disappears, but has done its work in the meantime. Spraying is used enormously in America; less so here. Of course some ordinary common sense care should be exercised, as with any poison."

Strawberry leaves diseased.—Mr. G. Lee sent some leaves attacked by the fungus *Sphaerella fragariae*, "Strawberry leaf blight." It is a very destructive disease recorded from all parts of the United States (illustrated in "Diseases of Plants," Tuleuf & Smith, p. 215).

Dahlia synanthic sport.—Mr. Evan Davies, Talsarn, Bromley, Kent, sent a remarkable specimen of twin Dahlia blossoms united back to back on coherent flower stalks. One blossom was yellow with crimson centre, the other entirely crimson. Which was the sport was not stated, but probably the latter.

Aster seedling disease.—The following report was received from Dr. W. G. Smith on samples sent by Mr. Basham, Fair Oak Nurseries, Bassaleg, Newport, May 7th:—

"This disease begins at the neck of the plant or below the ground, and travels upwards through the plant, producing as it goes discoloration and softening of the tissues. There is fungus growth on all discoloured parts, and I believe the mycelium is the cause of disease; it can be observed at the limit between discoloured and still green parts. Spores are produced of an oval form and colourless, a form which gives little assistance in identification. Nematode eelworms were also observed, but it is not easy to say what part they play; I should say they lived on the decaying parts. It should be mentioned that the Rev. Mr. Friend (*Gardener's Chronicle*, August 14th, 1897) ascribes the Aster disease to a type of parasitic worm, but I did not observe this form. The cause of this Aster disease has not yet been satisfactorily cleared up in any papers I know."

Tulips diseased.—Bulbs received from Mr. Maine, Penhill Close, Cardiff, were forwarded to Dr. Smith, who now reports as follows upon them:—

"The plants received are infected with the Tulip Botrytis disease. The black bodies embedded in the bulb scales and dead leaves are the resting stages of a fungus which in its active stage has the form of reproductive organs known as Botrytis. It is a common disease, and this year I have reported on several cases, especially on Narcissus. On June 2nd, in *Gardener's Chronicle*, I recommended a somewhat similar treatment to that found successful by your correspondent—namely, to lift the bulbs after the flowering season, keep them in a dry place, or in some mixture of lime or sulphur, and to treat with sulphur before replanting. There seems to be no other way open to deal with this type of fungus. The disease evidently occurs on certain kinds of soil, but exactly what kind I cannot say yet."

HINTS FOR AMATEURS.

Carnations.—As the seasons move along the various popular flowers rise to the summit, when their devotees do them homage; and for a week or two somebody's head is commandeered by fickle Roses, Sweet Peas, or Carnations, and soon Dahlias will take the van, later on to be shunted to the background while Madame Chrysanthemum receives adulation. Carnations are now at their best, or probably in the southern districts they are just past the freshest period of their reign. In the north they may still be hoped for, to warm the old love of its constant admirers. Under due care in cultivation no bardy border plant is more commendable for culture. It is quite a distinct plant; it is an old friend, and there are possibilities even yet within its range of evolution or variation. We have not got a blue Carnation (I do not know why we want one, unless it is just to say we have it—we do all sorts of remarkable things just for the boast of saying we did them), but we are getting close upon that colour. At the Crystal Palace on Wednesday, July 28th, a remarkable slate-blue seedling was shown. It was ugly, but yet it was of value because it beld possibilities. I was busy in appraising the "Gillyflower," and stopped short. If it is compared with the Cornflowers, I think the Carnation will easily obtain the greater appreciation. (There is a future before the Cornflower tribe—Centaureas—we want a second Eckford here). Campanulas and Gaillardias, dwarf Larkspurs and Geums, are all grand flowering plants, yet the little Carnations and Picotees are always looked at twice while these others may barely be seen, and are regarded as being useful in supplying variety and in filling a space in the border.

Soon we will be busy layering the offsets for the next year's Carnation plants. There is often a strong desire on the part of an owner of a certain fine variety of Carnation to layer all the shoots or "grass" which it produces. The amateur with limited experience should be warned only to choose the stronger shoots, and, after carefully preparing them (there is no need to attempt to break the record for fast Carnation layering), to fasten them firmly with due space between the selected shoots. Those not layered may be left alone, they seldom need to be removed. Nice sandy soil should be prepared beforehand, and placed either in a barrow or in a basket so that it may readily be transported. Wire pins are best for the pegging-down operation. Pieces of shoots, twigs, and haulms of Bracken are often employed, and all are proper enough in their way. The pegging demands care. Negligence is punished by failure. The Carnation stem being brittle, the layered shoot ought to be pressed on the soil-surface flat and firmly, and from the tongued, notched, or slit part the apex of the shoot should be turned upward, so that the slit will be kept open. The pin should then be pressed down close up to the slit, and the whole thing then covered over with the sandy compost. Water the layers a day or two after thus operating, though showery weather should if possible be chosen. As THE GARDENING WORLD representatives always look up the nursery stock of the chief growers of Carnations to describe the newer and best varieties of this grand flower about this time of year, I may refrain from enumerating a list of varieties, but would refer the readers of this page to be so good as to glance over any notes of these visits which may appear.

Chrysanthemums.—The heated air of the present time tries the resources of the large-leaved Chrysanthemums, especially where they have only recently been potted on. Though the leaves of the plants may wilt during the heat of the day this means nothing more than that transpiration is in excess of the upward supply of sap. When the cool of the evening comes, they soon prick up. About four o'clock in the afternoon, or earlier if the sun is off the plants, syringe them thoroughly back and front. This is beneficial, for it cleanses the foliage and gives a stimulous much in the same way, I should think, as a bath acts on ourselves. Previous to the syringing them, go over the pots and water the plants that need watering. In this connection one cannot be too particular.

Plants of all sorts, which are grown in pots, are either made or ruined by the method of supplying

them with the needful root moisture. The first daily watering of Chrysanthemums takes place during the morning hours and before 10 o'clock if possible. Then just after 1 p.m. there are sure to be some in need of sustenance. Attend to these; and about 4 p.m., or a little later, make another examination. The Chrysanthemums, when more than 200 are grown, require a man's whole time. The suggestion to plunge the pots to the rims, either in ashes or in soil, is good, only see that a piece of slate and some drainage ls placed at the bottom of the trench before plunging. A wire or wooden fence for the support of the stems should now be erected. As they grow the stems are tied to this. Remove small lateral growths and look into the apex of the main shoots to ward against damage from greenfly, &c. Early flowering varieties should be mulched and staked.

Sweet Peas.—Now that some of our leading florists, horticulturists, and pressmen have celebrated the introduction of the Sweet Pea to this country, let us hope that the worthy work thus accomplished will not be allowed to go into decay, or be placed in an early grave. From the papers published in last week's issue of this journal there are many interesting, instructive, and economically valuable hints to be gleaned. The committee, one may presume, will prepare the whole of the papers read at the Conference in pamphlet form; hence we may all obtain a copy. The Sweet Pea has had a great lift through the work that has been accomplished. The impetus given will work itself out, we hope, in a more strenuous attempt to obtain crosses between some of the perennial species of Pea and the annual Sweet Pea. Sweet Peas should be sown in clumps and masses of one colour. I do not see why we need sow them in straight lines side by side. They are lovely that way, but if there were beds of Sweet Peas, say with a massive group of Sadle Burpee in the centre, and Countess of Powis, Stanley, Countess of Radnor, Orange Prince, and others in equally fine clumps around the margins, not necessarily formal, surely a finer effect would result. And mixed Sweet Peas are delicious.

Some Hardy Plants: Isatis glauca.—The genus Isatis furnishes some exceedingly showy species of plants, all with a profusion of bright yellow Cruciferous flowers, which bloom at various periods of the spring and summer. Isatis tinctoria is the common Dyer's Woad, but its flowers are past. From a dye which it yields, the ancient Britons are said to have stained their bodies. It is cultivated to some extent yet, in Lincolnshire, for this dye. The species heading this note is one of the most handsome flowering border plants at present in bloom. The height does not exceed 2½ ft., and the massive branching head of flowers is very attractive and ornamental. All the species are readily propagated from seeds sown in spring.

Scolymus maculatus.—This, and Silybum marianum closely resemble each other in habit of growth, form, and colour. The flowers (somewhat like those of Thistles) are yellow on the Scolymus and mauve and purple on the other plant. In its earlier stages of growth Silybum was recently mentioned in "Hints" as an ornamental hardy foliage plant, and the same may be passed in favour of Scolymus maculatus. I would specially request hardy plant growers to look up a few of these outstanding, though somewhat peculiar, plants—they certainly add interest to one's garden, especially to uninitiated visitors.

Campanula macrostyla.—Whether this species is common or not I do not know. It is at any rate very handsome, and may even be termed showy. The flowers greatly resemble those of Platycodon grandiflorum, that is, they are large, dish-shaped, and of a deep violet-blue colour. The stigma is large, and the style about 4 ins. long and shaped like a club at the end. The species grows 2½ ft. in height.

Gentiana tibetica.—In this we have a white member of the genus. When at its best it is a nice alpine plant, suitable for the rockery. Other than the fact of its affording variety, it probably is not of any great merit.

Centaurea glastifolia.—The perennial species of Centaureas are more commonly purple-flowered. C. glastifolia is an elegant yellow blooming sort. Centaurea diluta and C. eriophora are both yellow, the latter having large pale yellow flower heads. They succeed well in any hard, dry soil, and if lime

is also present so much the better for them. They may be raised from seeds.—Beacon.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Nets for Heavy Fruit.—James Gibson, Perth: Pieces of herring nets with strings at the corners are used. The strings should be tied to some support above the fruit. Do not lift the fruit up; merely relieve the stalk from too great weight.

Standard Gooseberries.—Amateur: Standard Gooseberries require a lot of attention in the way of pinching, &c., yet not more than cordons do. Still we would greatly prefer cordons where space on a wall or trellis can be given. You would have to buy the standards as trained plants from a nurseryman. Young cordons you could train yourself.

Leaves of Tropaeolum majus.—Willie: The leaves of the Garden Nasturtium are not harmful, but in certain cases they act beneficially as an aperient.

Mints for Culinary Purposes.—Epicure: Spearmint (Mentha viridis) is of a brighter colour and a more clean-cut form than the Peppermint (M. piperita). Both are native plants. Peppermint is chiefly grown for the use of its tops for distillation, to obtain the valuable cordial known by the same name. Spearmint is used as a sauce and for flavouring. Mints of any sort are easily propagated from cuttings or pieces of the root. Forcing is largely practised.

Saving Seeds.—Wilson Walner: As a general rule the flower spikes of hardy plants—annuals, alpine, and herbaceous stock, are cut when the blooms have completely withered. They are then placed carefully on pieces of brown or white paper, and are left on some dry shelf under glass as a rule, and exposed to the light. Occasionally give them a shake, and when a quantity of seeds has been shed, harvest these by placing them in paper bags and keep them in a cool seed house. A chest with drawers in a cool dry room would do very well. Label each sort to avoid mistakes.

Tomatos in the open.—Job: It no doubt tries your patience to observe the slow development of the open air plants. But "hope on." Even if the fruits do not perfectly ripen by the middle of September—and that is some time hence—they can still be pickled. Do not feed too much, and thin out the flowers where they are too thick in a cluster. Give them a slight shake about noon on bright days. For the rest we still say "hope on."

Roses layered.—J. S.: Where good strong plants are wanted speedily, the layering system answers well. Rhododendrons and Roses are layered in the same way. Make a slight notch at a joint and firmly peg down the shoot. Soil containing much leaf mould and sand should then be firmed around the shoot.

Mulching Shrubs with Grass.—Ella: When a moderate quantity is applied over the roots of trees and shrubs in pleasure grounds the effect is good. Too much has had a tendency to cause excessive growth which, not maturing early enough, may be nipped by early frosts.

Humea elegans in the open.—R. L.: It is no new thing as you seem to suppose, R. L., to grow Humea elegans in the open borders in summer. They do well if they are strong and good when first placed out. We grew them twenty years ago on the east coast of Scotland. Many tender plants do well outside from June till September.

Is Hand-watering Harmful?—J. W., Melrose: J. W. has busily watered his plant beds on a few occasions, and he thinks that such watering is not beneficial. Well, if water is swamped heavily on plants of any kind, especially where they are not

strongly rooted, it certainly retards or breaks them. When plants—bedding plants—are growing well and are of moderate dimensions a gentle shower through a medium-rosed can in dry weather cannot be other than helpful. The soil cakes after the watering so that it is necessary to run a hoe through the surface. What is *not* good is heavy deluges of very cold water. Rain falls softly and is generally very mild. Rain water by the bye is at all times preferable. Perhaps J. W. has been using hard water, or water not quite free from some deleterious agent. If so, he should make provision for a supply of that which falls from the clouds, by placing a barrel or an underground tank in some convenient spot, and have a pipe conducted to it.

BEGONIA GLOIRE DE LORRAINE.

MY experience with this beautiful Begonia is similar to that of Mr. Mayne's. After reading in the *GARDENING WORLD* that they could be propagated from leaves, I tried several with the result that they all rooted, but only one leaf has thrown up a shoot. I can increase them readily from cuttings. I herewith enclose a photograph showing the value of this plant for a basket. The photograph was taken at the beginning of March. It had then been flowering since last October, and is now still in flower. The plant is growing in a 32-sized pot, and was about 2 ft. in diameter. I have other plants which have been flowering in 48-sized pots during the whole of that time, so I think it is a summer as well as a winter flowering plant.—H. Peerless.

CARTERS' TRIALS AT MORTLAKE.

CULINARY PEAS.

A TRIAL of 1,300 rows of Culinary Peas, embracing some scores of varieties (we might say hundreds) should surely afford a visitor ample means of noting what is really meritorious. Such a trial is proof positive of what qualities a variety really does possess, and affords ocular demonstration in all debatable points. It would be useless to mention any but the newer and finer varieties of this trial, which is yearly conducted by the Holborn Royal Seed firm of Messrs. J. Carter & Co., at their grounds, Mortlake, Surrey.

The dwarf but free podding American Wonder still takes one's eye (and mouth) as one of the best dwarf earlies. Carters' Diamond is a splendid dwarf early Pea which bears its neat and well-filled pods freely. The flavour of the Pea is spoken of in high terms, and seeing this variety as we did some weeks ago, we should say it is destined to rank as one of our garden favourites. It is earlier than Early White Gem or Little Gem, and only attains from 15 in. to 18 in. in height. William I. is known to every gardener as a first-rate early Pea. It is liberally grown both in the north, east, south, and west of the Kingdom. English Wonder is a first early, with dark green, firm pods. For a good forcing variety, Carters' Forcing has already found a place. It was finely shown at the Temple Show in May. Carters' Early Daisy, earlier than Carters' Daisy, but selected from it, and having all the latter's qualities, is worth noting. A sowing on the 29th of March yielded a crop by the second week in June. Carters' Daisy is certainly one of the best second early Peas extant, and receives its due meed of appreciation. The finely-formed pods are of enormous size, generally with eight to ten large rounded peas in each. The haulms are strong and robust, though only 1½ ft. high, and are literally laden with pods. The flavour is of that soft, mellow, splendid marrow-fat quality, far too seldom tasted in dishes of Peas. Daisy being a standard variety, no pains are spared to uphold or even improve upon it, and selections from it are continually being made. One or two of these new sorts are making satisfactory promise, and more will be heard of them in 1901. Carters' Daylight, an early type of Telephone, grows 2½ ft. to 3 ft. high, and is remarkable for the breadth of its massive pods. The peas are large and plentiful. It resulted as a cross between Carters' Lightning and Carters' Daisy. It, therefore, combines earliness with the other best qualities of a Pea. Kentish Invicta is a good Pea; it comes in between the first and second earlies.

The old Fairbeard's Nonpareil, used chiefly as a canning Pea, has small pods which are produced

in enormous quantities. It is in use at the end of June.

Carters' Early Morn is in every way a worthy variety having the good qualities of the Daisy, and succeeds Carters' Lightning. A giant podded variety is Carters' Giant Serpette. The Giant Edible Pea might be more of a feature in gardens. It is frequently found as a dish in Continental menus. The pods are fit for consumption in the raw state (or mild cooking), and are juicy and sweet. Alpha and Gladiator are too well known to need description. Carters' Re-selected G. F. Wilson, not yet on the market, will be well received we feel sure, for the G. F. Wilson variety itself has been a prime favourite for twenty years. The best in this old maincrop variety has been watched for and secured in this selection. Carters' Improved Omega is a good late Pea.

That fine old variety, Dr. McLean, has likewise undergone selection, the best qualities in each year's plants being carefully wrought upon to the ultimate gain of the older type. Carters' Majestic is a variety

Plus Ultra, Improved Ne Plus Ultra, Carters' Michaelmas, and Carters' Delicatesse are varieties one only needs to mention—they cannot be done without so far. The latter is worthy of special attention. The flavour is pronounced by connoisseurs as excellent, and it certainly is an enormous cropper. The variety mentioned before it, that is, Michaelmas, can be had still yielding a supply by the middle of September.

TORQUAY DISTRICT GARDENERS' ASSOCIATION

HAD its eighth annual outing on Wednesday, July 25th, the object being to visit Bicton, the beautiful seat of the Hon. Mark Rolle, who is always pleased to grant permission to view the lovely gardens and extensive grounds, especially to those interested in gardening, leaving Torquay by train soon after 7 a.m. Alighting at Exeter, brakes were in readiness to convey the party by road, *via* Newton Poppleford,



BEGONIA GLOIRE DE LORRAINE.

of imposing character, and one we think much of. The pods are ½ ft. long, and not uncommonly contain ten fine peas. The Improved Danby Stratagem adds one more first-class sort to the list. Stratagem itself, which the Messrs. Carter offered in 1880, has long held a foremost place in the appreciation of good gardeners, and the Danby is nevertheless a distinct improvement upon this good old sort. Danby Stratagem has a robust haulm, grows about 2½ ft., and bears long pods which often contain ten full-sized peas. Another magnificent Pea is "The Carter," the worth of which is attested by the fact of its having been thought worthy to bear the name of so proud a house. It attains a height of from 4 ft. to 5 ft., and bears enormous sized pods in pairs from the bottom upwards. This grand variety may be anticipated at a near date. Prince of Wales, a maincrop marrowfat, retains the fine deep colour so much sought for by particular folks, and bears profusely from top to bottom of its 3 ft. of haulm. Duke of Albany, Telephone Re-selected, Early Ne

of Daffodil fame, through Colaton Raleigh, so closely connected with Sir Walter Raleigh, of Potato and Tobacco notoriety, reaching Bicton about 12.30, where they spent two hours viewing the well-kept gardens under the guidance of Mr. Mayne, the gardener.

Time would not permit of taking many notes, but among many other good things under glass we noticed a grand crop of Melons, Sutton's Scarlet, each plant carrying four or five good shaped fruits, averaging three to five lbs. each, with another crop on the other side of a span house just swelling away, and still another crop half way up the trellis, and two more crops to plant out. The Pines were looking strong and healthy; the first division had just been relieved of some thirty Queens, and we noticed several Smooth Cayennes pushing up on the other side, which we should say will come in well during November and December.

At the end of this range a good healthy batch of

Begonia Gloire de Lorraine, and B. G. de Sceaux, and half a dozen of that interesting plant, Acalypha Sanderi, 3 ft. high, well feathered to the pot with foliage and bright scarlet racemes over 2 ft. long, which delighted the eye of many of the gardening fraternity. There was also a quantity of deciduous Calanthes in this range full of vigour. The show house was gay with Fuchsias, Coleus, Liliun longiflorum, Cannas in variety, Celosias, Gloxinias, &c., quite a bright display. Thence on to the huge Palm house, Fern house, and plant stove, where Crotons, Dracaenas, Pancratiums, Gloxinias, Allamandas, Clerodendrons, &c., all added to the brightness of the house.

The flower garden was in good train. All the plants had filled their allotted space, and did not appear to be suffering from the drought this end of Devonshire is just now passing through; but there, Mr. Mayne has such a beautiful supply of water at Bicton, and he evidently makes the best use of it. Water Lilies in the large square pond were in full bloom.

From there we wended our way to the large Orangery where we found all the occupants thriving and in the best of health. Next we found ourselves in the well kept walled in kitchen garden, where fruits of all kinds had been and still were plentiful, except Strawberries. The Peach wall outdoors was a model of perfection, the long range of unheated glass there containing Peaches, Nectarines, Figs, and Tomatoes, which were in abundance, and the outdoor crops appeared well cared for.

Leaving this fine estate a move was made for Budleigh Salterton, where a substantial lunch was provided at the "Feathers Hotel," which one and all did ample justice to. We left Salterton about 6 o'clock for Exeter, driving over Woodbury Common, all ablaze with purple beather just now, reaching the "faithful city" soon after 8; from thence home to Torquay by rail, which was reached soon after eleven o'clock. Thus ended the long day, which proved one of the best outings our society has had.—*Observer*.

GARDENING MISCELLANY.

LIME AS A FERTILISER.

ONE of the great disadvantages of lime as a manure is that it is somewhat slow in its action, and as such does not become immediately available for the use of the crop to which it is applied. In addition to this, it labours under the disadvantage that it has a tendency to sink into the soil and is therefore liable to pass away beyond the reach of the plant roots within a certain time after application. Unless lime is applied in the autumn or early winter of the year before it is intended to act, it will not prove of much service to the crop which it is meant to benefit.

CARNATIONS AT CHELSEA.

NOT until 1578, in Lyte's translation of Dodoen's "Herbal," did this universally popular flowering plant receive the name we now use, viz., *Carnation*.

The plant was known to Chaucer, the earliest of English literateurs, but at his time it was known under various pretty names, as Gillyflower.

The above suffices to show that the *Carnation* is no new favourite, no pet of the present time fashion and favour, but that it has been a conspicuous garden subject for five-and-a-half centuries. Of course, in the early times it was possibly little better than the wild *Carnation* (*Dianthus Caryophyllus*) from which our splendid garden Carnations of the present have come.

But what it was then need not trouble us now. It is a flower worthy of all the care gardeners can bestow upon it. What may be done for its further development only those with expert knowledge can forecast or guess at, yet it is certain that *Carnation* raising is merely in its primary stages. Every year brings forth better varieties than have been known before, and every enthusiast, we hope, will continue to work for the greater refinement and betterment of this remarkably handsome genus.

Though Messrs. James Veitch & Sons, Ltd., The Royal Exotic Nurseries, Chelsea, S.W., do not in the meantime specialise the culture of Carnations, they grow all the newer and advanced varieties

which *Carnation* growers raise. At their Chelsea Nursery the border Carnations in their various sections cover a large area of ground in the open air. They are in 4 ft. beds, having paths between, the surface of the beds being covered with Cocoa-nut fibre which is kept damp. The wisdom of this, in a place with such heated surroundings, is evident to all. It is a wrinkle worthy of imitation.

The plants and the quality of the blooms are better this year than we remember to have seen them. The great heat of the present time, however, is beginning to have its effect on the flowers, and some are just a trifle scorched by the sun's rays. In all cases fine "grass" has been made, so that, given favourable weather in August and September, this year's stock should excel that of any recent year.

BORDER SELFS AND FANCIES.

Of the new *Carnation* selfs and fancies for 1899 and 1900 the following are worthy of consideration:—Midas, a distinct orange-buff variety with a suffusion of scarlet. The flowers are large and handsome. The same may be said in favour of Goldylock, a fancy variety of a yellow colour splashed with scarlet. One of the best scarlet varieties having a free-flowering habit, and one which received the R.H.S. Award of Merit, is Banner. Benbow, a good buff, and Comet, a smooth petalled maroon-crimson flower, are exceedingly fine.

A very strong grower is the variety named Dudley Smith, a bright scarlet self, with splendid smooth petals and good build. Cecilia is a nice clear yellow sort, with large flowers. It also has had an Award of Merit from the Royal Horticultural Society. Agnes Sorrel, a deep maroon crimson, follows wonderfully close on the well-known and much-prized Uriah Pike. Galileo is clearly one of the best yellow ground varieties. It is very heavily edged with purple. Altogether it is an attractive and very handsome flower.

For a free blooming, shapely, white flowered variety we might well recommend Much the Miller, rather a curious name, and certainly the whiteness is pure enough. Queen Bess, a beautiful apricot-yellow, heavily marked and flaked with rose-red; and Rizzio, a yellow self of capital form and habit, conclude the list of the finer and newer sorts.

YELLOW GROUND PICOTEEES.

Under this head we only mean to name three new varieties; the better known yellow ground Picotees may also be summarised to half a dozen sorts. Of the new ones Heather Bell takes our fancy most. It bears large full flowers, these having a bright rose-pink edge. It is a lovely variety. Lady Bristol is flaked with scarlet on a deep yellow ground; and Duke of Alva is a large and distinct purple edged variety.

Varieties of recent introduction under this section are:—Mobican, which has a deep yellow ground and a bright red-rose margin. Mr. Nigel has a heavy crimson edge, and has had a F.C.C. But the best of all is Mrs. Tremayne, a deep yellow, heavily edged with scarlet; it is free in flower, and has a fine stout calyx. Eldorado, with its rose edge, and Xerxes (F.C.C.), margined with deep rose, will provide quite a lovely collection.

RECENT INTRODUCTIONS among border selfs and fancies, some of which have been out for a number of years but are catalogued as recent, simply to give them prominence, include Pelegia, a deep pink and lavender flaked fancy variety, large, full and well formed; Queen of Scots, a handsome rose-pink *Carnation* of splendid form; and Brodick, a yellow ground fancy whose smooth petals are nicely flaked and marked with rose-red. Sweet Brier is a good sort, the colour being light scarlet. It does well and produces a fine lot of offsets. Few selfs beat Isinglass, which received an Award of Merit two years ago. In all respects it is a meritorious variety of a brilliant scarlet colour. Queen of Sheba, a buff yellow, and George Maquay, of purest white, taller than Much the Miller, free flowering, good in every respect, and very hardy, a splendid variety, indeed, for anyone who does a deal of flower cutting.

Czarina is a handsome fancy, heavily edged with bright scarlet. A variety with bold full flowers on tall, stout footstalks is Francis Wellesley. Their colour is a deep carmine-rose. Helmsman (A.M., R.H.S.) is a good pure white with shell-like petals. And there are now more distinct varieties than Bendigo, which we appreciate very highly. The colour is violet-purple or bluish-violet, rather un-

common among flowers. The variety under question is remarkably free flowering.

OLDER VARIETIES.

The best of the older varieties, such as Admiral Curzon, scarlet bizarre, Crombie's Pink, Mephisto, and others, being now well known, are liberally grown and offered at moderate prices for massing in beds or large planting of any sort. Joe Willet, a splendid scarlet self, does not become scorched as do many others, in fact, the sun heat increases its brilliancy. It is a capital bedding variety. Mrs. F. Watts is unique among dwarf whites; it is very floriferous. Sybil is a good rose-flake, James Douglas and Queen Victoria are purple flakes, Edith Ladenham, a white self, is exceedingly fine, George Cruickshank and W. M. Thompson are effective fancy Carnations, while the older Picotees comprise Norman Carr, Little Phil, Grosteen, J. B. Bryant, Mrs. Gorton, Amelia, Muriel, and Badminton. Probably the flaked varieties are the least commendable as they "run out" almost certainly within a year or two.

WATER LILIES AT EDENSIDE.

WATER LILIES, owing to the filip that has been given them by M. Marliac, in hybridising several species thus procuring new and beautiful colours, are taking a strong hold upon growers and owners of gardens in this country; and their stay to all appearance will be permanent. Mr. James Douglas, Edenside, Great Bookham, Surrey, in spite of his great love for Carnations, Auriculas, Polyanthus, Pinks and other flowers, has become enamoured of them, and built first one tank and then another, the latter being practically an extension of the former, the two extending in line almost from the office to the dwelling house. Both are filled, and the plants have taken full possession of the space at command. Some of them have been flowering more or less continually since May last. All the best of Marliac's varieties are represented as well as other popular species of a hardy character.

The orbicular leaves of *N. gladstoniana* are a foot in diameter, of great thickness and supported by very stout stalks. The flowers are of great size with broad, elliptic, white petals, the variety being indeed the purest of all the white Water Lilies. The outer petaloid stamens are also of remarkable breadth, and all are yellow. A First-class Certificate was accorded the variety at Boston, U.S.A., in 1898. It is an acquisition and we hope to see it in every collection presently. *N. Leydekeri fulgens* is notable for its intense purple petals deepening in colour towards the centre of the bloom. The stamens are orange-red, making this a distinct and handsome form. *N. flammea* is rosy-purple, intensifying in the centre and the stamens are orange, dying to orange-red. It is practically a pale form of *N. Leydekeri fulgens*, but distinct. A very pretty form is *N. Aurora*, which has soft rosy tints overlying a creamy-white ground. The orange-yellow stamens are of great length.

In collections of any completeness, small-flowered Water Lilies are much admired for the contrast they make with their giant brethren. The small flowers of *N. pygmaea* have short and broad white petals. The smaller *N. p. helveola* is even prettier by reason of its neatness. *N. marliacea carnea* is one of the giant forms. The large white flowers are pushed well out of the water, and have long, white petals tinted with a charming flesh hue at the base. *N. m. albida* is considered the largest and best of the white Water Lilies. When the long white petals are fully expanded they make a magnificent flower. The stamens form a light yellow centre. The variety is of vigorous constitution, and there are already many plants in the more recently constructed tank.

The flowers of *N. Leydekeri purpurea* are rosy-purple, intensifying to crimson-purple in the centre as they die.

Another dark form which enjoys considerable reputation is *N. ellisiana*, with handsome, crimson-red flowers, and generally considered the darkest Water Lily in cultivation. *N. robinsoniana* is a large, purple-red flower, at one time the darkest, but now excelled in this respect by *N. ellisiana*. The rosy-purple flowers of *N. gloriosa* attain a great size on fully developed plants. This form commenced flowering in May, at Edenside, even on small young plants. Early flowering is a great recommendation for a hardy Water Lily. Another dark flower is *N. sanguinea*, with deep, rose-purple flowers. The delicacy

of *N. odorata rosea* is in marked contrast with the other coloured flowers and recalls the rose variety of the British Water Lily. The floating leaves are small and circular while the oblong petals are of a soft rosy hue, and the blooms well elevated above the water.

In the midst of all this colour the yellow Water Lilies will always command attention for their quiet beauty and the size of their freely-produced flowers. The blooms of *N. marliacea chromatella* are of huge size, well elevated above the water, and have very broad, blunt, sulphur-yellow petals that assume a pink tint at the base as they are dying off, making them very pretty on close inspection. This is considered the best yellow variety, and the broad petals would help a florist to this assumption. The leaves have bronzy blotches, but in *N. sulphurea grandiflora* they are green. The flowers are large, but the petals are long, narrow and pointed, so that Mr. Douglas does not care much for it. All the same it is a fine Water Lily, recalling the appearance of a Cactus Dahlia rising out of the water.

Another old love is that for Orchids, and Mr. Douglas devotes a house to them in his nursery. Many seedlings are coming along, and some of them should soon reach the flowering stage. *Cypripedium macropterum* carries three flowers on each stem. *C. chamberlainianum* also does well and has been flowering for a long time. *C. lawrenceanum*, *C. dominianum* and others are also flowering. *Dendrobium cariniferum* and *D. tortile* are in season, the former having shining white sepals and petals, and an orange, bearded lip. *Laelia anceps alba*, *L. a. sanderiana* and other white varieties are well represented. At one end of the house we noted a tall plant of *Nepenthes mastersiana* in bloom. The pitchers attain a great length on flowering plants, but they are not so well formed as when the stems are kept low. The collection of Carnations is more extensive than ever, and we have something to say about them next week.

VIOLAS FROM HAWICK.

DURING the great wave of heat a box of Violas reached us from Mr. John Forbes, Hawick, N.B. Amongst the yellows were trusses of the rayless rich yellow *Isolde* and *Mary Robertson*, a good round flower with paler centre, being a new shade of colour. Both are new for 1900. *A. J. Rowberry* is a golden yellow of good substance.

A very large white and rayed flower is *Colleen Bawn*. *Snowflake* is a new, rayless, and pure white flower. Purity comes into the same category. *White Empress* is also a beautifully refined white flower; and the same may be said of *Mrs. Hope*, which has a very broad lip.

Edged and Picotee flowers were well represented by some pleasing varieties, some being well known and others less so. *Jeanie P. Robertson* is a charming, large, white flower with a distinct, but narrow, Picotee edge. *Shamrock* (new for 1900) is characterised by broad, white, or nearly white flowers, having mauve edges. *Hamlet* is a beautiful yellow ground with a broad and well defined bronzy purple border in the way of an older sort known as *Peter Barr*. *Accushla* is a white ground, with a broad blue-purple border.

Amongst the lighter coloured selfs we noted *Kathleen* with rosy-mauve rayed flowers. More dainty, perhaps, is *Charmer*, with soft, rosy flowers of beautiful form. *Cherry Park*, on the other hand, is soft pink and lightly rayed.

Parti-coloured flowers always receive a considerable amount of attention in collections; and here we find *James P. Robertson* with a beautiful plum centre fading to broad, rosy margins. *J. F. Woodhouse* is dark velvety purple, with paler top petals. *Joseph* is a small flower, but its dark bronzy-brown centre makes a fine contrast to the buff-orange margins. A dark and velvety flower is *James C. Erskine*, more or less striped. *Mrs. Gordon* is a fine variety in the way of *The Mearns*, having violet-purple petals fading to white around the top petals.

Wm. Allardyce is a dark plum-purple; but the new variety named *John Forbes* is another dark sort whose peculiar shade of maroon-violet had been affected by the dry weather and heat before we examined it. Another new variety for 1900 is *Campbell Bannerman*, with dark purple-blue self-coloured flowers. Another handsome dark blue is *Sir Robert Puller*, having a large yellow eye.

Miniature varieties were represented in the collec-

tion by a few neat and dainty flowers. Very pretty is the delicate pink or blush-white variety named *Lyric*. *Blush Queen* is even more delicately and daintly shaded with blush, with a large golden eye. *Queen of the Year* is a handsome, dark blue belonging to the miniature section, the outline being circular.

PLANTS RECENTLY CERTIFICATED.

THE awards hereunder mentioned were made by the Royal Horticultural Society on the 3rd ult. Orchid Committee.

LAELIOCATTELEYA WIGANIAE.—The sepals of this bigeneric hybrid are salmon pink, while the petals are much broader and rosy-salmon. The lip is deep purple, with a large, dark purple blotch in the throat. (First-class Certificate.) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

LAELIOCATTELEYA HENRY GREENWOOD SUPERBA.—The sepals are pink, and the petals darker with a crisped edge. The lip is very large and velvety crimson purple; the side lobes are rosy, and on either side of the throat are two very large, creamy-white blotches, between which the purple runs to the base in the form of a narrow band. (First-class Certificate.) Sir F. Wigan, Bart.

BROUGHTONIA SANGUINEA.—The linear sepals, obovate petals, and the suborbicular, retuse lip of this species are all of a deep rosy-red, with crimson lines on the base of the lip. (Botanical Certificate.) J. T. Bennett Poë, Esq. (gardener, Mr. J. Downes), Holmwood, Cheshunt.

COLAX VIRIDIS.—The oblong, pale green sepals are sometimes spotted with dark markings on the contiguous edges. The petals are heavily spotted with blackish-brown. The lip is short with transverse, rhomboid, terminal lobe, and mauve in colour. (Botanical Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

Floral Committee.

MAGNOLIA MACROPHYLLA.—The magnificent leaves of this species are 12 in. to 20 in. long by 5 in. to 9 in. wide, light green, auricled at the base and downy beneath. The three outer petals of the huge, white flower are 8 in. to 9 in. long, and the three inner about 6 in. long, and creamy-white with a purple stain at the base. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd.

HELIOTROPE PICCIOLOA.—The leaves are elliptic, large and rugose. The violet-purple flowers are produced in huge corymbose cymes, and are sweetly scented. (Award of Merit.) Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton, W.

DELPHINIUM BLANCHE FITZMAURICE.—The large, semi-double flowers are mauve with bright blue edges, while the petals are small and white.

Fruit and Vegetable Committee.

PEA EDWIN BECKETT.—The pods of this handsome-looking Pea are 5 in. long, deep green, with a fine bloom, and slightly curved towards the tip. There are seven to ten large and sweet seeds, of good flavour in each pod. The plant is a heavy bearer, a continuous cropper, and the variety useful for exhibition purposes. The committee gave an Award of Merit at Chiswick, and a First-class Certificate at the Drill Hall. Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, Elstree.

NECTARINE LOCKLEY HALL SEEDLING.—This new variety is larger than Lord Napier, to which it is similar, but three weeks earlier. (Award of Merit.) Mr. J. Budd, Lockley Hall Gardens, Romney.

At the meeting of the Royal Horticultural Society on the 17th ult., the awards mentioned below were made.

Orchid Committee.

MAXILLARIA SCURRILIS.—This is one of the most remarkable species in cultivation on account of the length and disposition of the segments. The lateral sepals are 5 in. long, broadly linear or strap-shaped, spreading at the base where they have a half twist, above which they are twisted back again and then decurved. The basal part is white with a few deep brown blotches, while all the rest is deep yellow, and blotched with brownish-crimson. The dorsal sepal is simply recurved and singularly coloured. The petals are 4 in. to 5 in. long, arching forwards, downwards, and otherwise like the sepals. The lip

is small and yellow. (First-class Certificate.) Sir Trevor Lawrence (grower, Mr. W. H. White), Burford Lodge, Dorking.

CYPRIPEDIUM ROTHSCHILD-LAWRENCEANUM.—The dorsal sepal is rotund-ovate, large, greenish-yellow, and heavily lined with brownish-black along the course of the nerves. The petals are oblong, spotted with black on yellow and rosy at the tip. The lip is deep purple-brown, laterally compressed, and intermediate in form between the parents expressed in the name. The dorsal sepal is also intermediate. (Award of Merit.) Sir Trevor Lawrence, Bart.

ANGRAECUM FILICORNU.—The sepals and petals are linear-lanceolate, the lip broader, and all white. (Award of Merit.) Sir Trevor Lawrence, Bart.

CIRRHOPELALUM SINENSE.—The dorsal sepal is hooded and almost covered with deep purple spots. The lateral sepals are yellow, $1\frac{1}{2}$ in. long, splashed and spotted with purple. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

TAINIA SPECIOSA.—The sepals and petals are finely lined with purple on a straw-yellow ground, while the lip is creamy. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

MASDEVALLIA MACULATA.—The lower lip is deep maroon, elongated, with pale green tails, $\frac{3}{4}$ in. long. The upper sepal is $2\frac{1}{2}$ in. long, and orange. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

SARCANTHUS PENINSULARIS.—The small flowers are produced in racemes, and are yellow, with a brown band within each margin. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

PHAIUS OAKWOODIENSIS.—Here we have a handsome hybrid between *P. tuberosus* and *P. grandifolius*, or some of its allies. The sepals are oblong-elliptic, the petals obovate-elliptic, all reflexed and brownish-red or buff-salmon. The side lobes of the lip are brownish-orange, deeply toothed at the edges, recurved and brownish-orange; while the middle lobe is transversely oblong, emarginate and dull reddish-purple. A double, yellow and creamy ridge forms the crest. (First-class Certificate.) N. C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oakwood, Wylam-on-Tyne.

ROSE SOUVENIR DE C. GUILLOT.—This may be described as a garden or decorative Rose belonging to the Tea section. The flowers are salmon-pink and loosely built, except in the early bud stage, and fragrant. (Award of Merit.) Messrs. Wm. Paul & Son, Cheshunt.

NYMPHAEA STELLATA PULCHERRIMA.—The sepals of this handsome African Water Lily are deep green on the back and lined with black. The flowers are large and deep blue, the tips of the anthers being also blue. (Award of Merit.) Leopold de Rothschild, Esq., (gardener, Mr. J. Hudson), Gunnersbury House, Acton, W.

NYMPHAEA MARLIACEA ROSEA.—The flowers of this hybrid variety are of the first size, and the large, oblong-elliptic petals are white with a rosy-pink base. It has a better habit than *N. m. carnea*, which is also paler. (Award of Merit.) Leopold de Rothschild, Esq., and Messrs. J. Veitch & Sons, Ltd., Chelsea.

NYMPHAEA LEYDEKERI FULGENS.—The outer petals of this beautiful hybrid are rosy, while the inner ones are deep crimson-red. All are short and broad. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

DELPHINIUM BLUE BUTTERFLY.—The habit of this annual Larkspur reminds one of a perennial species, as the large and brilliant blue flowers are produced singly on short stalks that spread in every direction. The plant is only 9 in. to 10 in. high when grown in pots, branched from the base, and leafy. The small petals are also blue. (Award of Merit.) Messrs. J. Carter & Co., High Holborn, London.

CARNATION BENEOW (MARTIN R. SMITH).—This border Carnation has beautifully refined, buff-yellow flowers, and smooth, rounded petals. The plant is of vigorous constitution with plenty of grass. (Award of Merit.) Mr. James Douglas, Edenside, Great Bookham, Surrey.

CARNATION MIDAS (MARTIN R. SMITH).—The flowers of this border variety are rich, orange-scarlet, and very handsome, the blooms being of large size, beautiful form, and almost entire at the margin of the petals. (Award of Merit.) Mr. James Douglas.

CARNATION BOMBA.—The broad, rounded petals

are of a deep salmon-rose, but the blooms have no well marked fragrance. It is a border variety of considerable merit, however. (Award of Merit.) Mr. James Douglas.

CAMPANULA CARPATICA RIVERSLEA.—The blooms of this showy Bellflower are of large size, with five to eight segments, well spread out, and forming a larger, deeper, and darker coloured basin-like bloom than *C. c. pelviformis*. (Award of Merit.) Mr. M. Prichard, Christchurch.

CARNATION MAJOR HARBARD.—This border variety grows 3 ft. high, and produces large yellow flowers of good form. The calyx has five short, blunt segments, and the apex and the whole structure being remarkably stout it does not split on the expansion of the bloom. (Award of Merit.) Lord Suffield (gardener, Mr. William Allan), Gunton Park, Norwich.

SOCIETIES.

CARLISLE AND CUMBERLAND HORTICULTURAL.—July 17th.

THE Carlisle and Cumberland Horticultural Society held an exhibition of Roses and other flowers, and fruits in the Public Markets, Carlisle, on Tuesday, July 17th. The show was a marked success, and much credit of course is due to the liberal displays of the nursery firms named below. Roses were a chief feature, and though the local exhibitors had unpropitious weather for some weeks previous to the show, they still showed up in a creditable manner. Again in the herbaceous plant classes the men of the district were strongly in evidence, as also for Carnations, Begonias, table plants, and the fruit section. The chief of the show arrangements were carried through by the chairman, Mr. C. Lonsdale, Rose Hill, Mr. Crawford, of Messrs. Little and Ballantynes, the secretary and treasurer, Mr. A. R. Sale, aided by an active committee. The principal prize winners in the various competitions were briefly as follows:—

OPEN CLASSES: ROSES.—For seventy-two H.P.'s distinct, Messrs. Alex. Dickson & Sons, Newtownards, were first; Messrs. Harkness & Son, Hitchin, second; and Mr. Hugh Dickson, Belfast, third. For thirty-six H.P.'s, Messrs. Dickson & Sons again led; Mr. H. Dickson, second; and third, Messrs. Harkness & Son. For twenty-four ditto the order of class I. was maintained. The Messrs. Dickson also were first for eighteen Tea and Noisette Roses; Messrs. D. and W. Croll, Dundee, being second; and third, Mr. Hugh Dickson.

The Messrs. Kerr Bros., Dumfries, won first for a table 6 ft. x 3 ft. of herbaceous flowers; Judge Stevenson (gardener, Mr. G. Mackenzie), Galt Hall, Carlisle, being a good second. For a bridal bouquet, any shape or form, Messrs. G. Fairbairn & Son, Botcherby, received the premier prize; Mr. Geo. Webster, Sunderland, second; and Messrs. R. Dargavel & Son, Wetheral, third.

BASKET OF ROSES.—Messrs. T. Hammond & Son, Upperby, first; Mr. G. Webster, second; and Messrs. G. Fairbairn & Son, third. For a similar entry open to lady amateurs, Miss Ada Bendle, Lambley Bank, came out first; Miss M. M. Sale, Carlisle, second; and Miss Sale, Carlisle, third.

OPEN TO PRIVATE GARDENERS AND AMATEURS.—Rev. J. H. Pemberton, Romford, Essex, won first prize and a silver cup presented by Mrs. Lacy Thompson, of Farlam Hall, for twenty-four H.P.'s, not less than eighteen varieties. Mr. W. Boyes, Derby, came second; and Mr. J. K. Grant, Morecambe, third. For eighteen H.P.'s and nine Teas, distinct, Rev. J. H. Pemberton was first; Mr. W. Boyes, second; and Mr. J. H. Midgley, Grange-over-Sands, third. For twelve blooms of one variety H.P. (prizes awarded by Messrs. Little & Ballantyne, Carlisle), Mr. F. Clarke, Lowther Castle, was first; and Mr. C. H. Wood, Newton Arlosh, second. For twelve blooms distinct H.P.'s (prizes by Messrs. Clark Bros. & Co.), Miss C. Fell, Knells, beat Mrs. Lacy Thompson; Mr. James Hilson, Naworth, being third. For twelve Teas or Noisettes, six varieties, Mr. W. Boyes was first; followed by Mr. R. Park, Bedale; and third, Mr. D. Keillor, Broughty Ferry.

Mr. W. Hutchinson, Kirkby Moorside, won, for twelve distinct bunches of Sweet Peas, true to name, and shown with their own foliage. Mr. John

Robinson came second; and Mr. J. H. Midgley, third.

For twelve bunches of herbaceous flowers (prizes by Messrs. J. Moffat & Son, Carlisle), Mr. J. Hilson was the winner. For six distinct Orchid spikes (prizes by Mr. Claud Lonsdale), Mr. J. Service, Rose Hill, beat Mr. G. Accleton.

Mr. J. Hardcastle was first for a group of plants arranged for effect; and Mr. E. Whinham, Milton Hall, second. Mr. J. Potter was first for six table plants.

FRUIT CLASSES.—Two bunches of black Grapes, Mr. Wm. Stewart, of Brayton Hall, first; Mr. Arthur Smith, Edenhall, second; and Mr. J. Potter, third. For two bunches of white Grapes, Mr. G. Accleton beat Mr. Wm. Stewart; and third, Mr. James Robertson. Mr. A. Smith was first for six Peaches; and Mr. E. Horne second.

NATIONAL CARNATION AND PICOTEE.

—July 25th.

THE annual exhibition of the National Carnation and Picotee Society was held at the Crystal Palace on Wednesday, July 25th. The day was excessively hot, and the previous hot weather showed its effects in the number of exhibits staged. The society had had a record number of entries (600) this year, but through the date having been altered from the 18th to the 25th, and heat following, many exhibitors had failed to show. On the whole the show was satisfactory, and some exceedingly fine stands were shown, and Messrs. Henwood, Caselton, and other officials are to be congratulated. Martin R. Smith, Esq. (gardener, Mr. Charles Blick), Hayes, Kent, won the Silver Cup in Division I; Messrs. Thomson & Co., of Birmingham, won in the second division; and Mr. R. C. Cartwright, Birmingham, in Division III.

FIRST DIVISION.

For a stand of twenty-four Carnation blooms, dressed on cards, bizarres and flakes only, not less than twelve dissimilar varieties, M. Rowan, Esq., 36, Manor Street, Clapham, was the winner. His best blooms were Gordon Lewis, Sportsman, Robert Lord, George Melville, Thalia, Fred, Mrs. Rowan, Mrs. Skirving, J. W. Bentley, Merton, Valkyrie, and Robt. Houlgrave. This was a very able stand, the blooms of fine colour and purity. Martin R. Smith, Esq. (gardener, Mr. C. Blick), Hayes, Kent, came a close second. His Claudian, Autocrat, Inga, Bassompierre, Master Fred, Gelinka, and R. Houlgrave being very fine. Mr. J. Walker, Thame, was third; and fourth, Mr. G. Chaundy, Oxford.

For a like exhibit of selfs, there were six entries. Mr. M. Smith was first, having an even and meritorious stand comprising such good sorts as Adlus, Cecilia, Anne Bolyne, Sir Bevy, Flebrand, Sultan, Eve, Enchantress, Benbow, Ensign, Etna, Lyons, Agnes Sorrel, Michelet, &c. The blooms here were of larger size, and better in colour than the other entries. Mr. C. Turner, Slough, came second, his best being Benbow, Goldfinch, and Sir Bevy; Mr. M. Rowan came third; Mr. G. Chaundy fourth; Mr. J. Walker, Thame, fifth, and Mr. H. W. Weguelin, Dawlish, sixth.

Mr. Martin R. Smith again won in Class III. for twenty-four fancies. Oakley, Hidalgo, Galadin, Tibullus, Elaine, Falca, Alexandra, Bedemere, Aglaia, Persimmon, Lily Duchess, Ossian, Patrocles, Oakley (sport), Guinevere, and Ormonde, were all very fine and well up to the average. Mr. C. Turner, Slough, was second; Mr. J. Walker, third; and Mr. H. W. Weguelin, fourth.

The class for twenty-four Picotees, white ground, had only three entries, Martin Smith leading the way with Mrs. Sharp, Bessie, Amy Robsart, Favourite, Duchess of York, Runymede, Mrs. Beswick, Clara Penson, Lady Louise, Marian, Brunette, Little Phil, Madame, and Richer. Mr. J. Walker was clearly behind; and Mr. M. Rowan was placed third.

For twenty-four yellow ground Picotees, Mr. M. R. Smith was again the winner, his best being Gronow, Duke of Alva, Onda, Lady St. Oswald, Gertrude, Childe Harold, and Daniel Defoe. Mr. C. Turner, Slough, second; and Mr. G. Chaundy, third, in which Badminton was exceedingly good.

For six blooms of a self Carnation, Mr. G. Chaundy was first with Germania (very fine); Mr. C. Turner, second with Lady Hermoine, and Mr. H. W. Weguelin, third.

For six blooms of a yellow or buff ground fancy, the order was, first, Mr. C. Turner, with Charles Martel; Mr. M. Smith, second, with Hidalgo; and

third, Mr. C. A. Tait, West Dulwich, S.E., with Voltaire. Mr. C. Turner was also foremost for six of any variety of Picotee, having Desmoulins. This was the only entry. Mr. M. Smith was first for six yellow ground Picotees, showing exquisite Childe Harold, the finest in the show. Mr. G. Chaundy came second with Countess of Jersey.

For twelve distinct selfs and fancies, without dressing, Mr. M. Smith came first with Benbow, Perseus, D. Defoe, Sir Bevy, Falca, Golden Hopes, H. Falkland, and Goldylocks. Mr. C. Turner, Slough, was second, with a very good lot.

SINGLE SPECIMENS, BIZARRS AND FLAKES.—Scarlet bizarres, Messrs. Thomson & Co., Birmingham, first with Robt. Houlgrave; second, Mr. Rowan; and third, Messrs. Pemberton & Sons, each with R. Houlgrave. Crimson bizarre, Mr. F. W. Goodfellow, first; Mr. R. Sydenham, second; and third, Messrs. Thomson & Co., all with J. S. Hedderley. Pink bizarres, Mr. J. Wellesley, first and second; and third, Mr. Cartwright, with Sarah Payne. For a purple flake, both showing Mrs. Gordon Lewis, Messrs. Thomson & Co. were first, and Mr. R. Sydenham, second. For scarlet flake, Messrs. Thomson & Co. were first with Sportsman; Messrs. Pemberton & Son, second, with the same; and third, Mr. J. Cartwright.

Rose flake, first, Mr. M. Rowan; second, Messrs. Pemberton & Son with Merton; and third, Mr. Cartwright with Thalia.

Blush or white self, first, Mr. C. F. Thurstan, with Mrs. Eric Hambro; second, Mr. R. Sydenham, with Dick Donovan. Rose or pink, Mr. Colly Sharp, with Jeanne d'Arc. Mr. Cartwright was first for a scarlet self, with the Sirdar; and Mr. C. F. Thurstan second, with Mrs. Douglas. For maroon or purple, Mr. Went, first, with Sultan; Mr. R. Sydenham, second with "M.O.S." For a yellow self, Messrs. Thomson & Co., first with Britannia; Mr. M. V. Charrington, with Germania; both very fine blooms. Mr. M. R. Smith was first for a buff self, with Benbow; and Mr. Went, second with the same.

Yellow ground fancies, single bloom, Mr. Wellesley was first with Hidalgo; Messrs. Phillips and Taylor, with Voltaire; and third, Mr. C. Turner, with Ch. Martel. Other fancies, Mr. Bartlett, with Desmoulins, was first; and Mr. Cartwright, second with Arteus.

PICOTEES, single blooms, Mr. Cartwright, with Mr. J. Smith; Mr. F. W. Goodfellow, with Isabel Lakin. Light edged red, Mr. R. Sydenham, first, with Grace Darling; Mr. Cartwright, second, with Thos. Williams. Purple, heavy edged, Mr. R. Cartwright, first, with Miriam; Messrs. Pemberton & Sons, second, with Amy Robsart; and third, Messrs. Thomson & Co., with Miriam. Purple, light edged, first and second, Mr. R. Sydenham, with Lavinia. Rose or scarlet, heavy edged, Messrs. Thomson & Co., first, with Lady Louise; Mr. R. Sydenham, second, with Duchess of York. Rose or scarlet, light edged, Mr. R. Sydenham was first and second, having Favourite and Fortrose. Yellow ground, heavy edged, Mr. M. R. Smith, first, with Gertrude. This was very fine. Yellow ground, light edged, Mr. M. R. Smith, first and second, with Childe Harold.

SECOND DIVISION.—For twelve bizarres and flakes, Messrs. Thomson & Co. were first; Mr. F. Wellesley, second; and Mr. S. A. Went, Thames Ditton, third. Thalia, Master Fred, Mr. Rowan, Merton, and Sportsman were the best in the first prize stand.

Messrs. Thomson & Co. were also first for twelve selfs, having Britannia, The Imp, Sadah, Mrs. J. Douglas, Her Grace, Miss M. Sullivan, &c., which were extra good. Mr. Wellesley came second; and Mr. S. A. Went, third. There were eleven entries. For twelve fancies there were eight entries, Mr. F. Wellesley being first with Voltaire, Eldorado, Monarch, and others. Mr. S. A. Went, second; and Messrs. Thompson & Co., third. For twelve white ground Picotees (seven entries), Mr. F. Wellesley, first with Brunette, Thos. Williams, and Campanine; Messrs. Thompson & Co., second; and Mr. S. A. Went, third.

For twelve yellow grounds, six varieties, distinct, Mr. Went was first, having very fine Mr. R. Sydenham, Dervish, Ladas, and Empress Eugenie. Messrs. Thomson & Co., second; and Mr. Wellesley, third. The latter was also first for six self Carnations, with Mrs. E. Hambro; Mr. S. A. Went, second, with Germania.

For six buff ground fancies, Mr. F. Wellesley had the best with Monarch; Messrs. Thomson & Co.,

second, with Voltaire; and third, Mr. S. A. Went. For six blooms of yellow ground Picotees, Mr. Wellesley again led, having His Excellency; second, Mr. Went, with Empress Eugenie; and third, Messrs. Thomson & Co. For six selfs and fancies, undressed, Mr. S. A. Went was first with a fine lot, especially good being Nox, Dervish, and Mrs. A. Campbell. Messrs. Thomson & Co., were second; and Mr. Wellesley, third.

DIVISION III.—For six bizarres and flakes, Mr. R. C. Cartwright, of Selby Park, Birmingham, was a good first; Mr. A. R. Brown, Birmingham, second; and third, Messrs. Pemberton & Sons, Walsall. Mr. C. F. Thurstan was first for six selfs; Mr. A. Chatwin, Edgbaston, second; and third, Mr. A. R. Brown, Birmingham. There were twenty-three entries in this class, and some fine blooms were staged. For six fancies, Mr. Cartwright was first; Mr. W. Spencer, Windsor, second; Mr. A. H. Beadles, Sydenham Park, S.E., third. For six Picotees, white ground, Mr. R. C. Cartwright was first; Messrs. W. Pemberton & Son, second; and third, Mr. D. Walker, Kilmarnock. For six yellow grounds, Mr. W. Spencer, of Windsor, led the way; and Mr. R. C. Cartwright came second. The latter also won for three selfs with Dick Donovan; also for three yellow ground fancies; and for three fancies other than yellow or buff. For three selfs and fancies, undressed, Mr. Cartwright again led, followed by Mr. H. Rogers, Woodbridge, and Mr. L. C. Gordes, Nunhead, S.E.

EXHIBITS WITHOUT DRESSING OR CARDS.—For six selfs and fancies, Mr. L. C. Gordes was first. For six Picotee blooms, white ground, Mr. Cartwright again won with a splendid set; Messrs. W. Pemberton & Son, were second; and Mr. D. Walker, third. For six yellow ground Picotees, Mr. Cartwright beat Mr. Gordes.

For twelve Carnations and Picotees in pots, Mr. Martin R. Smith came first, having Aurelian, Hidalgo, May Day, Iris, Agnes Sorrel, &c.; Mr. C. Turner, second; and third, Mr. J. W. Easton, Ilford.

For a group of Carnations, arranged in an area of 50 sq. ft., Mr. M. R. Smith was first, with a fine group; Mr. Charles Turner, second; and Mr. T. Carruthers, Reigate, third.

Dinner table, arranged for twelve persons, Mr. M. R. Smith came out first, and Mrs. Douglas, Great Bookham, second. Mr. M. V. Charrington, Hever, Kent, was first for a vase of Carnations; Mr. H. Rogers, of Woodbridge, second. The latter was also first for three sprays of Carnations; Mr. M. R. Smith, second; and third, Mr. J. W. Easton. Mr. M. R. Smith was also first for six buttonholes, and Mr. M. V. Charrington, second.

SEEDLINGS.—For two cut blooms of a new seedling, Mr. M. V. Charrington was first with a beautiful rosy-pink variety; Mr. W. J. Godfrey, Exmouth, second; and Mr. S. Sharp, third.

PREMIER BLOOMS.—Premier fancy Carnation, Mr. Martin R. Smith, in Class III., with Hidalgo.

Premier light edged yellow ground Picotee—Mr. M. R. Smith, in Class IX., with Childe Harold.

Premier heavy edged ditto—Mr. M. R. Smith, in Class XIV., with Gertrude.

Premier bizarre Carnation—Messrs. Thomson & Co., in Class XV., with Robert Houlgrave.

Premier light edged white ground Picotee—Messrs. Thomson & Co., in Class XVIII., with Pride of Leyton.

Premier self Carnation—Mr. C. F. Thurstan, in Class XXVI., with Mrs. Eric Hambro.

Premier heavy edged white ground Picotee—Mr. R. Chatwin Cartwright, in Class XXVIII., with Little Phil.

CERTIFICATED VARIETY.—Carnation Beauty of Exmouth, a beautiful white variety, of fine size, firm build, strong calyx, flowers on long stalks, and fragrant. F.C.C. Mr. W. J. Godfrey, Exmouth.

MISCELLANEOUS EXHIBITS.—Mr. F. G. Foster, Brockhampton, Havant, staged a collection of Sweet Peas and Carnations.

A fine little assortment of Carnations and Picotees was put up by Mr. James Douglas, Great Bookham.

Mr. H. T. Dixon, Woodside Gardens, Hailsham, Sussex, also showed Carnations and some bunches of Picotees.

ACTON HORTICULTURAL SOCIETY.—July 25th.

THE thirty-third annual show of this society was held in the Acton Park on the 25th ult. It was a

great success from a local standpoint, as the attractions included a good many things outside horticulture. The weather was too fine—it was sultry and tropical; hence many were kept away by the ardour of the sun. The groups of plants—as did also cut flowers and table decorations—suffered in consequence.

In the local leading group, which was tastefully arranged, Mr. G. Rouse (gardener to C. T. Sutton, Esq.), took first place; Mr. E. Lovesey (gardener to J. Bishop, Esq.), succeeded next; Mr. A. Reeve (gardener to Percy Barlow, Esq.), was third.

In the radius class, Mr. C. Long (gardener to E. P. Oakshott, Esq., Ealing) well deserved the premier place. For six stove or greenhouse plants, Mr. Long could not be beaten. For four stove or greenhouse plants, Mr. H. Freebrey (gardener to W. F. Speedy, Esq.), received the award; Mr. Rouse being second. Mr. W. Rouse, however, was well to the fore in other classes.

Fruit was not a success—probably due to the season and the date of the show. The cottagers always exhibit well, and the vegetables staged by them were so good that they taxed the abilities of the judges to their utmost capacity.

Honorary exhibits were kindly sent by the Messrs. Rothschild (Gunnersbury Park), and Sir Montague Nelson (Ealing). The groups were a particularly interesting feature, and added largely to the success of the show.

The judges were Messrs. W. Farr and D. Cooper.

Mr. S. Eida contributed a grand collection of dwarf Japanese trees and other works of art, while the newly-formed Acton Scientific Society and Field Club sent a very creditable collection of cases of butterflies, moths, minerals, &c., both of which collections will receive notice in another place.

The hon. secretary, Mr. J. Hankin Salmon, is to be commended for his courtesy and application.

ROYAL HORTICULTURAL.—July 31st.

STOVE and greenhouse plants were present in some quantity at the Drill Hall on Tuesday last, but hardy herbaceous plants were most abundant and in the greatest variety. Campanulas, Gladioli, Carnations, Phloxes, Pentstemons, Yuccas, and tuberous Begonias were amongst the more conspicuous subjects staged. Gooseberries were also a conspicuous feature on one side of the hall.

ORCHID COMMITTEE: Present.—Mr. Harry J. Veitch (in the chair), Messrs. J. O'Brien, De Barri Crawshay, John T. Gabriel, F. J. Thorne, W. H. Young, H. Tracey, H. J. Chapman, E. Hill, T. Rochford, T. W. Bond, Walter Cobb, Charles Wlwn, J. Colman, and J. G. Fowley.

Messrs. B. S. Williams & Son, Upper Holloway, London, exhibited a group of Orchids, including *Laeliocattleya* Henry Greenwood, *Cattleya gigas imperialis*, *C. guttata Leopoldii*, *Platyclinis filiforme*, and various *Cypripediums*.

Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, also staged a group of Orchids. Very fine were *Laeliocattleya* Pallas, *Lc. porphyrophlebia*, *Lc. Aurore*, *Cattleya Warscewiczii*, *C. Whitei* (a natural hybrid been *C. schilleriana* and *C. Warneri*), *C. hardyana*, *C. Aclandiae nigrescens*, *C. F. W. Wigan*, *C. Atalanta*, and the pale coloured *Laelia Olivia*. All were well grown and flowered, and some of them are strikingly distinct and handsome. (Silver Gilt Flora Medal.)

Messrs. Thos. Cripps & Son, The Tunbridge Wells Nurseries, exhibited a group of well-grown and flowered *Disa grandiflora*, showing a considerable range of colour.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, exhibited *Cattleya hardyana* Rosslyn var., *C. gaskelliana* lemoniana, and *Laeliocattleya broomfieldensis* Rosslyn var. *Bulbophyllum sanderianum* was staged by A. H. Smee, Esq. (gardener, Mr. Humphreys), The Grange, Hackbridge. De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, exhibited a natural hybrid named *Odontoglossum Hallio-crispum crawshayanum*.

FLORAL COMMITTEE.—Present: W. Marshall, Esq., in the chair; Messrs. E. Teeligmuller, Charles T. Drury, H. B. May, R. Dean, G. Reuthe, Jas. Hudson, J. Jennings, J. F. McLeod, J. D. Paule, Geo. Gordon, Charles E. Shea, E. H. Jenkins, Wm. J. James, H. J. Jones, E. T. Cook, J. Fraser, and Wm. Howe.

Messrs. Barr & Son, King Street, Covent Garden, W.C., always make an interesting show on the left

side of the hall. On this occasion they exhibited *Lilium auratum*, *Nymphaea chromatella*, *N. marliacea albida*, *N. ellisiana*, dark crimson; *N. caroliniana nivea*, starry white; *N. c. perfecta*, blush; *N. odorata sulphurea*, bright distinct yellow with radiating petals. This exhibit of *Nymphaeas* was exceedingly fine, as good as any we have noted this year. Herbaceous Phloxes were also shown, and Statice, Gaillardias, Campanulas, Sweet Peas, &c. (Silver Banksian Medal.)

Messrs. Wills & Segar, Onslow Crescent, South Kensington, showed a very fine collection of Alocasias. *A. Lowii grandis*, *A. Watsonii*, a monster leaved variety; *Alocasia argyrea*, *A. Sedenii*, *A. macrorhiza*, creamy and green; *A. sanderiana*, with the sinuous margins; *Anthurium crystallinum*, and others. The group was rather novel and certainly very interesting. The quality of the plants could not have been better. (Silver Flora Medal.)

Lord Hillingdon (gardener, Mr. A. Allan), Hillingdon Court, Uxbridge, showed a collection of border Carnations and hardy flowers cut from the open border. As decorative blooms these Carnations had every quality, and the dark crimson variety, Golspie; the white Shanklin, Florida, a crimson-scarlet; Catherine Glover, yellow; and the beautiful yellow ground variety, Zebra, were of exceeding beauty. The depth of colour was particularly noticeable. Montbretias were also shown, together with Sweet Peas, Ten-week Stocks, *Magnolia grandiflora*, Malopes, and *Gladiolus*. (Silver Banksian Medal.)

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, as is usual when he does exhibit, made an exquisite show of his new *Campanula isophylla* Mayi. These were profusely flowered, and grown in various forms. Under whatever style this plant is seen it is a beautiful thing, and should be in every garden. (Silver Gilt Banksian Medal.)

Mr. Amos Perry, Winchmore Hill, London, N., had a magnificent collection of hardy herbaceous flowers. There was the *Rudbeckia* (Echinacea) *purpurea*, Winchmore Hill variety, *Phlox Franklin*, deep violet-purple; *Statice incana*, *Spigelia Marylandica*, like Honeysuckle, *Lathyrus latifolius*, *Pentstemon barbatus Torreyi*, *Delphinium chinensis*, and handsome trusses of Yuccas, Gaillardias, Carnations, *Oenothera speciosa rosea*, &c., &c. Everything in the collection was of the choicest description. (Silver Banksian Medal.)

Messrs. Jones & Sons, Sweet Pea and Dahlia Specialists, Shrewsbury, showed a magnificent collection of Sweet Peas which the recent rains had evidently greatly strengthened and improved, judging from their depth of colour, brilliancy, and size. We need not specialise the varieties, suffice to say that they were distinct and handsome. The collection comprised fifty-four, and the whole can be had for 10/-. (Silver Flora Medal.)

Messrs. Kelway & Son, Langport, Somerset, showed an array of Gladioli such as even they have never excelled. *Cycas*, a bright scarlet-crimson; Ben Alder, similar in colour but having a white throat; J. G. Clarke, rosy-pink; Charterhouse, Richard Martin Manning, *Agraulis*, Kipling, and other pink varieties of much worth. Kitcheners and Salfourd, are both good scarlets with white throats and of fine size; Dolops, one of the largest, is also very superior; Lord Powis takes us into a new colour, a mauve-pink with creamy throat. But we might go on and fill pages with praiseful descriptions—only Kelway's Gladioli do not need it, they speak for themselves. (Silver Gilt Flora Medal.)

Messrs. Wm. Paul & Son, Waltham Cross, Herts, had a grand exhibit of the fine herbaceous autumn flowering Phloxes, which of course are chiefly appreciated because of their distinct and wonderful colours. The best white was *Fiancee*. *Le Mahdi*, is a deep violet; *Ebna* is crimson. *Coquelicot*, also a bright crimson; and *F. S. Buchner*, rosy-pink, are all first-rate sorts. (Silver Banksian Medal.)

Messrs. A. W. Young & Co., Stevenage, Herts, had a large collection of herbaceous cut flowers. *Scabiosa caucasica*, *Achillea*, *Ptarmica*, *Pentstemon barbatus*, *Gladiolus*, *Tritomas*, *Agapanthus*, &c., were well shown. They also had 174 distinct kinds of Cacti. (Bronze Banksian Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, set up *Hydrangea quercifolia*, *Magnolia grandiflora*, *Eucryphia pinnatifolia*, an exceedingly handsome and showy white flowered shrub; *Aesculus macrostachya* and *Clethra canescens*. The *Magnolia* and *Eucryphia* were of more than ordinary merit.

Messrs. J. Hill & Son, Barrowfield Nurseries, Lower Edmonton, had sixty species and varieties of specimen Ferns. The choice of those included in the exhibit, though difficult to select yet may be said to include *Davallia fijiensis elegans*, *D. ciliata*, *Litobochia verpetilionis*, *Brainea insignis*, *Leucostegia immersa*, *Gymnogramme peruviana cristata*, *G. gloriosa*, *Adiantum Pacottii*, &c., &c. It was a massive and fine group. (Silver Gilt Flora Medal.)

Messrs. J. Laing & Sons, Forest Hill, S.E., had a collection of his very handsome multiflora *Streptocarpus*, free flowering and varied in colour; this useful strain of greenhouse plant is bound to receive appreciation on all hands.

Messrs. Webb & Brand, Nurserymen, Saffron Walden, sent a splendid batch of *Hollyhocks*, which remind us of the grand old-fashioned spikes of the gardens in times past. The *Hollyhock* is a grand hardy plant. (Silver Banksian Medal.)

Messrs. Wm. Cutbush & Son, Highgate, London, N., had a group of *Ivies* comprising four dozen sorts, all of which were highly ornamental and useful for various purposes of outdoor ornamentation. (Silver Banksian Medal.)

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, are still able to show magnificent exhibits of double tuberous *Begonias*. The varieties shown and which were of first rate merit include *Miss Jessie Pope*, bluish; *Jubilee Queen*, pure white; *Mr. Arthur Pitts*, brilliant crimson; *Miss Mary Pope*, fine white; *Miss Alice Tait*, yellow; *Miss Sylvia Morris*, rosy-pink; *Mrs. A. Tweedie*, creamy; and others. These were of splendid form and colour, good in every respect. (Silver Flora Medal.)

Messrs. Dobbie & Co., Florists to the Queen, Rothesay, N.B., staged an improved form of herbaceous *Pentstemon*, with dark tubular flowers having large wide open mouths. *Atlantis*, *Cavalier*, *Auguste Cain*, *Mdlle. Bartel*, *Joannis Chatin*, *Congo*, *Lucienne Biarts*, and others, were worthy of attention.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, showed *Gaillardias*, *Liliums*, *Rudbeckias*, *Echinops ritro*, *Asclepias tuberosa*, *Delphinium Zalil*, a creamy coloured species standing about 6 ft., high are all notable and good. (Silver Gilt Banksian Medal.)

Welbore S. Ellis, Esq. (gardener, Mr. W. S. Barrell), Hazelbourne, Dorking, had a magnificent little group of *Exacum macranthum*, growing in small pots, the plants being about 3 ft. high, erect and branching out into fine heads of large *Solanum*-like, deep, but bright blue flowered blossoms. It is a splendid intermediate house plant and a better lot has never been seen at the Drill Hall. (Silver Banksian Medal.)

FRUIT AND VEGETABLE COMMITTEE.—Present: Philip Crowley, Esq., in the chair; Messrs. J. P. Cheal, W. Poupart, A. H. Pearson, A. F. Barron, Geo. Kelf, Alex. Dean, S. Mortimer, J. W. Bates, James H. Veltch, Geo. Wythes, F. Q. Lane, James Smith, Edwin Beckett, J. Willard, Geo. Bunyard, E. Shaw Blaker, H. Somers Rivers, H. Esling, Chas. Herrin, and W. Wilks.

Messrs. W. Ray & Co., Mount Pleasant Nurseries, Teynham, Kent, showed their new Cherry "Noble," a variety with phenomenal fruiting properties, although a large and fine, late, dark cherry. The flesh is firm and sweet, and the colour like that of *Morello*.

Lord Derby (Mr. R. Dox), The Gardens, Knowsley, sent seedling *Melon* and *Peaches*.

Elaeagnus multiflorus in fruit, also jam made from the berries, was shown.

Mrs. McIntosh (gardener, Mr. C. Hodges), Havering Park, Romford, sent *Melon* *Havering Park Hero*, a monstrous variety.

Her Majesty the Queen, the Royal Gardens, Frogmore, showed six *Melons* of a new variety named *Princess*, the result of a cross between *Stamrock* and *Sutton's Pink Flesh*, the latter being male parent. The fruits are of good size, large size even, with deep red flesh, sweet, firm, and luscious. A new *Tomato* named "Waterloo" was also shown. This appears to be a good sort, rather over the average size, smooth skin, bright red colour, and firm flesh. Judging from plants shown it is a heavy cropper.

Messrs. James Veitch & Sons, Ltd., Chelsea, exhibited a numerous collection of *Gooseberries*, all selected samples of plump form, fine size and cleanliness. The *Gunner*, *Leveller*, *Pretty Boy*, *Early Sulphur*, *Langley Beauty*, *Golden Gem*, *Pet*, and *Golden Drop*, are all fine yellow varieties. *Crown Bob*, *Dan's Mistake*, *Napoleon le Grand*, *Whinham's Industry*, *London*, *Clayton*, *Keen's Seedling*, and *Lancashire*, are good red sorts. This was a magnificent exhibit. (Silver Gilt Knightian Medal.)

Lord Gerard (gardener, Mr. Walters), Eastwell Park Gardens, Ashford, Kent, showed a collection of fruits, comprising *Grapes*, *Melons*, *Nectarines*, and *Peaches*. (Silver Knightian Medal.)

READ THIS.

The competition continues as usual next week.

The prize last week was awarded to Mr. J. L. Reynolds, Sidbury Manor, Sidmouth, for the article on "Bananas," p. 759.

QUESTIONS AND ANSWERS.

Rose Not Flowering.—W. B.: The specimen you sent is a variety of the Dog-rose, upon which the garden variety had been budded. If all the shoots are like the one you sent, you have lost the variety which was worked upon it. You may either have it grubbed up in the autumn and another planted in its place, or you can bud it with another variety you already possess. Bud it close to the ground or slightly beneath it, so that when the bud grows into a shoot you can cover over the union with soil and the graft may throw out roots of its own into the soil. In any case, it will be safer in winter to have the place of junction with the stock covered up. All shoots of the stock may be shortened now, and completely removed in spring after the graft commences to grow.

Botanical Name of the Sweet Pea.—E. C. H. D.: The Sweet Pea of which you have heard so much lately is *Lathyrus odoratus*. There are many other species of *Lathyrus* in cultivation, but there is only one Sweet Pea, although others have been erroneously named Sweet Peas. You will find the name given in the fourth line from the beginning of the leader in last week's issue.

Lawns Brownd and Dead.—D. T.: If you cannot water them frequently and heavily we should advise you to remove the grass box from the mowing machine so that the cut grass will be scattered equally all over the surface. You might have commenced this earlier in the season as soon as dry weather set in, and the cut grass would save the roots of the other to some extent. Commence earlier next season, and raise the machine a bit so the grass will not be cut so close. When wet weather commences in autumn put on the grass box again, and cut more closely, if you like.

Crimson Rambler Rose Discoloured.—M. C.: Your plants must be grown against a wall, where they are sure to get attacked with red spider in dry and warm weather. The *Crimson Rambler* grows well under such conditions and flowers early, but is liable to lose its leaves through the attacks of red spider when so grown. We should advise you to take cuttings and root them in sandy soil in pots under a hand-light or in a moderately warm pit, and to plant them against a wooden trellis, rustic wooden arches, or pillars in fairly open situations. Under such conditions they flower later but keep much healthier and ornamental. In the meantime you should syringe your plants with strong soapsuds just before leaving off work in the afternoon. Repeat the application at intervals of a few days if it appears necessary.

Names of Plants.—W. D.: 1, *Lathyrus platyphyllos*, generally known in gardens as *L. latifolius*; 2, *Centaurea ragusina candidissima*; 3, *Centaurea Cyanus alba*; 4, *Linaria purpureum*; 5, *Linaria pallida*.—A. M.: 1, *Laelia tenebrosa*; 2, *Oncidium maculatum*; 3, *Odontoglossum praetextum*; 4, *Cypripedium callosum*; 5, *Cypripedium Godefroyae*; 6, *Oncidium flexuosum*.—R. W.: 1, *Rosa rugosa*; 2, *Rosa lucida*; 3, *Genista tinctoria*; 4, *Epilobium angustifolium*; 5, *Galega officinalis*; 6, *Echinops sphaerocephalus*.—E. C. H. D.: 1, *Phlox Etna*, a garden form of hybrids between *P. paniculata* and *P. acuminata*; 2, *Thymus Serpyllum albus*; 3, *Narthecium ossifragum*; 4, *Drosera rotundifolia*.—G. H.: 1, *Lysimachia vulgaris*; 2, *Statice Soworowi*; 3, *Campanula Hostii alba*; 4, *Linaria repens alba*; 5, *Lychnis chalcadonica*; 6, *Pelargonium radula*.—A. C.: 1, *Lastrea aristata*; 2, *Pteris Wimsettii*; 3, *Davallia hirta cristata*; 4, *Adiantum Ghiesbreghtii*; 5, *Hydrocotyle vulgaris* (it had come amongst the peat); 6, *Scutellaria minor* (had come in the same way).—A. D. C.: 1, *Fuchsia gracilis variegata*; 2, *Cassia occidentalis*, often named *C. corymbosa*.

Dwarf Beans and Black Fly.—R. H.: It is not very usual for black flies to become such a pest on Dwarf or French Beans, but they do sometimes prove a nuisance in dry weather and on thin soil where the moisture is insufficient to enable them to make good growth. You can cut off the tops, if it is possible to do so without removing good pods, providing you can save them. Put them into a close trug basket as you proceed and have them destroyed at once. Then give the plants a heavy syringing with the garden engine, and after the water has settled down, give the ground a good hoeing. By this means you will destroy a good many of the flies. The operation may be repeated next day, and by thus checking the fly and watering the plants at the same time, you may be able to get some dishes of pods in a fairly clean state. Soap suds would be a greater check, but they might give a bad flavour to the beans.

Communications Received.—James Bryson.—L. M.—C. B. G.—J. W. Stone.—R. M.—A. L.—A. G. B.—T. H.—Western.—S. H.—A. M.—W. T.—H. M.

TRADE CATALOGUES RECEIVED.

LAXTON BROTHERS, Bedford.—Catalogue of Laxton's Strawberries and Small Fruits.
G. H. RICHARDS, 128, Southwark Street, London. Abbreviated List of Celebrated XL All Horticultural Specialities.

SHOW FIXTURES FOR 1900.

AUGUST.

- 7.—Abbey Park, Leicester, Flower Show and Gala (2 days).
- 16.—Ladywell, Lewisham and District Cottagers' Flower Show (2 days); Royal Horticultural Society, Aberdeen (3 days).
- 19.—Newton Stewart and Minnigaff Floral and Horticultural Society (probable date); Shrewsbury Show (2 days).
- 22.—Bucklebury and Marlston Horticultural Society.
- 24.—Falkirk Horticultural Society; Bradford Horticultural Society (2 days).
- 30.—Stirling Horticultural Society (2 days).

SEPTEMBER.

- 7.—National Dahlia Society's Exhibition (2 days).
- 12.—Royal Caledonian Horticultural Society (2 days).
- 13.—Boston and District Dahlia and Chrysanthemum Society.
- 27.—R.H.S. Fruit Show (3 days).

OCTOBER.

- 9.—National Chrysanthemum Society (3 days).

NOVEMBER.

- 6.—National Chrysanthemum Society (3 days).
- 7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).
- 8.—Devon and Exeter Horticultural Society (2 days).
- 15.—Maidenhead Chrysanthemum, Fruit and Vegetable Society (2 days); Edinburgh Chrysanthemum Show (3 days).
- 23.—Dundee Chrysanthemum Society (3 days).

DECEMBER.

- 4.—National Chrysanthemum Society (3 days).

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, AUGUST 11th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, August 14th.—Royal Horticultural Society, Drill Hall, Buckingham Gate, Westminster.

THURSDAY, August 16th.—Ladywell, Lewisham, and District Cottagers' Flower Show (2 days); Royal Horticultural Society of Aberdeen (3 days).

SUGGESTIONS FOR THE MANURING OF

VARIOUS CROPS.—The County Councils of Berkshire, Dorset, Hampshire, and Oxfordshire are still carrying on various field experiments in those counties with different agricultural crops; but the practice might be made to do service for various garden crops such as Potatos, Cabbages, Turnips, Beans, Peas, and others. The experiments are carried out by a staff belonging to the Agricultural Department of Reading College, and under the superintendence of Mr. Douglas, A. Gilchrist, B.Sc., the director of this particular department, who issued the "Sixth Annual Report" recently. The suggestions for the manuring of various crops are of a very practical nature, being founded upon approved farm practice and on the results of experiments. They have

also the advantage of impartiality, issued as they are from an institution independently of vested interests. The dressing suggested for the various crops are offered as a guide rather than a principle for strict adoption. Soils, climate, prices of the various commodities, and the facilities for obtaining farmyard manure vary so that modifications may often be made to advantage to meet the requirements and conveniences of different places and circumstances.

An example of what we mean may be taken from the suggestions concerning Peas and Beans, both leguminous crops, whose roots are furnished with nodules having the power of fixing the free nitrogen of the atmosphere. Nitrate of soda, sulphate of ammonia, and other ingredients containing nitrogen are therefore unnecessary in the case of those crops, whether grown in garden or field. On the other hand phosphates and potash are valuable as is lime. Farmyard manure is stated to be always valuable. A manurial receipt for Peas and Beans is ten to fifteen tons of farmyard manure, 3 cwt. kainit, and 2 cwt. superphosphate per acre. For smaller areas of ground gardeners would have little difficulty in fixing upon the proper ratio for any given plot of ground. In heavy and wet soils 4 cwt. of basic slag is suggested in lieu of the superphosphate, on account of the greater amount of lime it would supply to the land. For Turnips the dressing suggested is 10 to 15 tons of farmyard manure, and 2½ to 4 cwt. of superphosphate. The latter may slightly be increased if no farmyard manure is employed. Nitrogen under the latter conditions would also be a valuable adjunct, and this could take the form of a top-dressing of either one cwt. of nitrate of soda or two cwt. of dried blood at the time of sowing. Other artificial manures are suggested to meet the requirements of different soils in the absence of farmyard manure. It is said that Swedes and

Turnips do not respond so readily to liberal manuring in the south and south-east of England as they do in the north and north-west. Presumably this is due to the greater annual rainfall in the north, thus enabling the Turnips to avail themselves of the manure at command, whereas the latter may lie dormant in the dry period of summer and go to waste in winter, when the rainfall is more abundant.

Rich and free sandy loam containing a fair amount of humus is best adapted for the welfare of Potatos. A suitable dressing for Potatos is 12 tons of farmyard manure, 1½ cwt. of nitrate of soda, 3 cwt. of superphosphate and 1 cwt. of muriate of potash per acre. The last named being slowly soluble, it should be applied to the soil during the previous autumn; the superphosphate, being rather more readily soluble may either be applied with the potash, or the operation deferred till the time of planting the Potatos. The nitrate of soda should be applied in the form of two dressings during the early stages of growth. Early Potatos are encouraged to grow more rapidly by liberal dressings of manure, including nitrate of soda, which serve to hurry them on in their earlier stages. For Cabbages a dressing of 15 to 25 tons of farmyard manure, 2 cwt. of nitrate of soda, 3 cwt. of superphosphate, and 2 cwt. of kainit, per acre is recommended. Useful information is also given in a chapter entitled "Notes on Manures."

DESTROYING CHARLOCK BY SPRAYING.—

During June, July, and August whole fields of a yellow-flowered plant will have appealed to many as to its weedy character and the difficulty of coping with it. In most cases this is Charlock or Field Mustard (*Sinapis arvensis*), having several other names. Some experiments have been carried out by the staff of Reading College, and Mr. Douglas A. Gilchrist, B.Sc., the superintendent of the agricultural department, embodies the results in his report as Supplement ix. to the *Journal of Reading College*. Sulphate of copper, in a solution of 2 to 6 per cent., and at the rate of 25 to 75 gallons per acre, was used in all the experiments. The solution was applied by means of one of Strawson's "Twin Spray" machines. The sulphate of copper was ground to a powder and mixed with cold water shortly before use. It was put in a bag, and the water used, being often taken from ditches, was poured through the bag to retain any solid matter.

At Ryne Hill Farm, Oxfordshire, the spraying was accomplished on May 25th. Plot 1 received a 2 per cent. solution at 25 gallons per acre; plot 2, a 2 per cent. solution at 50 gallons per acre; plot 3, a 6 per cent. solution at 25 gallons per acre; and plot 4, a 4 per cent. solution at 50 gallons per acre. The plots were examined again on June 5th, and the Charlock of plot 1 had only been slightly injured. On the second plot, which received double the quantity of the weak solution, the best results were obtained, for the Charlock leaves were withered and the stems dried and brittle. The weed was completely destroyed on the third plot, and the Barley was flagging a little. Similar results were obtained on the fourth plot, but the Barley was flagging more extensively. A careful examination at harvest showed that the crop was slightly under weight on plot 3, and more so on plot 4. The 2 per cent. solution at 50 gallons an acre, was, therefore, the safest to the Barley and effectively destructive to the Charlock. The results at Upper Town Farm, in the same county, were practically identical with the above. At Goring Heath Farm, Berkshire, heavy

rain fell for about an hour in the afternoon after the spraying had been accomplished, and the results proved that the copper sulphate had been washed away, thus rendering it almost entirely ineffective. At Kilby's Farm, Winkfield, the best results were obtained from two plots sprayed with 50 and 73 gallons, respectively, of a 2 per cent. solution. From the above the principal facts in the spraying of Charlock may be gleaned. It seems to us that the experiments might have been carried out earlier when the corn was dwarfier or younger, so that the Charlock would have been more exposed to the spray from the machine.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, August 14th, in the Drill Hall, Buckingham Gate, Westminster, 1-5 p.m. A lecture on "Melons" will be given by Mr. A. Pettigrew at 3 o'clock.

Weather in London.—On Friday, August 3rd, a violent wind storm raged in and around London, while on Sunday a sudden and severe thunder storm with a downpour of rain spent itself. Monday (Bank Holiday) and Tuesday were both wet days. The sky is dull and watery as we go to press (Wednesday).

Gradus Pea.—An apology is due from me to the readers of your largely circulated paper. About this time last year I wrote an article on dwarf Peas, Gradus being one of them, which turned out perfectly useless. I wrote to the Pea seedsman of Leicester, asking if he would kindly send me some of the true sort. I sowed it in February. It comes in as early as William the First, but will now supersede that sort. I consider it to be by far the best Pea in cultivation. It bears a plentiful crop of seed of good colour, and is really a great luxury.—*William Carmichael, 14, Pitt Street, Edinburgh.*

Bulbs for the London Parks and Open Spaces.—We understand that Messrs. Cutbush & Son, Highgate Nurseries, London, N., have been favoured with the orders from the First Commissioners of Her Majesty's Works, Westminster, and the London County Council, for the supply of the whole of the bulbs required this autumn for the London parks and open spaces, including Hyde Park, Regent's Park, St. James' Park, Hampton Court Gardens, Battersea Park, Brockwell Park, Bethnal Green Gardens, Chelsea Embankment Gardens, Clissold Park, Dulwich Park, Finsbury Park, Golders' Hill, Island Gardens, Kennington Park, Maryon Park, Meath Gardens, Lincoln's Inn Fields, Myatt's Fields, Peckham Rye Park, Victoria Park, Victoria Embankment, Leicester Square Gardens, Ravenscourt Park, Royal Victoria Gardens (North Woolwich), Southwark Park and Waterlow Park.

A New Pea.—Mr. James Bryson, Helensburgh, N.B., sends us a curious looking Pea, which he describes as a cross between a green variety (a seedling of his own raising) and a black podded sort. He sends us the latter and we should describe it as more of a deep purple than black, when the bloom is rubbed off it. It bears solitary flowers and pods on short stalks and has purple flowers. It is evidently a descendant of the Field Pea (*Pisum arvense*). The new variety is of remarkable vigour, judging by the small piece of stem sent us, and what strikes us as peculiar, if constant, is that the leaf is a foot in length and bears six large leaflets independently of the still larger and leafy stipules. The flower stalks bear two pods. The latter are about four inches long, straight, slightly flattened on the sides, which are green, while the edges, back and front, are deeply stained with purple. They are closely packed with seeds (about nine in each) of very respectable size. They are now rather firm and solid eating, but might prove useful for boiling in the dry state. The value of the variety for this purpose would largely depend upon the fruitfulness of the stems, that is, upon the number of pods each stem would produce. It might prove valuable as a field Pea on account of its vigour. For garden purposes it might be tried before the pods get too old.

Chestnuts for Market.—The cultivation of Chestnuts for market in certain sections of Pennsylvania and West Virginia has proved highly profitable. Several improved sorts have already resulted from experiments in hybridisation and grafting.

Fruit Growing in Ireland.—"We are extremely gratified to find," says *The Irish Gardener*, "that fruit growing has been engaged in to such an extent in the North of Ireland that the nurserymen were sorely tried to meet the demand, many of them being completely sold out of their stocks of standard and bush trees, and in some cases obliged to cut back and re-graft with popular varieties stocks already worked with less favoured sorts."

Ayrshire Potato Crop.—Most of the fields along the Ayrshire coast are entirely cleared, and buyers are working more inland. Under the sunshine and heat of recent weeks the crop has greatly improved and ripened well. Buyers and cultivators both appear to be satisfied with the season's results. The crop has risen well. Markets have kept up and prices are maintained. Malncrops are now selling.—*N. B. A.*

Canadian Horticultural Society.—The annual convention of the Canadian Horticultural Society will be held in Montreal on Thursday and Friday, August 16th and 17th. The meetings will be held in the Natural History Hall, 32, University Street, and the following papers will be read and discussed: "Roses up to Date," J. H. Dunlop, Toronto; "How to Make a Private Place most Attractive," G. Robinson, Montreal; "Public Parks and Gardens," John Chambers, Toronto; "Violets," Wm. Fendley, Brampton; "The Advantages of Organisations in Our Business," S. S. Bain, Montreal; "Herbaceous Plants," T. Manton, Eglinton; "Heating and Ventilating," R. W. King, Toronto; "Commercial Orchids," J. Goodier, Toronto; "Carnations up to Date," Wm. Gammage, London.

American Ginseng.—The cultivation of American Ginseng (*Aralia quinquefolia*) is receiving much attention in America at the present time. The cultivation is of recent date in America, although it has been grown in Japan, China, and Korea for a long time. In these countries the wild roots are sought out when they are about 5 ozs. or more in weight, and are green. After washing them very carefully in fresh water they are placed on boards in the sun to dry, or the roots may be spread evenly and thinly in a warm room. It takes about 3 lbs. of green root to make 1 lb. of marketable article which is medicinal. So valuable are the roots that the greatest care must be observed to prevent thieves from carrying off quantities. Information about this commodity is contained in a circular sent out under the direction of Mr. Harlan P. Kelsey, Tremont Buildings, Boston, Mass. U.S.A.

The Derivation of Ulex.—If I may be permitted to refer again to this subject, I should like to thank "Sigma" for his support and amplification of the rendering I gave. It is quite a pleasure to have a scholarly and gentlemanly aspect of the question after the sort of criticism to which I have been subject. *Skeat's* is undoubtedly the authority on all matters relating to etymology. I do not, however, possess *Skeat's*, but I do *Chambers' Etymological Dictionary*, which is based on *Skeat's*, therefore I have a very high opinion of the value of *Chambers'* educational works. With respect to the application of the term "legendary," I must join issue with "Sigma," as I consider that the meaning I have attached to it is perfectly legitimate. *Chambers'* bears me out. Moreover, Southey, in his "Letters," uses a synonymous, but less elegant, term to express the same idea, viz., "this was decidedly an invention of the legendist." I would also submit that "legendary" and "fabulous" ought not to be confounded; for while fables are incredible stories, legends are not necessarily so. Fables are written for instruction; legends for amusement. Again, "legendary" can be employed as a substantive as well as an adjective; "fabulous" cannot, although we can call a writer of fables a "fabulist." However, I am quite sure that "Sigma" does not want this put into a logical formula—he can discriminate between them. I am also sure that he will give me credit for using the term "legendary" with a knowledge of the facts.—*C. B. G.*

Sweet Peas, when well treated, make tremendously tall plants in America—so tall that a step-ladder is necessary when gathering the blossom.

Lathyrus platyphyllos (*L. latifolius*) conducted up a central erect stake and allowed to form a spreading head, is excelled as an ornamental object by nothing in the garden. Trained over a tree-clump it is also conspicuously handsome.

High Prices for Potatoes.—They can evidently grow good Potatoes up Nairn way. Messrs. J. & K. Cameron, of Merryton, held their annual sale of growing tubers on Friday, July 31st, when prices ran up to £42 per acre. This is about as high as the Ayrshire men get for their very earliest lots at the start of the season.

The Railway Companies and the coming National Co-operative Festival.—Mr. Edward Owen Greening, of the National Co-operative Festival and One & All Flower Show, writes us an earnest appeal against the new policy of the railway companies, which are this year withdrawing privileges from choir singers, musicians, &c., raising excursion rates from the provinces all round, and withdrawing to a great extent Saturday to Monday excursions. He states that this policy is likely to cripple the development of a taste for choral music and gardening amongst the masses of the people—tastes which have been greatly stimulated by the popular festivals at the Crystal Palace. Mr. Greening sends us photographs of popular festivals at the palace before and since the new restrictions. The contrast is certainly very striking and suggestive.

Poultry on the Land.—Devotees to a particular cause or hobby generally rate it a little higher than other people. A case in point is that of the Utility Poultry Club which, on having its attention drawn to the fact that, in the Agricultural Holdings Bill recently in Parliament, a tenant on quitting a piece of land receives no manner of compensation for improvement which the droppings of poultry may have made, resolved to file a petition. According to the committee and members of the Utility Poultry Club who obtained special information upon the benefits derived from keeping poultry, among twenty-five farmers, 18,400 head of fowls were kept, necessitating the spending of £300 a year for corn. The average benefit to the land among these was estimated at one-fifth the cost of the corn, or from £1 to £2 per acre. The parliamentarians, however, were incorrigible, and poultry are excluded from the list of land improvers.

Hamilton Gardening and Forestry Association.—On July 25th the members of this association paid a visit to Glasgow Botanic Garden. There was a large turn-out of members, over fifty being in attendance. Amongst those present were: Messrs. James Moir, Earnock; A. Angus, Dalziel; H. Miller, Auchentraith; H. Elder, Broomhill; A. T. McMillan, The Orchard; J. McQuater, Millheugh; P. MacDougall, Lenzie; Thos. Finnie, Allanshaw; R. Ballantyne, Landsdown Nursery; J. McCrone, J. L. Kerr, G. Brown, D. N. Cross, R. Gibson, A. G. Miller, and many of the assistant gardeners from neighbouring places. Mr. Dewar, curator of the gardens, guided the party throughout the houses and elsewhere. The Indian fibre plants in reference to which the Indian Government had offered a reward of a very large sum of money to anyone who could invent a machine to strip the fibres, received attention. Species of *Coelogyne*, notably *C. pandurata* and *Laelia tenebrosa*, *Cattleya guttata*, &c., were in flower. The fernery was also fresh and interesting. In the economic house a fine specimen *Vanilla* bearing 500 pods was viewed. Possibly there is no finer plant than this anywhere in the Kingdom. The edible Passion-flower (*Passiflora edulis*) was also pointed out. At every turn there was something of interest to observe, and, of course, Mr. Dewar was full of suggestions for various features of cultivation with this or that subject. The collection of 4,000 handsome *Chrysanthemums* was inspected, and numerous were the remarks of appreciation passed. The effective colour grouping of hardy annuals and florists' flowers in beds of the flower garden, met with general approval. On the motion of Mr. Moir, a hearty vote of thanks was passed to the able curator, for his courtesy and application in having entertained the association.

Orchids at the Sale Rooms.—Some choice varieties of Cattleyas, Laelias, &c., made their appearance the other week at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside. *Cattleya gaskelliana* alba was soon run up to 10 gs.; and *C. gigas*, with a huge, crimson-purple lip was run up to 14gs., but was not sold, the variety being too fine for the owner to part with at that price. There is evidently a good run upon *C. Harrisoniae* alba, a specimen of which had reached 25 gs. at the fall of the hammer. A good variety of *Laelia elegans* brought 5 gs. A fine variety of *Odontoglossum crispum* fetched 44 gs. It had a deep purple blotch on each of the sepals and lip, and white petals.

Hanley Horticultural Fete.—A special meeting of the Hanley Town Council, and those interested in the organisation of the horticultural fête (see report in *THE GARDENING WORLD*, p. 732, July 14th) was held in the Town Hall on Monday, July 30th. The reports of the finance committee having been adopted, votes were passed to Lady Angela Forbes, who opened the fête, the Mayor and Mayoress, the judges, and others who assisted in making the fête a success. Alderman Cooke presented details of the expenses in connection with the fête. The income last year was £2,505 17s. 7d., and the expenditure £1,876 6s. 2d., leaving a balance of £629 11s. 5d. This year the total receipts were £2,644 4s. 2d., and the expenditure £1,843 10s. 9d., leaving a balance in hand of £800 15s. 5d.

Belfast Rose Show.—In conjunction with the Belfast Horse Show, held on Thursday, July 26th, an exhibition of Roses was held, when an excellent display was brought together in the north-east showyard. In the nurserymen's classes the prizes were divided between Messrs. Alex. Dickson & Sons, Newtownards; Messrs. S. McGredy & Son, Portadown; Mr. J. Walsh, Portadown; and Messrs. D. & W. Croll, Dundee. Messrs. A. Dickson & Sons were first in each one of the dozen classes provided. In the amateurs' section most of the principal awards were brought to this side of the Channel by Mr. H. V. Machin, Worksop, and Mr. F. W. Tattersal, Morecambe. Besides the Roses herbaceous cut flowers were shown by Messrs. Dicksons, Ltd., of Chester; Mr. T. Smith, of Newry; and Messrs. Croll, of Dundee.

Antiquity of Agriculture.—"The origin of agriculture" (says Prof. A. C. Haddon, in *Knowledge*), "is lost in the mists of antiquity. We know that in Neolithic times in Europe, eight kinds of cereals were cultivated, besides Flax, Peas, Poppies, Apples, Pears, Bullace Plums, &c.; at the same time various animals were domesticated. Among these were horses, short-horned oxen, horned sheep, goats, two breeds of pigs, and dogs. Professor W. Boyd Dawkins says that evidence goes to show that these animals were not domesticated in Europe, but probably in the central plateau of Asia. He also thinks that agriculture arose in the south and east of Europe and spread gradually to the centre, north, and west. A hunting population is often very averse to even the slight amount of work that agriculture requires in a tropical country. The same holds good, as a rule, for pastoral communities. In all cases a powerful constraint is necessary to force these people into uncongenial employment. Fate is stronger than will, and at various periods, in different climes, hunters and herders have been forced to till the soil." This about the means of transport across the desert is interesting. "The desert, notwithstanding all difficulties of communication, offered more facilities than the sea to early man; it had in fact, three manifest advantages over the Mediterranean. 1. The desert penetrates further into the interior of the countries. It is several times larger than the Mediterranean, and therefore can tap more countries; it reaches to precisely those richest countries that the Mediterranean does not touch. 2. The desert does not oblige the pastor to seriously modify his mode of life. In order to traverse the desert it is certainly necessary to arrange the journey in stages, but these stages once created, the pastor can live his old life. 3. A numerous troop can cross the desert. They travel in caravans for greater safety and defence against possible attacks. . . . Such are the reasons which caused early man to travel over the desert before voyaging over and utilising the sea."

The Fruit Crops in the Preston District.—The crops of all kinds of fruit seem to be most abundant in this neighbourhood, Apples being a heavy crop on most trees, as are Pears, but with us the average is brought down by paucity of fruit on the walls. Plums, and especially Damsons, are a heavy crop, and sweet Cherries much better than they have been for years; but some that we had netted to protect them from birds were attacked by wasps in a most savage manner. Strawberries were a heavy crop, but in spite of the abundance of litter under them the rain and a few days of dull weather caused the fruit to damp. Many of the earliest specimens were lost. We only grow Royal Sovereign, Latest of All, and Barnes' Prolific, a local variety, and a great favourite in this district. Till lately it was the only variety grown by market growers. Bush fruit has been a heavy crop. There were no adverse elements the past spring to prevent a successful fruit season. — *W. P. Roberts, The Gardens, Cuerden Hall, Preston.*

GARDENING MISCELLANY.

OLEARIA STELLATA.

I WAS pleased to note your remarks anent the above (is it stellata or stellulata? I see the latter name given by some) [*Olearia stellulata*. Ed.] It is as you say a very showy plant in early summer whether in pots or planted out doors in beds or borders with us in Devon. Probably it may not be classed as hardy. It has been making quite a good show here the past four weeks. As a background it has a very dark Weigela (I do not know its name), while not far away stands good clumps of *Lilium elegans*, and *L. umbellatum grandiflorum*, whose deep orange cup-shaped flowers are most conspicuous. The last named is by far the best variety, carrying four to six flowers at the apex of each shoot. *Olearia stellata* roots readily from cuttings, put in early in summer. — *J. Mayne, Bickton.*

LINUM ARBOREUM.

YOUR Wiltshire correspondent ought to find this free flowering plant quite hardy, if as you say given a sunny position and fairly sheltered from cold winds. With us it has stood out on a rockery facing south-west during the past four years. It makes a golden show when in bloom about May month. I have rooted cuttings under a bell glass pot in during July or the two following months, and stood under a north wall. — *J. Mayne, Bickton.*

LATE KEEPING APPLES.

UNDER proper conditions for storage, the following Apples will keep sound and good until June. The selection is from the display arranged by Messrs. Geo. Bunyard and Co., Maidstone, at the Temple Show, which included Vicar of Beighton, Tibbit's Pearmain, Woodstock Pippin, Mother, Newton Wonder, Tyler's Kernel, Winter Peach, Hoary Morning, King of Tompkin's County, High Canons, Beauty of Kent, Gloria Mundi, Winter Queen, Smarts' Prince Arthur, Alfriston, Fearn's Pippin, Cox's Orange Pippin, Murfitt's Seedling, Bowhill Pippin, Striped Beefing, Sandringham, Hornead's Pearmain, Baumann's Red Winter Reinette, Caville Malingre, Betty Geeson, Bess Poole and Gascoyne's Scarlet. There was also Uvedale's St. Germain and Directeur Alphonse Pears.

GLADIOLUS NANUS DELICATISSIMUS.

I DO not think there is a more beautiful, or more sweetly charming early-flowering species of *Gladiolus* than the above named. It generally is named simply *Gladiolus delicatissimus*, but the full and correct name is that above given. It is also frequently and erroneously termed *G. Blushing Bride*, this name being suggested by the red flushed flowers, with their white grounding. The individual flowers are white but for pink and carmine flakes on the lower segments, and it is these which give the flower its charming character. It does well in pots out in sunny borders, in rich friable soil. — *D.*

CENTAUREA MONTANA RUBRA.

AMONG the large flowering forms of the perennial Cornflowers, this red variety must be awarded a

position of high favour. It flowers very early and is in all ways a pleasing and desirable plant for the hardy plant border. Besides its size and usefulness as a cut flower, it blooms at a time when other herbaceous plants of a like character are only advancing. The special colour of this variety is one not frequently found in border plants.

CAMPANULA LATIFOLIA MACRANTHA.

THIS is one of the very old garden favourites, and only its conspicuousness and real value as a tall beautiful border or rockery plant at the present time has caused this note to be written. There are always some who wish to hear and know of real good subjects that they may the further enquire about them. For these the above may be recommended, and as the plant is cheap, it would be wise for anyone to secure a crown or even seeds of it, for next season's planting. A rich friable soil should be afforded it, and an open sunny position. It grows 3½ ft. or 4 ft. high, having large violet-blue flowers along the upper part of its stem.

MECONOPSIS HETEROPHYLLA.

THIS is a Californian Poppy-like plant of slender growth, with dissected or pinnate leaves, and sending up long stalks terminating in solitary, brilliant salmon-orange flowers with a dark centre. The plant is easily raised from seeds sown each spring. A well drained position on the rockery or border suits it well. Everyone should give it a trial.

VISIT TO A MARKET GARDEN.

THE appreciation displayed and verbally expressed, by all who witnessed Mr. Scougal's, Eskbank, exhibits of excellent samples of Royal Sovereign and Leader Strawberries, at the Scottish Horticultural Association's annual exhibition, coupled with a desire on my part to observe, on their native soil, those plants which produced such lovely fruits, accounted for my visit, on a beautiful July evening, to this garden. Arriving at my destination, and stating my mission, the worthy owner, without demur, speedily granted my request, adding greatly to my pleasure by accompanying me himself.

The garden, which is of recent origin, extends over an area of twenty-three acres, the whole of which is comparatively level, and beautifully situated with an excellent exposure. The soil for the most part consists of alluvial clay—although here and there the silicious constituent appeared to predominate—on a subsoil of red clay. Hence a considerable amount of tillage is necessary to render it fit for the growth of plants. Strawberries occupy the major portion, and with the exception of two beds, which were affected by drought earlier in the season, were in prime condition, as manifested by their broad, leathery foliage and heavy crops of handsome fruit. The evident care bestowed upon those beds prompted me to inquire of my guide, if Strawberry culture were a special hobby of his, to which query he replied in the affirmative. Three crops are the utmost any bed is allowed to produce, after which it is ploughed down and cropped for some time with vegetables. The beds are planted in rows 30-in. apart, while 12-in. is allowed between the plants; by reason of an autumnal trimming between each plant, as well as between the rows, the individuality of each plant is maintained, a mode of procedure which I would recommend to all growers; for they here repay all this attention. The varieties grown are Royal Sovereign, Leader, Dumbarton Castle, and Latest of All, a selection which is the result of experiments with many varieties in the vicinity.

Around the beds of Royal Sovereign my chief interest was concentrated, this display of loyalty being due to the diversity of opinions held by Midlothian cultivators, as to its adaptability for their situation. Many of the market growers have discarded it as unsuitable. Whatever may have been the result elsewhere, here it unmistakably thrives, and the most fitting appellation which I could pronounce was that "here it was Queen!" by reason of its enormous fruits, many measuring from 6-in. to 8-in. in circumference. Leader is deserving of special comment. Latest of All, which had just commenced colouring, gave ample indications of its equalling its predecessors.

Turning my attention to the other occupants of the garden, I could not but remark that, although

a successful cultivator of Strawberries, Mr. Scougal was no mean cultivator of serviceable vegetables, as his crops of young Cabbages, Savoy and Peas (Duke of Albany) portrayed. Incidentally I may mention, without abstracting anything from Mr. Scougal's honour, that this productiveness on maiden soil is nothing new to us. A fitting example is to be found in many of the Strawberry fields in the Blairgowrie district, where the crops of the present day are as nothing, when compared with the products of the same fields when first cropped. After two hours of careful study and pleasant conversation, I bade my host adieu, wishing him every success in pleasant yet arduous employment.—*Visitor*.

MIGNONETTE

Is acceptable at all times of the year, but never more so than in the depth of winter and early spring, when sweet smelling flowers are not over plentiful, and to have good pots of this at the date mentioned a sowing should now be made. I prefer 48 and small 32-sized pots, carefully crocked, and, above all, clean. Good fibrous loam, a fair percentage of old lime or mortar rubble knocked up fairly small, and a little soot make a good compost, placing over the crocks 1 in. of well decayed manure (sheep or deer will do nicely) filling with soil to 1 in. of the top, making same firm, leaving an even surface for the seed, which should not be sown too thickly, and lightly covering the same. Place them in a frame, pit, or on a shelf, protecting the pots from the sun until the plants appear above ground, when all the light and sun possible should be given them, thinning out to three and five respectively. I pinch half the batch once, which comes on as a succession to those not so treated. Before the plants get long enough to tumble over place three neat stakes around each pot with a strand of raffia around to keep them in place. They enjoy plenty of air, and the cooler the quarters and nearer the glass the better. Guard against over watering at all times. Miles's Spiral, Sutton's Giant, and Selected Matchet are all good.—*J. Mayne*.

PRESENT WORK.

At this date a host of summer bedding plants will readily root if taken off in the usual way and placed in 4½-in. and 5½-in. pots filled with light, sandy soil, and stood in a cold frame, kept close and shaded from the sun's rays, and the occupants bedewed overhead three or four times a day. I allude to Fuchsias, Iresine, Mesembryanthemum cordifolium variegatum, Lobelia, Ageratum, Alyssum variegatum, Heliotrope, &c. I have rooted all these in the open, placed under a north wall, and standing the pots of cuttings in shallow pans of water, sprinkled overhead when all dry, and though they take longer to root this way it proves quite a success, and the plants are much hardier and withstand the winter far better than those rooted in heated cases or hot-beds. Pelargoniums as well root much better if taken off now than a month later, but of course these should be stood where a certain amount of sun can reach them, though I have seen them rooted in the open ground at this date, just placing a few branches over them during the brightest part of the day.—*Grower*.

DAHLIAS.

Now the shows are approaching these flowers will require some attention. The first thing is to get them securely fixed. To do this place a stake, 4 ft. to 5 ft. high, to the main stem, then four at the corners, 2 ft. 6 in. from the centre one. Round these tie tarred string, to which all side shoots can be securely fastened. Singles and pompons do not require thinning, but Cactus and double show varieties must be severely thinned, especially the latter. Do this gradually as the plant grows. Then ten days or a fortnight before the show, having fixed on your bud remove all companion buds and most of the laterals. Frequent waterings must now be given and an occasional one with manure. Syringing overhead will also be beneficial. Earwigs, the most troublesome pest, can be caught by placing a pot filled with dry moss on the top of the centre stake and emptied each morning. Large Cactus and double show blooms will require a support. To give this, drive in a stake by the bloom, on which has been fixed at right angles a piece of thin wood, 9 in. square, with a slit in for the stalk. This will allow

a flower pot to be placed over the bloom to protect it from rain and sun, and also help to retard it if too forward. When showing, remember that it is not always size that wins, but an even set of a good colour.—*F. S. Sillitoe, 310, Kew Road, Kew*.

BEGONIA GLOIRE DE LORRAINE.

THE propagation of this beautiful Begonia has proved a troublesome matter to many of our best propagators. I have always been successful with stem cuttings, and have also succeeded with leaves, but do not find them quite so easy to manage, damping being the great source of evil. For this reason it is advisable to commence propagating early in the autumn or any time after well matured leaves can be had. The failures recorded by your several correspondents appear to have been caused chiefly from this evil, and partially from not preparing the leaves in the proper manner. Although they will root from any part of the petiole they never form buds except at the base of the lamina, or on the main ribs where they are cut through. In preparing the leaves the stalk should be cut off quite close, leaving the main ribs free (as shown in the sketch I send you). Peat and sand in equal parts is the best material for rooting them in. They may be fixed with a small peg, and a little dry sand shaken over the surface. Bottom heat will cause moisture to rise and condense on the underside of the leaf. A humid position where temperature is equal is best; and a shady corner will be better than the close frame. Any sign of premature decay should be removed at once. It is safer to keep them too dry, than to have a damp stagnant atmosphere.—*A. Hemsley*.

LANTANAS.

FEW will deny their utility as subjects for embellishing stages of greenhouses and conservatories. Their liability to shed their flowers causes them to be at a discount with some for the decoration of the mansion, but this slight defect is more than counterbalanced by the amount of flowers they produce over a lengthened period, due to their indefinite inflorescence. The flowers are produced in two axillary heads from each node, and open centripetally. This centripetal mode of production adds greatly to their charm, as exemplified by Dan Carnot and many other varieties. The flowers in this instance when they first open, are of a bronzy-yellow hue, verging into a mauvish-pink as they become older, so that in an individual head we have, beginning at the centre, a yellowish colouration which as we approach the periphery becomes diffused with pink till we arrive at the outermost whorl of mauvish-pink. Although so desirable as pot plants it is when grown against a wall or on a trellis that one realises their exceptional floriferous capabilities. Those who are near at hand and can afford the time to visit the Royal Botanic Gardens, Edinburgh, will be amply repaid by a view of a specimen of *L. alba* which covers a large expanse of the back wall of the corridor, which is at present, as it is annually, one mass of blossom from roof to floor. A few of the best varieties are *Eclat*, *Diadem*, *Favourite*, with the two already named.—*Alpine*.

CONSERVATORY DECORATION.

To assist in the decoration of conservatories nothing can surpass well-grown pots of half hardy annuals. *Schizanthus* is one of the best. Seed should be sown now to flower in the spring. Sow a pinch of seed in a 6-in. pot that has been filled with some old potting soil, passed through a ½-in. sieve. Place it on a shaded shelf in the greenhouse with a piece of glass over it. When the seedlings are large enough to handle, prick them off into flowering pots; 6-in. and 7-in. pots are quite big enough. These require to be filled with soil of a light nature. From eight to nine plants in a pot will be quite sufficient. Add neat stakes to support the rather delicate stems. *S. pinnatus* is the one mostly used in pots. It flowers incessantly for weeks. The *Rhodanthes* are superb for decorating, either in pots or in a cut state. They are all everlastings, there being at least three varieties, *maculata*, *Manglesii*, and *atro sanguinea*. The same treatment as the above will agree with them, but confining the plants to 5-in. pots. Avoid over-watering at any time, especially in their young state. These will be found to be the most useful and charming plants for intermingling with the other

flowering plants of the conservatory. A few seeds sown at intervals of four weeks will keep up a succession of bloom throughout the summer.—*A. V. Main, The Gardens, Morton Hall*.

LAING'S TUBEROUS BEGONIAS.

IT is not so long ago since double tuberous Begonias were novelties, a set of flowering plants at first only taken in hand by a few, but lately every gardener worth his salt has grown them more and more liberally. At the present time the exception is to find a garden without its batch of the double flowering tuberous Begonias.

For a long number of years Messrs. John Laing & Sons, Forest Hill, London, S.E., have striven to keep their motto of "*Nulli secundus*," at its original height of honour, and their efforts have truly kept them at the very front rank.

There are quite a number of large Begonia raisers in the field in these days, but this but serves to incite the veterans to more assiduous and careful effort. Messrs. J. Laing & Sons are at present giving attention to a semi-double strain of Begonias, called by them the "*Duplex*" type. So far the seedlings are unnamed, but from a large number seen at the Forest Hill nurseries at a recent date, the range of selection is widely varied. The advantage of this "*Duplex*" strain is chiefly this, that a more "artistic" flower is secured. What is meant by "artistic" is that style of bloom of flowing lines, rounded contour, freedom in the build, and possessing just the merits of a flower that pleases the highest artistic sense. Many of the double Begonias are too double, and they in such a form are the opposite from beautiful. All things considered, we think this "*Duplex*" strain in the perfection which the Messrs. Laing have it, is likely to be largely patronised.

The true double Begonias last a long time in perfection, and indeed, they are now indispensable for summer conservatory decoration.

Of the newer varieties worthy of attention may be included Mrs. Laing, a deep, smooth-petalled golden-yellow variety of first rate merit, both in form and habit; Lady Pearson, a salmon-apricot, is a distinct and good introduction.

E. Sparshot is a pure white variety of large size and good substance. One of the foremost among new double Begonias is the variety named Lord Roberts. This is a deep glowing scarlet flower of splendid form and substance, and has smooth petals. This is certainly worth taking a note of. Queen of Sweden is a crimson-pink variety of more than ordinary size and fine build. Lady Audrey Buller is another of the gems.

Among catalogued varieties the Dowager Lady Williams Wynn, a magnificent deep yellow, stands out well. Duchess of York, a charming light orange, flushed with peach, and having broad reflexed petals and splendid habit, is also among the best. Duke of Fife holds a high position. It has received two F.C.C.'s. The colour is a beautiful rosy-salmon, with flowers well held up, and is exceedingly floriferous. It is recommendable for all collections. Countess of Craven as a pure white has few rivals; Countess of Dartmouth, however, runs it closely. This latter is very fine. Another of the Countesses, viz., Countess of Halsbury, is also a white variety with large, freely produced blooms. Countess of Leicester is distinct and fine, being of a bright apricot colour. Few of the double Begonias excel Duchess of Marlborough for perfection of form. The Salmon-pink blooms are borne erectly, and the habit is all that one could desire. Ariel, of fine Camellia shape, is a good white sort. Among dark glowing crimson varieties, with large well-shaped flowers, there are few to beat Ernest T. Cook. It is described by Messrs. Laing as the best in this colour. Lady Dorington, a lovely blush-pink; and Lady Fred. Fitzroy, a superb apricot, of good habit and floriferous, are of more than passing excellence. Lady Theodora Gnest is a finely tinted apricot with fringed petals. It is the bearer of an Award of Merit. Another of the frilled varieties is Miss Dorothy Hardwick, the colour being flesh-pink. It is altogether a lovely variety. Mr. John T. Bennett Poë is a variety which should be grown by all. In colour it is an intense crimson; in shape like a Camellia, and of good habit. Laing's Picotee among lovely tuberous Begonias we should think stands on the highest pinnacle. The ground colour is yellowish

or deep cream, and the edge banded with distinct but soft pink. The Messrs. Laing were the first to introduce this decided break in Begonias. The variety under note has received an A. M., and a F.C.C.

R. B. Parsons, a deep pink; and Princess of Wales, a pretty blush pink variety with large and lovely flowers, are charming Begonias. And last among the doubles we have the popular Rose Laing variety, which has splendidly built rose-red flowers. Single flowered tuberous Begonias have the advantage of being easier to manage, hence the fact of their being grown, as a rule, more liberally than the somewhat fickle double sorts. Admiral Lord Charles Beresford, a bright orange scarlet, with finely shaped flowers, is distinct; Earl Brownlee, which is very floriferous and has crimson-scarlet blooms, is another fine thing; Dowager Duchess of Newcastle is superb. The flowers are as white as snow, large, and finely formed; Britannia, a deep golden-bronze; and Lady Ampthill, a lovely salmon variety, are all the very choicest sorts. Further we have Lady Plowden and Lady Roberts, both of them whites, the latter being especially good. Lady Foley yields us a grand salmon-scarlet; Marjorie Hoffmann is a splendid rose coloured single Begonia with beautifully rounded, large-sized flowers. Sunlight, white, edged with rose, and which was considered good enough to obtain an Award of Merit, may be taken as the concluding member of this section.

The number of species of Begonias suitable for the stove and other houses, which the Messrs. Laing possess, embrace all that are at all of any value as ornamental plants. A description of them, however, may be given in a separate note. Mixed collections of the tuberous Begonias are most generally grown, though, of course, where good collections already exist only the finest of the new ones are wanted.

JAPANESE DWARF TREES.

THE most interesting exhibit at the recent Acton Horticultural Society's show was that of Mr. S. Eida, importer of Japanese works of art, whose nursery for the resuscitation and culture of this particular phase of Japanese art is situated in the Newburgh Road, Acton, and bears the euphonious title of "Yamato." It is, however, from Yokohama, in the far distant East, that these curious miniature trees and other plants were originally derived. At Yamato, when received, they have to undergo a special course of culture, and that that culture is of the right kind and character was well evidenced in the condition, the cleanliness, and the vigour—consistent with dwarfness—of the specimens staged.

The collection, which was unique and valuable, numbered about fifty plants in all, ranging from twenty-five years to 327 years of age.

Moreover, the curious Japanese pots, vases, shallow dishes, &c., in which they were growing added still further to their quaintness and their charms.

The smaller plants, such as the Maples (in variety), Bamboos, Tamarisks, Pines, Ferns, &c., occupied a table, while the larger specimens were grouped upon the ground. The Maples varied in size, age, and price, the ages ranging from twenty-five to sixty-five years, their value being, of course, proportionate to their years. A *Tamarix chinensis*, labelled "125 years old," called for some comment, as the trunk was certainly in a state of decay, and yet the foliage was fresh and feathery, and could not be mistaken for any other shrub. A *Wistaria japonica*, which had seen seventy-five years, was distinct and graceful, and although without those pure white flowers, for which it is remarkable, the leaves and trunk were typical of the genus to which it belongs. Several specimens of *Salisburia biloba*, the Maidenhair tree, or Ginkgo, as the Japs call it, were well and neatly set up, and called forth many comments. Thirty years old it was said to be, and a perfect miniature in all its parts. The *Adiantum*-like or fan-shaped leaves were of the healthiest hue; in fact it reflected the skill of the careful culturist. This dwarf tree was thirty years old, and stood about 12 in. high. Quite another class of plant was *Lagerstroemia indica*, with roundish-ovate leaves, numerous branchlets, and a trunk begotten of 180 years. *Nandina domestica*, a member of the order Berberideae, took high place in point of age, for three dwarfs that were noted were labelled 160, 170, and 215 years respectively. A good deal of culture had

presumably been expended on these trees, and yet their joint heights would not exceed 5 ft.

The Junipers, Pines, Thuyas, and other coniferous trees are favourite subjects for the art of the oriental; but the art—to say nothing of the skill and attention—which must have been lavished from generation to generation on one *Thuya obtusa*, which was stated to be "286 years old," is almost, if not quite, beyond the comprehension of the occidental mind. At any rate, the tree in question was as perfect a specimen, as symmetrical in outline, and as proportionate in all respects as the occidental eye is ever likely to look upon. It occupied the premier position in the show, was the attraction of everybody, as, indeed, it well deserved to be; for even if one instinctively makes an allowance for discrepancies in dates, one must also feel assured that the tree in question—judging by its enormous trunk, enormous in proportion to its height, its weird and weather-worn appearance, and other characteristics of senility—is one of those remarkable examples of living heirlooms on which none but the skilled and devoted Japanese would care to bestow so much patience and labour. The dimensions of this *Thuya* were about 4 ft. high, and the same through.

This really remarkable tree, however, is exceeded in the matter of age by a *Cycas revoluta*, which ran, according to the label, into three centuries and twenty-seven years—327 years!

Now *Cycas revoluta* is a well-known stove or greenhouse plant which produces a crown of dark green pinnate leaves, often from a trunk several feet high. It was introduced from China in 1737, so that it was long known to and cultivated by the Japanese before it reached our shores.

If, then, the recorded age of the above plant be approximate only, what a long line of almond-eyed gardeners it must represent! That a plant should live so long implies a culture that we do not possess, but that it should be still in a flourishing condition is extraordinary.

Many other trees and plants, quaint and curious, were exhibited by Mr. Eida.

Some were trained to represent a tea-house, or a yacht or junk in full sail; while some Fern rhizomes were so manipulated that animals as well as plants were represented.

Mr. W. Polley, the head gardener, has many times exhibited well-grown specimens at the Acton show, but never before has he been responsible for such a notable and unique collection.—C. B. G.

THE FLOWER GARDEN.

THE FORMAL FLOWER GARDEN.—The beds are almost at their best now, and soon the knife will be busy making radical thinnings, not to improve the effect of the beds or plants, but out of necessity for the provision of a supply of cuttings. The beds where growth has been steady, are now nicely compact, and hoeing, which is so helpful, cannot now be continued. All flower gardens, and in fact all parts of any garden, unless those that are always certain of a supply of rain, should be furnished with water to within 30 ft. of any part. By having water taps at distances apart, one man with hose and piping can water half an acre of flower garden in a single summer's evening. And the results are worthy of the first expense. In some districts there would be no beautiful gardens at all were there no artificial supply, and that on a liberal scale.

Pegging down should be attended to in the case of all such plants as *Petunias*, *Phlox Drummondii*, and plants of procumbent or straggling growth. Keep the edges neatly trimmed and the lawns moderately cropped. During the present dry spell it is much better to go over the lawns (except those that are regularly and thoroughly watered) with a scythe, removing the Daisy heads, *Plantagos*, *Dandelions*, &c., which show up prominently when the lawn grass is growing slowly. Lawns are suffering severely in some districts, and one should do all that possibly can be done to nourish the sward. So many dry summers, or dry spells, have visited us of recent years that it becomes a study worthy of one's application, to learn from experiment and observation what are the best, the deepest rooting, and most enduring species of lawn grasses to use. Certainly no one who purposes to sow a lawn (and splendid lawns can be formed in one season from a

sowing of the proper mixture), should go about the selection haphazard.

Stocks.—The present is the best time to sow seeds of the various classes of Stocks. East Lothian, otherwise termed Intermediate Stocks, which are so useful for spring display out of doors, should now be got in. This type is most suitable for pot culture. Various "strains" of this type receive distinctive names which need not destroy or effect the worth of the original title. Thus the Emperor and Pyramidal Stocks are simply strains of the East Lothian. Brompton or Biennial Stocks are of bushy form and sturdy habit, and should also be sown now for next year's flowering. A sowing made at once will supply flowering plants for June of next year. They may be lifted for potting up in February. They are quite hardy, however, and in all but the most exposed spots they do well. Ten Week Stocks of course, are sown in April, or earlier. Further sowings of annuals, biennials, and perennial plants, should include *Antirrhinums* and tuberous-rooted Begonias, which should be sown in pots, boxes, or pans, and germinated in a warm temperature (65°), to be pricked off and grown on. Tall perennial *Lobelias* may be raised from sowings in frames or in pans. It is too late now for an open air sowing. *Mimulus* or Monkey-flower soon germinates and makes nice little plants if sown on damp ground. Permanent beds in shady corners are generally choice features in all gardens that are fortunate to possess such. Sow perennial *Campanulas* on open sunny borders. A final sowing of Primroses and Polyanthus may be made on a shady, sheltered border. Much has been said in favour of this pretty spring flower, and collections ought to be more complete.—J. H. D.

The Orchid Growers' Calendar.

COOL HOUSES.—When there is a lot of *Odontoglossums* grown there are sure to be some that can be repotted much earlier than others, which is very advantageous; for with a limited amount of labour at hand one has to be up and doing if the collection is to be kept in good trim.

We ourselves are making preparations for the autumn, repotting of our favourites, the varieties of *Odontoglossum crispum*, by having a good quantity of peat pulled ready for use, and the sphagnum moss picked clean of all the rubbish which is usually found with it. Pots, too, of various sizes are being washed and thoroughly dried in readiness, also crocks. Crocks, did I say? Well, yes, we cannot find sufficient rhizomes from the peat to fill all the pots, so we have to partially fill them with clean crocks, and then put a layer of the rhizomes over them before placing the plant thereon. We shall commence with plants that were imported last season, and have as yet not flowered in this country.

The peat that they are in is not exhausted nor sour, and may be, with a slight addition, made to do duty again. Some may say: "Well, if such is the case why disturb them?" The answer to this is that in the short space of a season woodlice will have taken possession of some of the pots, and must be got rid of. Another reason is the back bulbs may have rotted away so that a smaller pot becomes necessary. Again, it is really surprising what a little new stuff does for them; plants that appear uncomfortable beforehand will plump up in no time, and say as plainly as possible, thank you.

The weather, too, now is favourable to the repotting of cool stuff, and those plants that are done early will have thoroughly established themselves again before the dark days of November are on us.

WORK IN THE HOUSES.—As pointed out, indirectly, perhaps, just now and onwards is a great time for *Odontoglossums*. They do more in the next two months than at any time. We must, therefore, contrive to give them all they require. For the past two months we have given ours a good supply of fresh air day and night, and have not shut them up at any time. But now we commence to close the ventilators at three o'clock, and give a thorough good syringing overhead, so that when you enter the house an hour later the plants are all in a sweat. About six the bottom vents are opened again and left so all night.—S. C.

President James McKenna has issued a cordial invitation to the florists of the United States.

HINTS FOR AMATEURS.

The Month of August.—In many respects this is like a spring month, for we have much sowing and preparatory work to perform during its course. It is at the same time a month of returns, for many kinds of fruit are now ripe and ready, and others are continually becoming seasonable. August is a busy month, and one cannot but regret that gardens are not so fresh now as they were only a few weeks ago. Fruits of all kinds of trees are beginning to change to red or yellow, which in itself is a sign that autumn is drawing near. Not many of the leaves have changed so far, and very few of us wish them to. The sere and yellow leaves come all too speedily.

Mignonette.—Many a gardener and flower grower would like to have Mignonette in flower during the late winter and spring months. And why not try to grow a potful or two? A sowing in 48 or 32-sized pots filled with light soil at the present time will yield the necessary supply of seedlings. Place the pots under handlights or in propagating cases having a mild temperature of about 60°. Glass squares should be placed over the tops of the pots and so soon as the seedlings begin to show up, gradually raise the glass higher and higher till within a week of the first appearance of the young plants, the glass may be finally removed. Too much care cannot be given to Mignonette in watering. They are very liable to damp off at the collar. Maintain the soil neither more nor less than moist. Good drainage will do much to prevent a wet condition, and frequent attention to the state of the soil will guard its drying. Thin the seedlings to five in a 5-in. pot, wherever they are half an inch high. They will then require full daylight and ventilation, with a temperature of 45° to 50°. Some growers pinch their plants, but I do not think this advisable for plants sown at this advanced period. If sown in 5-in. pots, nice dwarf specimens can be developed therein without the need for a shift. Other growers again like to pot on into 10 in. and 12 in. pots. The gardener with a small greenhouse, however, may very well content himself with the smaller sizes. Place neat stakes to the plants when they are of size to necessitate support.

Roman Hyacinths may be potted up at any date from the present. They may be placed closely in 5 in. and 6 in. pots, standing them in frames and covering them to a depth of 2 in. or 3 in. with sifted ashes. They will require no water till growth has commenced, which may be in five or six weeks. The soil they are now potted among should consist of three parts good mellow loam to one of leaf mould or spent Mushroom dung and sand to make the compost free to the touch. It should be just damp without being what one could term moist or clammy. Pot moderately firm. Other bulbs such as Scillas, early Narcissi, and Freesias may likewise be potted. This, of course, is very early, but the amateur, like any other gardener, is the better for being prepared.

Ginerarias may be placed, like the zonal Pelargoniums, quite in the open air till the end of this month. The practice of planting out is not altogether commendable. Experienced professional gardeners with every convenience, and who are able to bestow great care on the plants when they are lifted in the autumn, may find the system favourable, but others will certainly be much better advised if they content themselves with pot culture. The plants at present require frequent attention to watering. Slight shade and a cool bottom with cleanly conditions are further necessary factors toward their successful treatment.

Carnations should be layered. The method of doing so was shortly described on page 776.

Schizanthus.—THE GARDENING WORLD furnished copious hints last year for the more liberal growing of these exceedingly pretty annuals. A sowing may be made now. If the plants are pinched and grown in a cool house all winter they will supply an extra early batch at a time of year when their graceful character and profusion of bright "butterfly" flowers will be very welcome. Further sowings may be made in December and in March.

Bright Shrubs in the Garden.—All who are favoured with front gardens in sunny and sheltered places should give more than passing consideration to the planting of shrubs with light and elegant

foliage, and if they are variegated like *Negundo aceroides variegatum*, or golden, like the Golden Elder or Golden Privet, so much the better. Only those who have had the pleasure of seeing a collection of well-chosen dwarf shrubs of the description I suggest can fully comprehend the magnificence, the brightening effect and the satisfying scene which such compositions present. The *Negundos* may be grown in pots to be plunged out in May or June. The following sorts are recommended for this object: *Negundo aceroides variegatum*, Golden Privet and Elder, *Acer palmatum atrosanguineum*, *A. p. roseo-marginatum*, purple *Berberis*, *Prunus Plissardii*, *Elaeagnus argentea*, *Cornus mas variegata*, *Cornus aurea Spathii*, *Acer rubrum*, Golden *Acacia*, Elms, purple *Hazel*, and many such things as have been frequently noted in this journal. But better than compiling long lists it would be more to the point to ask my readers to keep their eyes open and to note whatever may take their fancy. A visit at the present time to any nursery which includes hardy shrubs would be more educative than hushels of print. Still, the above list may prove helpful, and if any friends do make enquiries, might I solicit their good word in the interests of THE GARDENING WORLD.

The Care of Hedges.—Few of the features of a place have a greater effect in impressing a standard of quality to a garden or estate, than well-kept hedges. Where fine old Yew hedges exist and are kept in a proper state of evenness and strength, the garden is a garden, a place of comfort, and the amenities of it are much enhanced. They are said to harbour all manner of garden nuisances, but I cannot side in such a view. Yet, Yew hedges require a very long period to develop their best proportions, and they are not by any means the most reliable of hedge plants. In some seasons they seem scarcely to make any growth, and they do not transplant well. At the same time a good Yew hedge is, as I say, a valuable ornamentation, and a fine means of shelter.

Holly hedges in more respects than one are suitable and commendable for all classes of gardens. Holly hedges do not take so long to form as Yews do, and they do better on dry soil under trees and such places. Once properly formed they are impenetrable. Hedges of Beech, Thorn, Arbor Vitae, Privet and Briers are each very good in their place. A russet Beech hedge is exceedingly cheerful during the dull winter days, and even when the weather during November to February is bright, they still further brighten the aspect of things. Beech hedges of this sort need not be trimmed-in until growth is about to be made in spring. Thorn hedges, Yew, Privet and Holly may be cut at the present time. This is not too early if the necessary time can be afforded for the work, and before growth becomes quiescent the season's wood will have become sturdier and firmed. Yew hedges look best when cut square; Beech and Thorn hedges should taper to a rounded or acute apex; Brier hedges are generally loose and freer, though the smaller leaved forms bear hard pruning. Arbor Vitae should be formed like the Yew, that is, flat on the top. In the spring of the year Thorn and Brier hedges are benefitted more than any other sort of hedge by a top-dressing of loam or road scrapings.

Miscellaneous Work.—During some of the present showery days or evenings one should prepare for the needs of the garden when the chill autumn and winter evenings are with us. Mats are always needed. Bracken, Spruce, Heather and Asparagus though now green and growing need not be overlooked or destroyed when their year's growth is past, save them for use as protective material. The Spruce branches are generally secured from trees felled in thinning. Hazel and Birch branchlets should be cut for besoms. In October there is some turfing done. Good sward for the purpose can sometimes be cut from wayside roads along the firmed and somewhat beaten edges. This should be looked out. In autumn, too, the most violent wind storms occur, and besides making sure that you have stakes and supports for tall Asters, young trees, &c., be sure also that the lights or sashes of frames, pits and home-made houses are pegged down or can be pegged down securely at short notice. Thus while maintaining the garden up to the highest perfection by good keeping at the present period, like careful and experienced gardeners focus your view ahead, for preparedness greatly ensures success.—Beacon.

A Conference on arboriculture and pomology sits at the Paris Exposition on September 13th and 14th.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Species of Polygonum.—Student: The *Index Kewensis* enumerates 243 distinct species and hundreds of synonyms. To our mind the most ornamental are *Polygonum cuspidatum*, the Knotweed, which grows 10 ft. high, is bushy and exceedingly handsome; *P. baldschuanicum*, a first-rate climbing species with wreaths of flowers; *P. polystachyum*, bushy in habit, and about 4 ft. high; *P. compactum*, like a dwarf form of *P. cuspidatum*; *P. sachalinense*, the largest of the genus, 12 ft. high, with massive green leaves. *P. Weyrichii* is included in this group, and it gets to 6 ft. in height. All the foregoing are suitable as specimen plants on a piece of turf or just within the edge of the shrubbery. *P. amplexicaule* is a fine border plant with purplish flower spike. *P. a. polymorphum* is a variety. *P. molle* has trusses of pretty white flowers in May. *P. clinode* is distinct. In appearance it is like a *Stauntonia*. *P. multiflorum* is a climbing kind with deep green leaves. *P. lanigerum*, 2½ ft., has large silvery foliage; *P. Bistorta* is well known. It may be planted to form spreading groups and tufts at the base of rockeries. *P. affine* is in this class, but is smaller, and very pretty when flowering. *P. filiforme* is a dwarf species with beautifully mottled and flaked creamy-green foliage. *P. orientale* is one of the tallest, and other species include *P. alpinum*, *P. vacciniifolium*, *P. capitatum*, *P. divaricatum*, and varieties of the species already mentioned, so that there is plenty to choose from.

Potting Early Bulbs.—Forward: The early varieties of Narcissi, Early White Roman Hyacinths, Scillas, *Chionodoxa Luciliae* should be potted for forcing early next month. Freesias and Lachenalias may immediately follow. Use a good turfy open soil, and in the case of the smaller bulbs, like Freesias, place eight of them in a 4½-in. or 5-in. pot. Do not water them, but cover them over in a cold frame with fibre.

Budding Roses.—Andrew Potter, Sidbury: The process is similar to that described recently for Apples. Roses may now be budded. Choose ripe plump buds, and if the ground at the root of the Rose or Brier stocks has been dry for some time it is advisable to give a nice soaking with water a day or so before budding. Do not delay between the taking of the bud and its insertion in the stock. Bind round with raffia—nothing more. We would refer you to THE GARDENING WORLD of July 1st, 1899, p. 696, where Rose and fruit tree budding is fully described and illustrated.

Vegetable Refuse, &c.—Wm. Henderson, Ardrossan: Mix 5 per cent. of lime with your vegetable mould. Secure as many prunings and such like stuff as possible to form wood ashes from by burning. Carbonate of lime and carbonate of potash will thus be formed, and these acting on each other produce one of the most valuable manures, viz.: nitrate of potash. Regarding the question about nitrate of soda, it is found in layers on the soil in the rainless regions of South America and imported from Chili, but how it originates we do not know. It is very soluble in water. Use it in spring as a top-dressing at the rate of 1½ to 3 cwt. per acre, according to the crop. There are 15½ lbs. of nitrogen in 100 lbs. of nitrate of soda. Blood, soot, hoof and horn, shoddy and wool waste, scatch, &c., also yield quantities of nitrogen.

Spring Transplanted Trees.—J. W.: Though a few of the leaves on your recently planted trees are brown and dead, so long as the apical leaves are green and growth being made you need not worry. Water the roots only when the soil stands in need of it, which can only be decided by your own judgment. If the trees are securely staked and the soil nicely firmed around them, nothing more is wanted. Manure would not be beneficial until they are established. Soot water is helpful, certainly, to the Crimson Rambler, and other Roses.

Standard Currants.—A. D.: In small gardens where space is limited they are commendable

because a lower or ground crop can be got at the same time. Otherwise wall trained bushes or bush-forms in the open are preferable.

A FEAST OF SWEET PEAS.

PROBABLY the readers of THE GARDENING WORLD

at. Princess of Wales is a finely mauve striped variety, having a white ground. Princess Beatrice is a delicate carmine rose variety, exceedingly pretty. It may here be interpolated that shades of pink have by far the greater popularity, at least this so in the case of the men-folks. Mrs. Eckford is an all-round favourite, a fine primrose variety. Queen

Nectarines. The crop appeared to be a heavy one, in fact, too heavy for the strength of the trees. In the vineries were serviceable bunches of Black Hamburg, Alicante, Muscat of Alexandria, Madresfield Court, and Buckland Sweetwater. The two latter good. Though the Vines have been planted about twenty years, the roots have hitherto been confined



A CROP OF DWARF SWEET PEAS (CUPID).



A CROP OF MODEL TELEGRAPH PEAS.

are beginning to feel well-seasoned after having imbibed so much of the distillation from Sweet Peas which has lately been poured out for their information. But if a judgement is made from the freshness of one's own feelings, then a good deal more on the subject would be acceptable. The idea of the late Conference was principally to accomplish a weeding-out of some fifty choice and foremost varieties of this flower, and failing a published list in the meantime, the following list embraces the varieties most strongly favoured by a party of visitors recently, to Messrs. Carter & Co's Sweet Pea trial at Mortlake, Surrey. In alphabetical order they are: Aurora, salmon-pink stripe on a white ground; Countess of Radnor, delicate lavender, and of which thirty tons of this one variety alone, were sent out by Messrs. Carter & Co. last year; Countess of Powis, a bright rosy salmon-orange; Creole, lavender-purple; Dorothy Tennant, dark mauve, a good sort; Double Bride of Niagara, dark purple; Duke of Westminster, rose-maroon with shining violet; Duke of Clarence, light rosy claret; Early Blanche Ferry, rose and white; Earliest of all, pink and white; and Gorgeous, a brilliant orange-scarlet. A fine sort is Lovely, of a soft pink shade and splendid form. Lady Nina Balfour takes a deal of beating. The colour is delicate mauve freckled with dove grey. Lady Grisel Hamilton, a

Victoria is a rival sort, of a rich primrose-cream; Mrs. Gladstone, pink with rosy blush; The Bride, pure white; Venus, buff-pink; Violet Queen, mauve-violet, the first of the present-day type; Splendour, rich rosy pink; and Waverley, a deep blue and claret variety. These are all varieties of sterling merit, all distinct in their way, and they represent a wide selection. There are plenty of other good varieties which are very popular, namely, Black Knight, Boreatton, Daybreak, Coronet, Wild Rose, Apple Blossom, the old Invincible Scarlet, which is one of the best; Her Majesty, Grey Friar, Pink Friar, and so on. But if a limited number is better than prodigality, then the list now set before the reader may be said to furnish as much as is needed.

The accompanying illustrations were lent us by Messrs. J. Carter & Co., some of them being intended to illustrate the article "Carter's Trials at Mortlake," p. 777.

BURNT HOUSE

Is about fifteen minutes' walk from Adlington Station, on the Preston and Manchester line, and is the residence of James Eckersley, Esq., J.P. The ground is entered from the Black Rod Road, and the garden is only a short distance off.

to the inside border, but now they will have the run of an outside one. Muscat of Alexandria has been worked on Lady Downes, but it is too early to report results; so far the union has been favourable, and Alicante does better on Madresfield Court than on its own roots. Inside the potting shed there is an excellent Grape room, and given well finished bunches I see no reason why Grapes should not keep well up to May.

For preserving the water sweet Mr. Mollison, the gardener, uses permanganate of potash, and water that had been in a bottle three years had no obnoxious odour.

The plant houses are not in regular order, but dotted about here and there. In span-roofed pits of the plant protector class I noticed a nice lot of Achimenes, the most striking being Sutton's Royal Blue, Carmine, longiflora, Moss Perfection, and longiflora rosea; also the best sorts of double Pelargoniums. One house was stocked with Tomatos in 9-in. pots, but by far the best crop of these had set in the Palm stove, growing in similar size pots. The stove contains the usual run of foliage plants, and a few healthy plants of Ixoras. Cyclamens are a speciality at Burnt House, and though I have not seen them before I have often been assured that when in flower they are bad to beat in



FIVE MILES OF PEA TRIALS.



A CROP OF RECORD ONION

shining lavender, must also be chosen. Lottie Hutchins, cream, with pink streaks, is sweet; Monarch, bronzy purple; and Mikado, white stripes on an orange-cerise ground. Mars is one of the best, being a distinct, intense scarlet; and Navy Blue was remarked as being the only blue variety worth looking

The glass houses are at the north end of the well-stocked kitchen garden, the fruit houses being in one range. Much of the fruit had been gathered in the early Peach house, which is planted with such sorts as Royal George, Hale's Early, Noblesse, and Bellegarde Peaches, and Pineapple, and Elruge

the north. They have a span-roofed house to themselves, and are at present in 4-in. pots. Those intended for the following year were sown on the 12th of June, and are now up. The plants are thrown away after they have flowered. Another span house contained a well-flowered lot of Carnations,

chiefly of the Malmaison class. The lawn is an oblong form, on the east side of the garden and south of the mansion.

There is very little of bedding out, and what little there is rather detracts than adds beauty to the beautiful frontage. On the west side there is a breadth of Privet not closely clipped, and Rhododendrons with other plants on a sloping border 18 ft. wide which circles the lawn. Near the walk on the grass are several beds filled with the best varieties of Roses in excellent health. The east and south sides are hacked by trees of the forest class, the latter perhaps to screen unsightly objects, though I did not stay to enquire. The border, which has all been made during the past five years, contains a few shrubs dotted about as well as some choice Rhododendrons, the remainder being filled with flowers planted in irregular masses following the form of the space to be filled up. I never was much of a lover of bedding out in this part, and after seeing Burnt House and Grey Friars near Preston, of which a short report appeared in your columns, I dislike it more than ever; for at the latter place there was not a plant of the bedding out class. Neither have I cared for the herbaceous border with the plants laid out to measure. The border at Burnt House has had soil added, that was calculated best suited for the plant's requirements.

On the east side of the dwelling is the lawn tennis, which is reached by descending over a dozen steps. There is a pathway round, and next it a sloping bank of shrubs and flowers supported by rugged stones and screened on three sides by a belt of forest trees. In the border were Roses on pillars. Alstroemerias were very fine, and Montbretias thrive well; also Hemerocallis, Erigeron speciosus, Inula glandulosa, Salvia pratensis, and many others, with varieties of Ferns amongst the stones.

At the south end of the kitchen garden is an orchard planted about twenty years ago, with mostly Apple trees. After waiting several years for a crop, and none came, root pruning was resorted to, but had very little effect. Five years ago Mr. Mollison commenced to top dress with nitrate of potash and superphosphate at the rate of 5½ parts of the former to 2½ of the latter, at the rate of 5 lb. to each tree, but not so much at first, and the crop has increased annually; and this year it is heavy enough to satisfy anyone. There will be as many bushels as Apples in previous years. There are 160 trees planted 9 ft. apart, and kept in bush form; and the deep green leathery leaves testify that they are in good health as a whole. Some have been badly infested with white scale; and after trying various insecticides without effect, Mr. Mollison applied boiled linseed oil which has released them thoroughly.

Mr. and Mrs. Eckersley take great interest in their garden, and the gardener appears to be well backed up by them.—W. P. R.

FLOTSAM AND JETSAM.

ALTHOUGH this has been written for a railroad corporation, it seems so adaptable to the season of horticultural exhibitions, that I cannot refrain from reproducing it. It is called "Transportation Texts," and is addressed to applicants for passes.

"Though they roar they cannot pass."

"So they paid their fares and went."

"Suffer not a man to pass."

"For every man shall bear his own burden."

"None shall ever pass."

The above are scriptural, while here are some gems from lay literature.

"Base is the slave that payeth not his way."

"Pay your fare for your credit's sake,

But pay, pay, pay."

"Fare thee well, and if forever,

Then forever pay your fare."

The scriptural portion of it reminds me of a reply made by a long-suffering lady, when asked for an appropriate text concerning the entertainment of judges at flower show time. The general idea was that "given to hospitality" would about fill the bill but she firmly replied that very often "patient in tribulation" would hit the mark better.

The city of Richmond, Indiana, had lately to pay 2,000 dollars for destroying a large shade tree. A dangerous tree was in the vicinity, and the police compelled the wrong man, under protest, to cut down a splendid specimen.

A new Peach pest has appeared in Michigan—a long slender fly, with yellow striped back, and has done much damage in some districts to the Peach buds. It is a novelty to all growers here.

Chicago has a "man with the hoe" who is certainly a triumph in his own particular way. He calls at front doors, generally has the lady's name, and is shown into the parlour. One lady found him trimming off her house plants in the room, and then after she got rid of him, found him in the backyard, talking over the fence to a neighbour.

He secured the jobs for both places, agreeing for eight dollars each to hoe up the backyard, and plant in each a dozen Roses, a dozen Lilies and some shrubs. Final payment was to be deferred until the whole was in full bloom.

Shortly after, he collected three dollars, and removed a large clump of Paeonies without replacing it. Nothing that he planted grew, above ground, and he did not call for the balance. He sold another woman some Guatemala Lilies, which have since by some process of evolution produced Onions!—C. Macquarie, Chicago

CARNATIONS AT EDENSIDE.

On a very hot day in the third week of July we made a visit of inspection to the nursery of Mr. James Douglas, Edenside, Great Bookham, Surrey, for the purpose of inspecting his splendid collection of Carnations. He has 30,000 plants, some 12,000 of which are grown in pots. Several houses are filled with them, and the process of layering was being executed with all diligence. They are layered in the pots in which they are grown, and being directly under the eye of the young men, they are properly watered and tended so that the rooting of the layers is easily effected. Those who are fond of Carnations would be delighted with an inspection of such a well cared for collection, coupled with the immense amount of variety, including some 250 selected varieties raised by Martin R. Smith, Esq., of Hayes, the celebrated Carnation raiser, besides a great number raised by Mr. Douglas himself.

NEW CARNATIONS RAISED BY M. R. SMITH.—All are hardy Carnations for the open border, and the vigour as well as the number of young shoots from each would surprise those who used to grow the old fashioned and constitutionally worn-out sorts, however lovely they might have been considered. These border Carnations are ranged in two classes or sections—self and fancy. Ptarmigan is a grand white variety of faultless form and excellent in every way. Another pure white variety of dwarf habit is Pearl, well adapted for border work. Wild Swan may be distinguished by the drooping habit of its flowers which may be due to their great size. It makes a third of the choicest white varieties we noted. The Naiad is a grand yellow variety of vigorous habit, and fine form of bloom. From yellow we pass to apricot in a lovely variety named Etarre, which is evidently a favourite, judging from the number of plants grown. It also behaves handsomely in the open border. Lady Jane Grey is considered the best of the lavender-coloured Carnations, and it is certainly pretty. The clear, salmon-red flowers of Bomba are very handsome and recently received the Award of Merit of the R.H.S. Very delicate and pleasing is Alma with its pale pink flowers.

Fancy varieties are very popular, and an abundance of them will here be found to please the fancy of every admirer of the race. Alcinois is richly lined with purple on a lemon-yellow ground. Bertie is one of the darkest fancies in cultivation, being heavily shaded and lined with crimson on a silvery pink ground. Nasby, on the contrary, is heavily marked with crimson on a buff ground. The white ground of Dalgetty is handsomely edged and flaked with dark purple. An Award of Merit of the R.H.S. was granted to Don Carlos last year. It is a yellow ground handsomely striped and edged with rosy-pink. The Baron is striped and margined with deep crimson on a buff ground.

OLDER VARIETIES BY M. R. SMITH.—Benbow has buff-yellow flowers with rounded and beautifully refined petals. It had received the R.H.S. Award of Merit only two days before we had another look at it. Boreas is nearly as dark as Nox, being a maroon-crimson of excellent quality (Award of Merit, R.H.S.). Cecilia has been equally honoured, or more so having the First-class Certificate of the National

Carnation Society as well. A glowing crimson-scarlet of beautifully refined form is Lady Hindlip. The orange-scarlet of Midas makes this a very charming variety, which received the coveted Award of Merit of the R.H.S. the other week. The blooms of Prince of Orange are more of an orange-red. Nox is the nearest approach to a black Carnation, being of the darkest maroon-crimson. The stiff upright stalks and pure white flowers of Trojan make it one of the finest white varieties in cultivation. It maintains its original character admirably. What a contrast it makes with Nox! The blooms of Paragon are clear yellow, large and well formed.

Amongst the older fancies which still maintain their place are Aureola, yellow-buff, margined with crimson. Goldyllocks, a large and charming fancy, lightly marked with heliotrope and scarlet. Elf King is very much in the same line, being flaked with scarlet on a purple-lavender ground. There are many who consider that Hidalgo is the finest fancy that has ever been raised, being deeply lined with red and maroon on a rich yellow ground.

NEW SELFS AND FANCIES RAISED BY J. DOUGLAS.—The flowers of Mrs. Sydney S. Diver are rich reddish-crimson. Rosalind has the merit of being sweet-scented, a quality which many of the new varieties lack. The blooms are of beautiful form and rich crimson. Henry Mackenzie is a yellow ground slightly marked and margined with rose. Mona is a lovely buff ground, margined with bright rosy-scarlet.

OLDER VARIETIES RAISED BY J. DOUGLAS.—The number of older varieties still maintaining their pride of place is great, so that we here name only some of the finest we noted in bloom. The flowers of Mopsa are apricot and of beautifully refined form. Miss Florence is a strong growing form, pure white, and occasionally streaked with rosy-red. The fine dark velvety-crimson petals of Sir Henry Irving, tinted with scarlet, make this one of the choicest of the dark kinds grown.

YELLOW GROUND PICOTÉES FOR 1900 and 1901 RAISED BY M. R. SMITH.—We were much struck with the rich yellow ground of Carracci, which is beautifully edged with bright rose. Much in the same line is Daniel Defoe, edged with rosy-red on a decided yellow ground. Large and handsome are the flowers of Lady St. Oswald, the rich yellow and beautifully refined petals of which are margined with bright red. Equally choice in its way is Lauzan, which is very distinctly edged with purple on a clear yellow ground. A much lighter variety is Heleodorus, narrowly margined with reddish-crimson on a lemon-yellow ground. The broad, smooth, bright yellow petals of Edna May have a broad rose-coloured edging, which florists would describe as a heavy edge. H. Falkland is also a charming yellow ground, edged with lively rose.

OLDER PICOTÉES.—Loveliness (Douglas) is edged with clear lilac-rose on a pale yellow ground. Empress Eugenie (Mr. R. Smith) has the proud distinction of being considered one of the best yellow ground Picotées ever raised at Hayes. The broad, rounded petals are of a rich yellow, and the edge rose. Others run through every shade of colour with which we are acquainted amongst the yellow ground race of Picotées. The greatly invigorated constitution of border Carnations and Picotées should enable every grower to maintain a choice collection with ease by adopting measures as to the time of planting the layers in the open, according to the locality.

SHOW CARNATIONS.—Mr. Douglas still retains the old love for the Florist's Carnation proper, and grows a very representative lot of all the best in each section. One has only to note the varieties to see that they hold a prominent position on the show boards at all the leading shows of Carnations. Amongst scarlet bizzarres we need only mention such as Robert Houlgrave, Robert Lord, Admiral Curzon, and Edward Adams. Crimson bizzarres are well represented by Phoebe, J. S. Hedderley, J. W. Bentley, Lord Salisbury, and C. F. Thurston. The flowers of J. W. Bentley are considered perfect in every respect as a florist's flower. Many others of this section are grown. Pink and purple bizzarres include such well defined varieties as Squire Penson, Sarah Payne, and Harmony (Douglas).

Flakes are equally well represented, prominent among the purples being such as Charles Henwood, James Douglas, raised by the veteran Mr. Ben Simonite, also Squire Whitbourn and Florence

Nightingale. Amongst rose flakes we should mention Pandora, Tim Bobbin, Sybil, Thalia, and Mrs. Rowan, the latter a very rich colour. Scarlet flakes include Miss Constance Grahame, the bright Flambeau, Guardsman, Alismond, and various others so well to the front in their class that selection is a difficult matter.

WHITE GROUND PICOTEES.—Few flowers are more delicately lovely than this section of the Carnation, having the colour of each respective variety confined to the margin, the rest being pure white. Amongst new varieties of this year Grace Darling is a lovely flower with a light red edge. The light purple edge of Lavinia is equally refined in its way. Minos has a broad margin of deep red, and is very handsome. Amongst older varieties Somerhill is one of the best purple edged sorts. Mrs. Beswick is a splendid broad, rose edged variety.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 31st ult.

Orchid Committee.

CATTLEYA F. W. WIGAN.—The sepals of this bold flower are dull, rosy-purple. The petals are twice as broad, oblong, and brighter rosy-purple. The lip has a transversely oblong, bifid, wavy purple lamina, with crimson-purple veins. The side lobes are streaked with purple. The parentage was *C. schilleriana* × *C. dowiana aurea*. (First-class Certificate.) Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

CATTLEYA PORPHYROPHLEBIA.—Here we have a hybrid from *C. intermedia* × *C. superba*. Although not new it is uncommon, and was shown in grand condition. The sepals and elliptic petals are of a soft lilac. The tube of the lip is also similarly coloured; while the terminal lobe is bifid, wavy, fringed and closely marbled with purple on a paler ground. (Award of Merit.) Sir F. Wigan, Bart.

LAELIO-CATTLEYA REMULA.—The parentage of this bigeneric hybrid was *Cattleya Aclandiae* (female) and *Laelia tenebrosa*, the evidence of both being well marked in the progeny. The sepals and petals are oblong-linear, bronzy-brown, and shining. The lamina of the lip is transversely oblong or reniform, and rich purple with a white edge. The lateral lobes are triangular, obtuse, and white as well as the tube, with the exception of a few purple lines along the base. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

CYRTOPERA PLANTAGINEA.—This curious Orchid produces a long, arching spike of flowers having pale green sepals, white petals, and rosy plates on the white lamina of the lip. (Botanical Certificate.) F. W. Moore, Esq., Curator of the Royal Botanic Gardens, Glasnevin.

ODONTOGLOSSUM CRUENTUM.—The flowers of this uncommon species are about the size of those of *Oncidium luridum*, and have a similar, dusky, or fuscous-brown and yellow hue. (Botanical Certificate.) F. W. Moore, Esq.

PHAIUS BICOLOR.—The sepals and petals of this old plant are bronzy-yellow. The specific name refers to the lip, the lower part of which is yellow, and the terminal lobe white, margined with delicate rose. (Botanical Certificate.) J. T. Gabriel, Esq. (gardener, Mr. E. Ranson), 32, Palace Road, Streatham Hill, S.W.

Floral Committee.

NYMPHAEA MARLIACEA RUBRO-PUNCTATA.—The sepals of this grand Water Lily are olive-brown externally and pinkish-white internally. The petals are broad, ovate-lanceolate, and densely mottled with rose on cream. The anthers are orange. (First-class Certificate.) Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton, W.

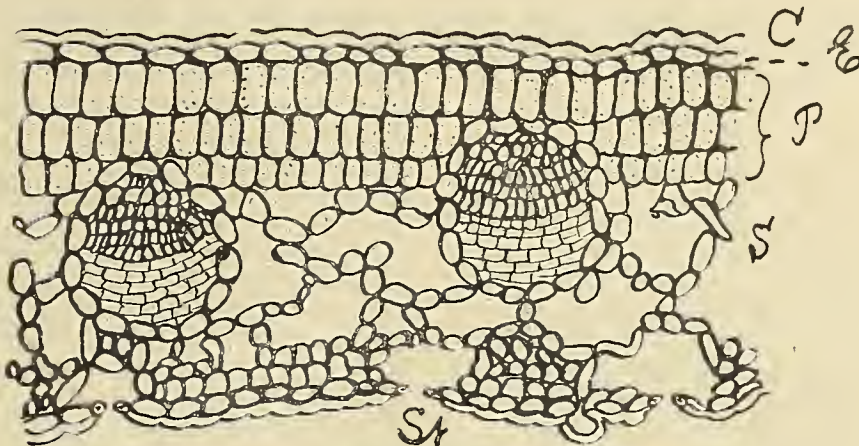
NYMPHAEA SANGUINEA.—The flowers in this instance are much smaller, but the petals are of a deep crimson-red. The sepals are coloured like those of the above. (Award of Merit.) Leopold de Rothschild, Esq.

HEDYCHUM F. W. MOORE.—In this we have a beautiful hybrid between *H. coccineum* and *H. coronarium*, with buff-orange flowers deepening in colour at the base of the segments. The large, lip-like, petaloid stamen is transversely oblong and

two-lobed. (First-class Certificate.) F. W. Moore, Esq.

BEGONIA S. T. WRIGHT.—The flowers of this double, tuberous variety are of huge size, clear salmon-orange, and very handsome. The petals are of great breadth, and arranged round a single centre. (Award of Merit.) Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London.

BEGONIA MRS ANDREW TWEEDIE.—The structure and form of the flowers of this variety are in all respects similar to those of *Begonia S. T. Wright*, but the petals are white, with a creamy tint at the base. (Award of Merit.) Messrs. T. S. Ware, Ltd.



TRANSVERSE SECTION OF A LEAF, MAGNIFIED.

THE USES OF LEAVES.

THIS was the title of Prof. Henslow's concluding lecture at Chiswick, delivered on Wednesday, July 11th.

Leaves, to perform their own work individually, must be green. When covered over and excluded from light, they soon become yellowish or white, and are of no use in the economy of the plant. As a rule, green-leaved plants are more vigorous than variegated ones. Such plants as the Dodder (*Cuscuta*), which is parasitic upon the Hop, &c., are whitish but then they do not acquire their raw food like green plants. The diagram of a Dahlia leaf was shown in transverse section. Seen thus in magnified form the leaf structure is similar to that shown in the accompanying sketch. The oblong upper cells, marked P, contain most of the chlorophyll, and there little granules seize hold of sunlight as it streams down, utilising its various powers for the preparation of building and nourishing matter. Chlorophyll is composed of protoplasm having green colour-threads throughout.

The composition of the solar spectrum is known to consist of seven fundamental colours, red, orange, yellow, green, blue, indigo, and violet. But if the solar spectrum be viewed against a wall for instance, by the aid of a telescope, a large number of black lines in addition to the seven bands of colour will be seen. The first discovery of the lines was made about 1860 by Herr Wilhelm Hofmann. For some time their meaning was not understood. A chemist, however, on vaporising some sodium on occasion, accidentally discovered that the sodium beam represented line D, as marked off by Hofmann on the spectrum. The coincidences by vaporising substances of the ground and comparing them with the sun's spectrum has enabled chemists to tabulate with certainty, the chemical elements included in the sun. The ordinary elements composing a ray of solar light are obstructed by the beams of the various chemical elements which are represented by the various black lines, while fractions of the ordinary colour bands are suppressed. Nothing is ever wasted in Nature. Though the rays of light are not seen to have any violent influence upon a leaf or leaves, yet they are the sources of energy, for certain heat rays and chemical rays are included in sunlight. The heat rays we sometimes forcibly feel; the chemical rays are proved by their effect on carpets, &c. Of course light, heat, electricity, and mechanical force are only different phases of the same thing.

ASSIMILATION.—All animals are constantly exhaling carbonic acid gas, and taking in oxygen. Plants, chiefly by means of their leaves, take in the CO₂ (carbon dioxide), which is hurtful to animals, so they act as air purifiers. CO₂ is one of the most refractory substances in nature; nothing except leaves can

decompose it. The CO₂ of the atmosphere enters the leaves, unites with water (H₂O), and forms the first visible product, namely, starch, though formic acid, and oxalic acid, may be formed before starch.

Experiments to prove whether roots would take in CO₂ in the way that leaves do, have resulted in failure. Prof. Henslow explained how an experiment had been made upon a large growing shoot in relation to its assimilation of CO₂. The top part of the said shoot was encased in a cube, the cube being devoid of carbon dioxide. No starch was formed. The central part of the stem was sheathed by tin-foil, and light being thus excluded, the starch also

in this case could not form. The lower part of the stem having a supply of CO₂ in the cube, yielded 5 per cent. of starch.

Now if white light has this effect on growth, have not the other rays of the spectrum also an individual effect? Prof. Henslow showed what results his own experiments had. He had grown a number of Lettuces (all of the same weight and appearance to start with) under different coloured glasses. Ruby light caused great elongation of the stem; yellow had almost the same effect; green light had a slight elongating power; blue yielded a short-stemmed plant; and under clear glass, of course, the plant developed as in the open. To prove his statements the professor had the various plants dried and mounted, and showed them to his audience. Immediately after lifting the plants, he weighed them with the following results:—Under red light the Lettuces were 263 times the weight they were when first planted; yellow, 435 times as heavy; green, 157; blue, 294; clear light, 447; open air, 673 times their original weight. Thus the yellow and blue (of the coloured lights) yielded the maximum of assimilation.

The dry substance weight showed, of course, less difference. The percentage of dry substance assimilated was found in Cabbage as follows:—red, light, 11.6; green, 6.4; blue, 8.9; violet, 6.8; clear light, 32.8.

Green light is worse than useless to the plant; for it but falls upon the leaf and passes uneffectively through. Furthermore, it cuts off the red and orange rays the plants require. Green light is not wanted at all. The Palm house at Kew, and Mr. Thomson's experiments in the vineries at Clovenfords, N.B., where green-glass glazing was tried, have shown that it was not in the least beneficial. If a shading must be used for a glasshouse, employ a white mixture. And the result of all experiments made in this direction is: "Don't use any coloured glass at all." One ray of light is required for one purpose; another ray performs a slightly different function, and thus when all are combined as in white light, the perfection in this respect is accorded.

Prof. Sachs has a half-formed theory that the blue end of the spectrum has the greater influence on the production of flowers.

TRANSPIRATION is the process of giving off moisture from the leaves. A striking illustration showing the effect of light on the evolution of oxygen from a green leaf is shown by means of an aerobic bacterium. If a piece of Alga be placed in a tube containing water and bacteria, it is found that the latter congregate thickly where the oxygen is most liberal. If instead of white light a spectrum be reflected on the tube, the bacteria are found to aggregate at certain points corresponding to the

red and blue absorption—bands of the chlorophyll spectrum.

This being the last of the four lectures, proposals of thanks were heartily passed to Prof. Henslow, and the audience unanimously seconded the hope of Mr. S. T. Wright, "that we may yet again enjoy a similar course of lectures such as had just been given."

In the accompanying transverse section of a leaf, C represents the cuticle or hardened outer skin of the leaf; E is the epidermal row of cells, of which the cuticle is the outer or exposed surface. P marks the palisade cells containing the chlorophyll grains. S is the spongy or cellular portion of the leaf. The under surface has its skin perforated by openings, to wit the stomata (marked St.) through which the surplus water is transpired. The two masses in the centre are fibrovascular bundles forming two veins of the leaf cut through.

HOLLAND HOUSE, KENSINGTON.

IN September of last year a report of this fine old home appeared in THE GARDENING WORLD, giving an epitome of the history of this demense which bears the tale of over 300 years' experiences. Van Dyck, William Penn, General Fairfax (one of Cromwell's officers) and of course the Holland family, have all had possession of the estate at one time or another. The present owner is Lord Ilchester, the head of the Fox-Strangeways, a branch of the Holland family. Lord and Lady Ilchester are keen gardeners, and have good professional assistance in having Mr. C. Dixon as their head gardener. The gardens are very fine, and each year sees improvements affected. There are fifty-five acres of grounds altogether, though of course a large area of this on the south side is laid out in park-land. Trees, shrubs, hardy herbaceous and alpine plants, Bamboos and aquatic subjects are what are chiefly favoured at Holland House, and the lover of Orchids or tender exotics will not find so much to interest him.

The herbaceous borders are exceedingly interesting. The common Dragon (*Arum Dracunculoides*) with its peculiar violet-purple spathes forms massive plants in the borders, and is one of the most interesting, if not so beautiful of the many plants recently in flower. The Day Lilies, especially the tawny-coloured species, *Hemerocallis fulva*, and the bright yellow *H. flava*, both give beauty and fragrance. *Gypsophila Stevensii* is a subject worthy of special notice. It flowers early and is decidedly better than *G. elegans*. When the latter is too thickly sown it indeed becomes weedy, but *G. Stevensii* is sturdier though quite as graceful, has large white flowers and gray foliage like that of a Mule Pink. On a sloping wall which retains a broad terrace in front of the house, the Red Valerian (*Centranthus ruber*) has been sown or pricked into chinks here and there and is growing and flowering in the most defiant profusion. This is a phase of gardening which of course differs from alpine gardening, yet which is on the same lines and quite as charming. The wall is by no means exclusively devoted to the Valerian, for these are only inserted here and there in open spaces between the finely grown and choice wall bushes. In the centre of this sunny wall there is a splendid spreading bush of the yellow-leaved Currant (*Ribes missouriense*) which is quite conspicuous even at a distance.

Close by on a front lawn besides the common weeping Ash, there is another graceful Ash (*Fraxinus excelsior tanacetifolia*) also of a weeping character. The two harmonise, for the latter is really a greatly refined and small leaved form of the weeping Ash, *F. e. pendula*. Out of view of these Ash trees there is a very tall and handsome specimen *Pyrus Sorbus* laden with trusses of berries, which like those of *P. Aucuparia*, the Mountain Ash or Rowan tree, become beautifully coloured later in the year. Another tree which approaches these *Pyruses* in appearance, is *Gymnocladus canadensis* or Kentucky Coffee tree. At Holland House, they have a tree 30 ft. in height, and it is most magnificently furnished with its beautiful "shocks" of fine bipinnate leaves. *Sophora japonica* also does well. It is remarkable, however, to note how regularly the Birch trees have succeeded just when they have attained to their most handsome proportions, or in other cases before they had fully developed. The obnoxious winter fogs are blamed; they baffle the resistive powers of

these free-born natives of the mountains and pure air.

On a small rockery in the garden a spreading patch of *Thymus Serpyllum coccineum* was noticed. It is very much brighter than the common *T. Serpyllum* and is quite superior. *Antirrhinum Asarina*, a clammy leaved species with white and red tinted flowers, also succeeds well. *Phlomis fruticosa*, with its grey Sage-like leaves and terminal yellow verticels, flowers profusely against a wall. The north part of the grounds, where really the wealth of the garden lies, is laid out in exceedingly great variety. In fact, to wander through the acres of well filled sunny grounds reminds one of a botanical collection. Trees, and very beautiful trees most of them are, which one rarely or never sees in private gardens, are liberally included here. Lord Ilchester, of course, takes a practical interest in the planting, and is well versed in hardy plants and in the characters of trees and shrubs. Each year, as has already been stated, new undertakings are planned and carried through. In the last four or five winters there have been new rockeries made, new *Rhododendron* dells, aquatic pools, Bamboo gardens, vistas planted, having on either side shrubs all of one kind, and last of all a new Japanese garden has been constructed and planted up. Time, of course, will improve all of these, for the original plans improve up to a certain stage as the years roll by.

Bright groups of shrubs are liberally disposed, and specimen trees and shrubs occupy intermediate sites. The best of flowering trees and shrubs and trees to be effective by a yield of bright fruits in autumn, such as the Siberian Crabs, *Crataegus*, Cherries, *Pyruses*, and other things are profusely employed. *Laburnum Parkerii* is one of the best of the genus, either in flower or fruit. *Ptelea trifoliata*, a hardy and ornamental dwarf tree, was bearing an abundance of its rather inconspicuous flowers and nearly by it the common but elegant *Euonymus europaeus*.

The species of *Ceanothus* are not often seen to advantage as bush shrubs, but at Holland House one finds the tender yet lovely *C. azureus* flourishing and growing grandly. *C. grandiflorus* and *C. dentatus* grow side by side, and are large and handsome. *C. azureus* Gloire de Versailles is a fine ornament on the walls, and also in sheltered open air beds. The *Pyrus* tribe are mostly grown as standards, and are chiefly fresh young trees. *Pyrus salicifolia*, with narrow silvery leaves, is not unlike *Elaeagnus angustifolia*, though it is not so bright. It is at the same time worth the noting. *P. amygdaliformis* (*P. Michauxii*) is another handsome species. Various weeping, golden, silver, and variegated forms of Elm trees are effectively disposed. The shrubby species of *Cistus* have been tried, and *C. florentinus* and *C. salvifolius*, having succeeded, are being more largely planted. *C. laurifolius*, also, with large white flowers, and having a yellow centre, is a charming shrub, though the flowers do not last long.

Deutzia crenata fl. pl. formed large towering pyramids laden with their pretty clusters of double white flowers. The weeping Cherry, *Cerasus semperflorens pendula*, was just passing out of flower, but fruits take their place and soon a gayer colour will rule.

Large trees of the Turkey Oak, *Quercus Cerris*, are most pleasing in various parts of the higher grounds. They are the more appreciated as they are of large size while many of the other subjects have only been planted for a short number of years. *Quercus dumosa pendula*, a rare variety with beautiful dark foliage, has got a good grip of the soil and promises well. Leading from the north side of this finely planted area there is a long straight vista planted on either side with *Philadelphus* (*Syringa*) *grandiflorus*. This was recently one of the handsomest features of the place. Another of these vistas, which promises well for a bright display in the near future, is hemmed at the sides with *Diervillas* (*Weigelas*). These are not grown quite in bush form, but are tied up to roughly trimmed Larch branches, the lateral shoots of the *Diervillas* growing outwards on either side. These vistas of course are backed up with other trees and shrubs, and the path through them is of smooth even sward.

Roses of all sorts literally swathe every corner of the grounds. A new feature has been introduced. It consists of tall hurdle-shaped erections of the roughly hewn Larch, such as have already been mentioned, having here and there along the length of them "snags," which have been intentionally left to lend

the appearance of rusticity, and also to act as supports for the Roses, which are now covering them. When these "hurdles" (which are about 9 ft. high, straight both at sides and top) are more fully over-spread with the Roses, nothing finer can be imagined than their effect. They are arranged at intervals of a few paces (all being equal in width and height) down a winding grassy path which leads to other attractive features.

On every side there are borders of Sunflowers, Campanulas, thousands of Lilliums, Delphiniums, and other herbaceous plants. Dahlias and Hollyhocks are mixed with Delphiniums to carry on the display of bloom when the latter have passed away.

The new *Rhododendron* dell covers nearly half an acre, and has been planted from the thinnings made from beds in other parts of the grounds. The *Rhododendrons*, which are all of good-named sorts, have flowered well this year, and are now growing freely. Coming round in a circle from the north side to the west, the visitor may see a golden-leaved Ash tree which shows up most brilliantly from amongst a host of neighbouring green-leaved trees. This (*Fraxinus foliis aureis*) cannot be found anywhere in any of the nurseries, according to information, and there may be only a very few, if any, specimens of it about anywhere. The history of the tree in question cannot now be given, but it is a most brilliant and handsome subject, about 12 ft. high.—H.

(To be continued.)

HARDY PLANTS AT LONG DITTON.

A PORTION of this notice appeared on p. 747, the remainder at the time being excluded on account of pressure on our space.

The yellow *Asphodelus*, with tall slender stems, shows up well, and *Anchusas*, *Anthericum*, and all the Yarrow or *Achilleas* are flowering in much profusion. *Anemone dichotoma* is a pretty species with dark green lobed foliage and the ordinary white *Anemone* flowers. It grows eight or nine inches in height. *Digitalis gloxiniaeflora* is a noble Foxglove, having large and handsome spikes of violet purple flowers. The Virgin Thistle, *Silybum marianum* also formed attractive groups. Another pretty *Anemone*, not at present in flower, however, is *A. rivularis* which forms silky mop-heads after the blooms wither. The ornamental-leaved *Epimedium* are plants all worthy of more attention. The *Veronicas*, such as *V. incana* with dense blue spikes, *V. spicata alba*, white, *V. Teucrium*, two feet high and a perfect mass of brilliant blue, were in the pink of perfection. *Senecio macrophyllus* with its large smooth oval leaves and dense yellow flower spike, is a splendid subject to associate with other subjects by the side of water.

Amaryllis longifolia alba was flowering freely enough in an open air bed. The Poppies form brilliant beds, one of the best being *Papaver hracteatum coccineum*, having intense crimson-scarlet flowers of large size and possessing a black base. There are many other choice species and varieties. Another fine scarlet flowering plant is *Pentstemon barbatus*, and the Messrs. Barr have a selection from this which is very superior, and named P.B. Barr's Scarlet. It is very graceful and has Honeysuckle-like flowers.

Quite a distinct herbaceous plant is found in *Euphorbia pilosa* with large branching heads of deep yellow-hued bracts. It is distinct and good. *Verbascum Lychnitis* is also a handsome plant. *Lathyrus rotundifolius* should be known to all. It is a perennial species, with brick-red flowers. *Salvia argentea* is large in all its parts, having sweet smelling white flowers, which attract bees in great numbers. It is a fine plant for a big, country garden. The varieties of *Crambe* (Seakale), Bear's Brush or *Acanthus*, with its ornamental foliage, Malopes, Gaillardias, Campanulas, Sweet Williams, of which there are some beautiful velvety dark crimson sorts, *Antirrhinums*, Pinks and Cloves, Columbines (already mentioned), and a host of other good things were flowering in prodigal profusion. A variety of *Campanula persicifolia* named *pallida*, is another of the selections made by the firm. The blooms are paler blue than those of the species, but are larger and the number of them is greater. It ought to be well accepted, being distinct. A number of new tanks for aquatics have been constructed and in these, *Nymphaeas* are chiefly to be seen. Most of the plants are doing first rate and were flowering well. Mr. William Barr was good enough to point out how the *Nymphaea* blooms may be made to remain open continuously. It is well

known to all growers of these plants that they seldom open unless under the influence of sunshine. When they *do* open, all one need do is to bend back the strong fleshy green or brownish outer sepals under whose power it is that the flower is forced to close. Bend these back until they break and leave them thus. The "trick" is not a new one, but it is worth the pointing out for the benefit of those who may not know it.

Along the course of a stream which runs through a part of the upper nursery, one finds a collection of interesting and handsome aquatic and marsh plants. Of these a helping note may be written some time again. The very fine ornamental grasses *Glyceria spectabilis* and *Phalaris arundinacea variegata* (Gardener's Garter) were growing strongly on the banks by the stream. The *Glyceria* is even finer than the better known *Phalaris*, and where the one is, the other should be also.

SWEET PEAS IN THE ISLE OF WIGHT.

UNDER the guidance of a well-known horticulturist in the Isle of Wight, and once well known at the Kingston-on-Thames and the National Chrysanthemum Societies, two of the profession from the busy town spending their holidays at the popular little cool and shady seaside place of Bembridge, at the eastern end of the island, took a trip to Newport on Wednesday, July 25th, the object being a visit to the Royal Agricultural Show being held there, to which is connected also a horticultural exhibition, a special feature this year being a Sweet Pea exhibition by the members and friends of the Isle of Wight Horticultural Improvement Association, of which Dr. Groves is president, and Mr. S. Heaton, F.R.H.S., is the hon. secretary.

Newport is a nice, clean, old town. The central market place of the island contains a fine church in a spacious square, and many old and a few curiosity shops. The heat away from the sea was somewhat tropical and many whose duty it was to be any time under the canvas at the show were saved the expense of a Turkish bath. Of the many beautiful cattle at the show it is not in my province to speak, although much admired as well as the endless variety of dogs and poultry.

In the horticultural department was a fine marquee, filled to the utmost with every variety of outdoor flowers in season, with which the island abounds, and many choice stove and greenhouse flowering and foliage plants.

A special feature was the table decoration, chiefly confined to ladies. This is always a strong feature in the island, Sweet Peas and Carnations being the chief flowers used, with *Gypsophylla paniculata*, *Agrostis nebulosa* and other grasses in relief. Pink, cream and light yellow colours found favour in the first prize stand. The show of Sweet Peas was beyond our expectations, one end of the tent being filled with them. The principal collections were arranged in rather tall vases, which set them off, and had all been arranged in the same way. There were sufficient flowers there to fill nearly double the space. New, up-to-date varieties were in evidence in the chief collections. No prizes were offered. Only the certificate of the association for the best in the three divisions—gardeners, amateurs and cottagers.

Mr. J. Norris, gardener to W. Durnford, Esq., Pitt House, Bembridge, late of Eton, exhibited a fine collection of about thirty varieties and gained the Certificate. The flowers were well grown and arranged with their foliage, the best being Salopian, Gorgeous, Lady Grisell Hamilton, America, Triumph, Lady Mary Currie, Sadie Burpee, &c.

Messrs. C. & F. Orchard, Bembridge, exhibited a well arranged collection of eighteen varieties, including Salopian, Oriental, Mars, Mrs. Eckford, Stanley, Royal Rose, Bridesmaid (new), Triumph, Royal Emblem (new), which was awarded a First-class Certificate, a flaked flower, the ground colour being crimson-lake, flaked and veined white; Blanche Burpee, &c.

The Rev. L. Knights-Smith, Brighstone, a prize-taker at the Bi-centenary show at the Crystal Palace, exhibited a choice clean lot containing many beautiful varieties, Duchess of Westminster, Captivation and others being noticeable. He was awarded the Certificate in the amateurs' division. Mr. George Chillerton was awarded the Certificate in the

cottagers' division. Mr. Heaton and Mr. H. Webber also exhibited meritorious collections.

I cannot leave this subject without mentioning a delightful afternoon and evening visit to Carisbrooke Castle. There under the shady trees of leafy Carisbrooke we opened our lungs and breathed in the balmy breezes that were delightful. The well house was visited and the celebrated donkey, Neddy, patted, as he drew up the cooling draft from the deep well, which was tasted and enjoyed. The museum and keep, worthy of their reputation, are visited by thousands in the year, and enjoyed as by us no doubt.—M.

SOCIETIES.

SOUTHERN COUNTIES CARNATION AND PICOTEE.—August 3rd.

THE third annual show of the southern Carnation Society passed off as a satisfactory event on Friday, August 3rd. Of course, the show had its drawbacks, yet the display, which was held in the Royal Pier Pavillion, Southampton, was exceedingly good. Fancy and yellow ground Carnations were strong, selfs were below par, but Picotees again were very fair. Bizarres and flakes seem to be passing from favour. They were not so extensively shown on this occasion. At the luncheon, Mr. A. Wolton, London, who occupied the chair, congratulated the society on the success of the year's work. Between thirty and forty new members have been enlisted, a compliment to the activity of Mr. Garton, Junr., who is secretary. Mr. Garton, by the way, was a successful exhibitor.

The judges, who were Messrs. J. Douglas, T. E. Henwood, J. Ball, and Charles Blick, did their work well, and gave all-round satisfaction. Pressure on space necessitates our condensing this report as much as possible. Much the same varieties as were mentioned in our full report of the National Carnation Society were shown by the competitors at this Southampton show.

The principal winners in the classes for flakes, bizarres, and selfs were Messrs. Thompson & Co., Birmingham; Mr. F. Wellesley, Woking; Mr. A. R. Brown, Birmingham; S. A. West; E. H. Buckland, Winchester; G. Chaundy, Oxford; F. W. Flight; W. Garton, Junr.; A. Turner; and G. A. Wigram. Besides being a winner in some of the Carnation classes Martin R. Smith, Esq., was chief winner in the Picotee classes. Messrs. Phillips & Taylor, of Bracknell, also showed and won in the Picotee classes.

For a Silver Cup, value £7 10s., for the twelve best self or fancy Carnations, Martin R. Smith, Esq., Hayes, Kent, was first; Mr. E. C. Goble, second; and third, Mr. W. Garton, Junr. Mr. F. W. Flight won the amateur's Cup, value £5; Mr. G. A. Wigram came second; and Mr. S. Baverstock, third. Mr. W. Garton, Junr., was first for a group of Carnations.

BIRKENHEAD SHOW.—August 3rd, 4th and 6th.

THIS exhibition, held in connection with the agricultural show, has for several years had the unfortunate experience of having a considerable amount of wet and had weather, but past years will now sink to unimportance after the fearful weather experienced on the opening day of the present year. Before Messrs. N. F. Barnes, G. Beckett, R. Horne and J. Taylor (the judges) had concluded their work a severe thunderstorm broke upon them with a strong gale of wind sweeping across the exhibition field. A sudden rent from top to bottom in the centre of the tent prompted effective measures to be taken in hand at once. Willing workers soon transferred the exhibits on the stages to the ground underneath, specimen plants were laid on their sides and the canvas roof dropped half down the poles. The value of this procedure was soon seen, for in a short time the Bee tent was levelled with the ground, followed by that of the refreshment, dog and pigeon erections, liberating the animals in these cases, the two last causing a great commotion generally. It would be difficult to picture a more complete wreck than the one described. During Saturday visitors were admitted at one end of the tent where some idea of the amount of damage could be gained.

The entries numbered over 500, and in the cut

flower and vegetable sections were very strong. Plants showed the loss of one or two Liverpool competitors. In the competitive classes, for ten plants, five foliage and five flowering, Mr. G. Webster gained the premier award with fair plants of *Ixora coccinea*, *I. Williamsii*, *Statice profusa*, *Croton andreanum*, *Kentia fosteriana*, &c.

For a group of flowering and foliage plants Mr. S. Haines, gardener to E. K. Laird, Esq., was accorded first honours.

Three stove or greenhouse plants in flower Mr. G. Webster won with *Dipladenia amabilis*, *Statice profusa* and a *Bouvardia*.

For one greenhouse and one stove plant, Mr. Webster won in each class with *Statice profusa* and *Ixora coccinea*.

For one foliage plant, Mr. J. D. Grindley, gardener to Mrs. D'Arcy, was first with a fine *Cycas revoluta*.

For three Ferns and one tree Fern the same exhibitor staged the best.

For the single Fern, Mr. Harries scored with a large *Davallia Mooreana* and for three *Coleus*.

For the single Fuchsia, Mr. A. G. Turpin was far ahead with a well flowered plant. In the Begonia classes the same exhibitor won with fine examples.

For table decoration, Mr. J. Ennion was first with a charming arrangement, and for one bouquet, Mr. Tom Pelling scored, while for those of outdoor flowers, Mr. J. Williams, gardener to C. J. Procter, Esq., was first. Mr. Williams and Mr. Ennion had the best ladies' sprays and gentlemen's buttonholes.

For Carnations or Picotees in twelve triplets, Mr. C. A. Young staged a grand lot; and Mr. W. Neish, gardener to J. H. Ismay, Esq., won for twelve and six varieties. Mr. Neish took the leading prizes in three classes of cut flowers. For six Roses and three Roses, the firsts went to Mrs. Kendall and Mr. J. H. Beazley respectively.

In the fruit section, Mr. G. Fergusson, gardener to Mrs. Paterson, won in the class for six kinds of fruits, having Muscat of Alexandria and Black Hamburgh Grapes, Rivers' Orange Peaches, Melons, Cherries, and Apples. For two bunches of Black Hamburgh Grapes, Mr. J. Richards secured first honours with fine berries; and for any other black with Madresfield Court. Two bunches white Muscats, Mr. H. May, gardener to C. Gatehouse, Esq., led, and for any other white, Mr. D. McLean won with Foster's Seedling. For Peaches and Nectarines the winners were Messrs. C. Irvine and J. Richards. For green and scarlet-fleshed Melons, Mr. J. Clarke was first in each class.

VEGETABLES were a strong feature. Mr. J. Clarke was first for eight kinds, having Potatoes, Onions, Carrots, Cauliflowers, Peas, Tomatoes, French Beans, and Celery. Other exhibits in this section were of uniform excellence, the leading prizes going to Messrs. J. Platt, Junr., W. Jordon, J. Richards, T. Alty, J. K. Carter, T. Totty, T. Brockbank, and J. Morris.

Many exhibits were staged not for competition. Mr. H. Middlehurst, Liverpool, was awarded the society's Silver Medal for his Gateacre Swede. Sweet Peas were also well staged. Messrs. Talbot & Turner, Heswell, had a group of Tea Roses. Messrs. Harrison & Sons, Leicester, staged roots, cut flowers, and vegetables. Messrs. Dicksons, Ltd., Chester, had foliage plants and cut herbaceous flowers. Mr. T. W. Graham, Birkenhead, had roots, plants, and flowers.

DEVON AND EXETER HORTICULTURAL.—

August 4th.

THE annual summer exhibition of the above society was held on August 4th at Northernhay, unfortunately in unpropitious weather. And being held a fortnight earlier than usual to meet the wishes of numerous subscribers, this fact, coupled with the lateness of the season, militated against a full entry list. Fruits such as Apples, Plums, &c., were scarcely ready enough to be shown in any quantity. Plants and flowers were of moderate quality, but the season has been a good one for vegetables, which were well shown. The decorative classes ought to have been strong, whereas they were exceedingly weak. Notwithstanding the stormy weather, there was a fair attendance. The society's committee very generously devoted 25 per cent. of the receipts after five o'clock to the local war fund. The band of Her Majesty's Royal Horse Guards (Blues) under

the conductorship of Lieut. Chas. Godfrey, R.A.M., proved a great attraction.

Certificates of Merit were awarded to Messrs. R. Veitch & Son, Mr. W. J. Godfrey, Mr. H. W. Weguelin, Mr. W. B. Smale, Messrs. Tuplin & Sons, Messrs. Jarman & Co., the Devon Chrysanthemum Nursery Co., and Mr. J. Walters for cut Roses.

Messrs. R. Veitch & Son, Exeter, showed hardy Nymphaeas, Carnations, Sweet Peas, and other herbaceous cut flowers, &c.

Mr. W. J. Godfrey, Exmouth, had Carnations, Salpiglossis, and other florists' flowers. He also showed zonal Pelargoniums in pots.

The Devon Chrysanthemum Co. (Mr. F. C. Fowle) had Carnations, "zonals," Dahlias, &c.

Mr. J. Walters, Mount Radford Nurseries, Exeter, had a choice display of Roses, including Victor Hugo (good), Rev. Allen Cheales, Mrs. John Laing, &c.; also specimen "Ramblers," and some newer American varieties, with herbaceous cut bloom.

The West of England Horticultural Works of Howell Road, Exeter, had an exhibition of small span-roofed forcing pits and frames, glazed with their patent zinc bar dry glazing.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. R. Maybury for his article on "Pipeapples," p. 773.

QUESTIONS AND ANSWERS.

Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Aquatics for the Edge of a Pond.—H.P.K.: You do not tell us the size of your pond or we should name a greater variety of subjects for the same. Tall as well as dwarf subjects would be very appropriate for a large pond. Tall and strong growing subjects are Typha latifolia, Typha angustifolia, Lythrum Salicaria, Epilobium hirsutum, Carex pendula, Rumex Hydrolapathum, Spiraea Ulmaria, Lysimachia vulgaris, Iris Pseudacorus, Thalia dealbata (should be planted under water), Iris sibirica, Acorus Calamus, Scirpus lacustris, Cladium Mariscus, Rushes, if you care for them, and many others. Dwarfier subjects are Myosotis palustris, Acorus gramineus, Caltha palustris, Caltha palustris flore pleno, Iris laevigata (or Iris Kaempferi), Mentha aquatica, Mentha Piperita, Aponogeton distachyon (should be planted in the water), Calla palustris, and Sagittaria sagittifolia, also in the water; Carex hirta, Carex vulpina, Scutellaria galericulata, Polygonum Bistorta (well above the water), Hottonia palustris, in the water, &c.

Bulb Planting in Turf.—Omega: A good, rich loam, resting on a gravel bottom, as you describe your soil, should answer very well for Daffodils in the grass. The best time to perform the planting would be in October, after there has been sufficient rain to make the turf soft and easily pierced for the making of holes to put in the bulbs. They could also be planted at any time up to Christmas, but they should do better by planting in October, as it gives them plenty of time to develop roots. You could plant in September if the ground is not too hard. Some growers pare off the turf, and after planting the bulbs either with a spade or a dibber, they relay the turf. A simpler plan would be to get a long handled dibber, shod with iron, or else a crowbar, and make holes sufficiently wide to take in the bulbs, and about 3 in. or 4 in. below the sur-

face, according to the size of the bulb. Be careful to keep the neck of the bulb uppermost. Then fill in the holes with old pottioing bench soil, consisting chiefly of loam, leaf soil, and sand. Press this down firmly, and then tread the turf to close the hole as nearly as possible. Nothing more is necessary.

Best White Sweet Pea.—A.L.: It seems to us greatly a matter of opinion as to which is the best white variety. If you prefer or do not object to a slightly hooded flower, Blanche Burpee should suit you. Some consider that it does not bloom very freely, and that the flower is of thin substance. Emily Heoderson is preferred by others because of its erect standard, which, however, becomes slightly revoluted at the sides. There is also a little green in the standard. We have seen it very fine, however, on good, fresh, loamy soil, with three and four flowers on the stem occasionally. Some growers have described Alba Magnifica as the best all-round white, but that it has too short flower stalks. Soil and the character of the season, whether hot and dry or cool and moist, have much to do with the behaviour of Sweet Peas and their general qualities.

Varieties of Daffodils or Narcissi for Planting on Turf.—Omega: The varieties you mention would do well upon grass, at least Narcissus Stella, N. poeticus, and N. poeticus ornatus. We believe N. biflorus would also succeed well enough on grass. You could also plant Narcissus Telamonius plenus, the double English Daffodil, N. ohvallaris, N. Ard Righ, N. Golden Plover, N. Princeps, N. cernuus pulcher, N. incomparabilis, N. i. Sir Watkin, N. i. Cynosure, N. i. Orange Phoenix (double), N. i. Sulphur Phoenix, N. odoratus, N. o. rugulosus, N. Barrii conspicuus, N. Leedsii amabilis, N. Nelsoni major, N. Burbridgei, N. Jonquilla, N. poculiformis, and many others. Those which you can obtain in quantity are generally cheaper. Mixtures are also cheap, but possibly you might want to plant clumps or groups of a sort.

Madresfield Court Grapes Cracking.—L.H.: The variety, as you say, is very liable to the malady of cracking; but this year it seems to be worse than ever. Yours is not the only case, for many gardeners are complaining of the same thing. There is not much remedy after the splitting has commenced, beyond removing the split berries as you have been doing. Next year you should make a point of keeping the border, in which the variety is growing, uniformly moist all through the growing period. If the border gets dry at any time the skin of the berries becomes tough, so that when you give the border a heavy watering the roots absorb too much moisture, and the berries being unable to swell fast enough they split. The secret is steady, and liberal watering from first to last during the growing season. The recent hot weather had no doubt a deal to do with it. The seed parent of this Grape was Muscat of Alexandria, the male being Black Morocco.

Names of Plants.—G.H.: 1, Sidalcea malvaeflora; 2, Centranthus ruber; 3, Veronica spicata; 4, Veronica incana; 5, Lathyrus rotundifolius; 6, Francoa appendiculata. —R.M.: 1, Lonicera sempervirens; 2, Lonicera japonica aureo-reticulata; 3, Spiraea salicifolia; 4, Spiraea bella; 5, Myrtus communis; 6, Gentiana asclepiadea. —G.: 1, Rhamnus Frangula; 2, Hypericum pulchrum; 3, Cuscuta Epithymum; 4, Ranunculus Flammula; 5, Lotus major; 6, Gnaphalium sylvaticum; 7, Ranunculus aquatilis (seedlings that have grown after the ditch dried up); 8, Juncus supinus; 9, Juncus bufonius (starved specimens); 10, Festuca ovina, probably, growing in a wet place and out of character; 11, Viola canina.

Communications Received.—C. Orchard.—A. Hope.—W. P. R.—W. Mark Webb.—D. McGregor.—R. G. W.—A. P.—R. W.—A. C.—E. H.—A. T.—Ward.

TRADE CATALOGUES RECEIVED.

DAVID W. THOMSON, 24, Frederick Street, Edinburgh.—Dutch Bulbs and Flower Roots.

B. S. WILLIAMS & SONS, Victoria and Paradise Nurseries, Upper Holloway, London, N.—Descriptive Catalogue of Bulbs, Roots, Forcing Plants, &c.

H. CANNELL & SONS, Swanley, Kent.—Cannell's abridged List of Sweet Peas.

HARLAN P. KELSEY, Tremont Buildings, Boston, Mass.—Sang or Ginseng and Cultural Directions.

WM. CUTBUSH & SON, Highgate, London.—Catalogue 1900: Hyacinths, Tulips, and other plants for early forcing, &c.; also List of Ivies; List of Violets and Select List of Strawberries, Blackberries, &c.

LITTLE AND BALLANTYNE, Carlisle.—Bulb Catalogue.

E. H. KRELAGE & SON, Haarlem, Holland.—Dutch Bulbs.

SHOW FIXTURES FOR 1900.

AUGUST.

- 16.—Ladywell, Lewisham and District Cottagers' Flower Show (2 days); Royal Horticultural Society, Aberdeen (3 days).
- 19.—Newton Stewart and Minnigaff Floral and Horticultural Society (probable date); Shrewsbury Show (2 days).
- 22.—Bucklebury and Marlston Horticultural Society.
- 24.—Falkirk Horticultural Society; Bradford Horticultural Society (2 days).
- 30.—Stirling Horticultural Society (2 days).

SEPTEMBER.

- 7.—National Dahlia Society's Exhibition (2 days).
- 12.—Royal Caledonian Horticultural Society (2 days).
- 13.—Boston and District Dahlia and Chrysanthemum Society.
- 27.—R.H.S. Fruit Show (3 days).

OCTOBER.

- 9.—National Chrysanthemum Society (3 days).

NOVEMBER.

- 6.—National Chrysanthemum Society (3 days).
- 7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).
- 8.—Devon and Exeter Horticultural Society (2 days).
- 15.—Maidenhead Chrysanthemum, Fruit and Vegetable Society (2 days); Edinburgh Chrysanthemum Show (3 days).
- 23.—Dundee Chrysanthemum Society (3 days).

DECEMBER.

- 4.—National Chrysanthemum Society (3 days).

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man.—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, AUGUST 18th, 1900.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, August 22nd.—Bucklebury and Marlston Horticultural Society; Shrewsbury show (2 days).
FRIDAY, August 24th.—Falkirk Horticultural Society; Bradford Horticultural Society (2 days).

WAYSIDE FLOWERS FOR THE WILD GARDEN.—Quite a respectable list of wild flowers, blooming at the present time, could be compiled for the guidance of those who are apt to forget the merits of many British wild plants for garden decoration, notwithstanding the fact that many are already in hundreds of gardens throughout the country without being recognised except by the studious few or those who are enthusiastic enough to transfer them to their gardens either by means of roots or seeds, the latter being often a sure means of getting the plants established in the quarters where they are to bloom. On the other hand we have seen wild plants introduced to the garden that did not prove ornamental or pretty, simply because planted in unsuitable positions, or too dry or too rich soil as the case might be. Probably hundreds of people, including professional gardeners, have often admired the Germander Speedwell (*Veronica Chamaedrys*) or the yellow Bedstraw (*Galium verum*) by the waysides. We have seen

them transferred to the garden with poor results, simply because the over-fertile soil caused them to make luxuriant and coarse growth, with a corresponding decrease of flowers for foliage. Other wild plants respond admirably to culture in the ordinary border where they take chance alongside of exotics which thrive under the same treatment, in ordinary garden soil of varying quality in different localities.

Few will deny the bold and striking beauty of bold masses of *Epilobium angustifolium*; but those who do not take the trouble of checking its rambling habit, by digging up the suckers, soon complain of its incorrigible habit. In the wild garden proper this would not apply, and if suitable positions were selected for it no check need be given to its rambling. The plant will thrive in the full sun, but it also does well in partial shade where vegetable humus from the decaying leaves of trees is abundant. In copses which are getting crowded this Rose Bay or Willow Herb lingers till the undergrowth of trees has been cut, or in Fir woods that have been more or less thinned, admitting sufficient light, when it develops great vigour and may cover acres of the loose humic soil with a gorgeous display of its dark, rosy-purple flowers. These conditions may be imitated by lovers of hardy flowers, either in the wild garden proper or in open woods in the vicinity of the mansion. *E. hirsutum* also attracts much attention along the margins of streams, its proper position, but otherwise it seldom gets introduced to cultivation. Our native Heaths are very handsome at the present time, and the conditions that suit them might well be the subject of study and imitative culture in irregular beds and masses. Where the first mentioned *Epilobium* revels under the partial shade of Fir trees, the gray Heath (*Erica cinerea*) covers the ground and blooms to perfection on the open heath close by where the soil is dry, firm, and more or less peaty on the surface, though the gravel may not be very far down. The Cross-leaved Heath is equally common in

places that are inclined to be wet and boggy during the greater part of the year. Both are well worthy of cultivation where the conditions are suitable, or can readily be made so. Both of them are really more conspicuous and ornamental in our opinion than the Cornish Heath (*E. vagans*) though it well deserves a place. The most common form of the Ling (*Calluna vulgaris*) is rather pale when in bloom, but many fine varieties have been picked up at one time or another and deserve cultivation.

Few wildings are more stately and sprightly when seen in perfection than the purple Loosestrife (*Lythrum Salicaria*). Though its natural habitat is the brook or river bank, yet it frequently occurs in the wayside ditch. As it takes kindly to cultivation, even in borders by no means wet, it is a frequent inmate of the garden. There are two forms of the wild plant, one with bright rosy-red flowers, and the other with dull purple flowers. The distinction is obvious enough to deserve attention in gardens, the rosy-red variety being the showiest. The yellow Loosestrife (*Lysimachia vulgaris*) consorts with the purple species, and both occur in similarly damp or wet places at present. The *Lysimachia* is equally amenable for border culture. The Creeping Jenny (*L. Nummularia*) is remarkably easy of cultivation, as the rich and poor alike of London well know. Though it creeps over the wet ground, half hidden by grass in a wild state, it may be used as a basket plant either in flower pots or any other make-shift vessel, either in shade or the full sun, its requirements being chiefly a liberal supply of water in summer to make it look happy. The Bog Pimpernel belongs to the same natural order and is of creeping habit like Creeping Jenny, but the leaves are very small and neat, hugging the ground while the purple flowers just rise clear of the foliage when grown in a fully exposed but wet position. The bog garden or the wet margin of a lake, pond, or pool are the situations that suit it.

The more common of the British species of Mullein are *Verbascum Thapsus* and *V. nigrum*, which improve in fertile soil, especially the former which forms stout, rod-like stems varying from 1 ft. to 10 ft. according to soil and treatment. Needless to say the latter height is the result of garden culture, though it attains a height of 3 ft. on dry chalk banks. The flowers are large and handsome individually, but the plant cannot be too coarsely cultivated, as its stateliness has much to recommend it. The Foxglove, *Antirrhinum*, *Linaria repens*, with its charming white variety, and *L. vulgaris* all belong to the same family of plants, and are all highly desirable for some or other purpose. The first named has been highly improved, rivalling or excelling many garden plants for real beauty. The *Antirrhinum* occurs only as a wild plant where it has escaped from gardens, but when it mounts old walls like the Wallflower it is certainly much admired. Under those conditions it stands the winter unprotected, whereas good garden soils are too rich for it and the stems do not get sufficiently hardened to withstand the frost and wet of winter. *Linaria repens alba* has been compared to Lily of the Valley, though few seem to recognise in it a variety of a member of the British flora. If blue is desired where can we find more lovely shades of it than in *Centaurea Cyanus* (unimproved by the hand of man), *Cichorium Intybus* (Chicory), and *Echium vulgare*? The colour of the Cornflower, first mentioned of these three, has often been spoilt in gardens but hardly improved. The Chicory is rather a coarse plant and the flowers are ephemeral, but they are produced in succession over a long period of

time, and the sky blue colour is highly attractive. It is eminently suitable for naturalising in sandy, gravelly, or dry soil on grass in the wild garden. We have heard it stated that the Viper's Bugloss (*Echium vulgare*) does not take to garden culture, but that is a mistake, as a well-known amateur collected seeds and, sowing them, raised some bushy and handsome plants. The true Forget-me-not (*Myosotis palustris*) forms lovely patches by the margins of rivers, streams, and ditches at present, and considering that such is its native habitat, one wonders that it can be grown as readily in merely damp situations in gardens. The rare *Echium plantagineum* is not half so lovely a plant as the common Bugloss. The great Reed-mace always forms a great attraction to the general public, and only wet inaccessible places and the fact that large clumps produce only a few flowering spikes prevent the plant from being exterminated. This love for it extends all over Britain, wherever it grows. *Nuphar luteum* and *Nymphaea alba* are also much abused plants by the general public, especially the last named, but it still manages to exist by the waysides where there are deep and uninviting pools.

Weather in London.—Fine summer weather has been experienced during this last week in London. Occasionally, as on Saturday, August 11th, and again on Sunday, the days have been hot, but not oppressively so. Sunny weather is required.

Croydon and District Horticultural Mutual Improvement Society.—The next monthly meeting of this society will be held at the Sunflower Temperance Hotel, on Tuesday, August 21st, when a paper will be given by Mr. W. Harris on the subject of "Bulbs," which are now in season, as far as the procuring of them is concerned, the potting of some and the planting out of others. The secretary is Mr. John Gregory, 60, Canterbury Road, Croydon.

Carnation varieties.—Among other remarks made about the Carnation and Picotee show held at the Crystal Palace on the 25th, a writer in *Land and Water* says "The same names such as Empress Eugenie and Mohican were attached to flowers standing side by side, and very dissimilar, while others, hardly distinguishable, bore different appellations. The former anomaly may be due to the want of persistence in varieties, but the latter can only be the effect of the desire of growers to be sponsors of plants of their own raising irrespective of the results of their neighbours' operations."

An Editor's Mistake.—Editors have their troubles. One of these men, who presides over the destiny of a western newspaper, is mourning the loss of two subscribers. No. 1 wrote asking how to raise his twins safely, while the other wanted to know how he could rid his orchard of grasshoppers. The answers went forward by mail, but by accident the editor put them into the wrong envelopes, so that the man with the twins received this answer, "Cover them carefully with straw and set fire to it, and then the little pests, after jumping in the flames a few minutes, will be speedily settled." The man with the grasshoppers was told to "give castor oil and rub their gums with a bone."—*Exchange*.

Potato Spraying.—At the present time the organisers of agricultural experiment stations are exceedingly active in their attempts to come to conclusions about what is best to use for suppressing the Potato disease. Mr. Moss, on behalf of the Royal Dublin Society, found that Burgundy mixture (made of sulphate of copper and soda crystals) possessed distinctly greater adhesive properties than the Bordeaux mixture (made with sulphate of copper and lime), and that it might, therefore, be found a better preparation for use in wet weather than the ordinary Bordeaux mixture. These facts are from *The Farmers' Gazette*, and it would be of infinite value if a paper of this kind would condense and compare in resumé form, all the obtainable information on the subject of Potato spraying.

The Servant Girl's Botany.—A lady in the country, who was very fond of her garden and greenhouse, being one day unable to attend to the watering of the latter, sent her servant girl, who often assisted her. On the girl's return she reported, "Oh! Mum, that Holy Anner (Oleander) has tumbled over and broke the Mariacker-toother (*Echeveria retusa*); and, Oh! my, that blue Mackabene (*Achimenes*) is a beauty, Mum." This is a fact.

Dishonourable Competition.—Local flower shows are usually places rife with disputes about the judging it may be, or the legibility of an entry or scurrilous comment upon the source from which an opponent's produce may have come from. Circumstantial evidence is often deceptive and in employing its aid to denounce an exhibitor, the plaintiff exposes himself to unpleasant risks. A case in point occurred at the Chertsey show on August 11th. One exhibitor declared that he had been beaten by another competitor whom, it was sworn, had helped himself to some of the best of the first mentioned exhibitor's Onions. Some were for going straightway to the banned man's Onion ground to prove whether he had pulled the number of Onions he showed. Happily wiser counsels prevailed and things were allowed to pass. If an intending exhibitor ever stooped to so mean an act as to appropriate the best samples of an opponent's crop, and he was discovered and condemned, he ought certainly to be fully exposed and prohibited from exhibiting. Otherwise give him the benefit of the doubt.

Effects of Tea Cigarettes.—Tea cigarettes are of a grade of green tea which has but little dust, and is composed of unbroken leaf. This is dampened to make the leaves pliable and capable of being stuffed in the paper cylinder, while the dampness is not sufficient to affect the paper. The cigarettes are laid aside for a few days, and are then ready to be smoked. The feeling of a tea cigarette in the mouth is peculiar. The taste is not so disagreeable as might be supposed, but the effect on the tyro is a sense of thickening of the head and a disposition to take hold of something or sit down. If the beginner stops then, he will not try tea cigarettes again. If, however, the smoker sits down and tries a second cigarette, inhaling it deeply, then the thickening feeling passes and is succeeded by one of intense exhilaration. The stage lasts as long as the smoke continues. The agony of the opium fiend is a shadow to that of the nauseated victim of the tea cigarettes. Food cannot be looked at for hours, yet the first step toward a cure is a cup of tea. An hour afterward comes the craving for a cigarette.—*Medical Progress*.

Syndical Chamber of Belgian Horticulturists.—The monthly meeting of this body was held on the 5th inst. in the Casino, Ghent. Certificates of Merit were awarded to *Asplenium nidus multilobatum*, exhibited by M. L. De Smet-Duvivier; to *Odontoglossum crispum* De Sadeleeri, and a species of *Houlletia*, both shown by M. Fl. Claes; to *Cattleya Eldorado alba* and *C. labiata Warneri* Moortbeekensis (by acclamation), *C. gigas ronseleana* (with unanimity), *C. guttata Leopoldi*, *C. Mossiae reineckiana*, and to *C. Harrisoniae gigantea*, all exhibited by M. le Marquis of Wavrin; *Anthurium scherzerianum gloriosum*, staged by M. Louis de Smet; *Anthurium Roi des Blancs*, and *Anthurium M. Arthur Vanden Heede*, shown by the Ghent Horticultural Society, Ltd. (with acclamation); and to a lot of *Begonias* in bloom, presented by M. Pierre Parré (with the congratulations of the jury). A Certificate of Merit for culture and flowering was given to *Jasminum Poiteau*, shown by M. G. Desaegeher. Certificates of Merit for culture were granted to *Dracaena lentiginosa* and *D. indivisa Loubeti* (with acclamation and the congratulations of the jury), both shown by M. Pierre Parré; and to *Pteris flaccida* (with unanimity), staged by M. L. Draps-Dom, of Brussels. Certificates of Merit for cut flowers were given for *Gladioli* shown by M. F. Burvenich pere (with unanimity), and by M. E. Shatteman. Honourable Mentions were made of *Gymnogramme peruviana argyrophylla*, presented by MM. De Deene et Vermeersch; a species of *Aralia*, shown by M. L. De Smet-Duvivier, and *Odontoglossum crispum* M. Emile Arnaut, shown by the Horticultural Society "La Lys," Ltd., of de Deynze.

Reforestation.—There is a strong movement toward reforestation denuded areas with Catalpas for commercial purposes.—*Gardening (American)*.

America and Eckford.—It is stated by *Gardening (American)* that Messrs. Joseph Breck & Sons, Boston, were the first in America to introduce the Eckford varieties of 1885, Mr. Geo. C. Watson, now of Philadelphia, being in charge of the seed department at that time.

German Rose Society.—The exhibition of the German Rose Society will continue at Trier, Germany, till October. This is an exhibition of growing plants, including all the leading European novelties and many seedlings not yet in commerce. The secretary of the society is P. Lambert, Trier, Germany.

Fruiting of Hoya carnosa.—As far as we know the fruiting in this country of the Asiatic *Hoya carnosa* is of rare occurrence, as in the case of many other Asclepiads. The plant is very common throughout Britain, but in all probability the proper insects for fertilising the flowers are not only not natives, but do not reach this country. A very large plant of this *Hoya* is now fruiting in the greenhouse of Mr. Percy Geering, of the Wake Arms Hotel, Loughton, Essex. Mr. Geering is fond of gardening, and evidently he has given the *Hoya* free play, for it covers a great portion of the roof of the greenhouse and flowers freely. The fruit is pod-like, rather slender, and at present about 4 in. long. Has anyone succeeded in fruiting this plant elsewhere?

Sutton's Bulb Catalogue for 1900, with its dainty cover and artistic illustrations, will interest those who have gardens and those who have none. This charming annual offers the prospect of a long succession of beautiful flowers for the adornment of homes, beds and borders during the short dull days of winter and the opening weeks of spring. But if a brilliant and attractive display is to be realised, preparations must be commenced in good time. This is the secret of success with all floral displays, large or small. The professional gardener is compelled to anticipate the seasons or lose his reputation. Amateurs too often neglect the necessary arrangements until it is too late to ensure the finest results. The magnificent beds and borders to be seen every spring in public and private gardens exhibit harmonies and contrasts of colour among Hyacinths, Tulips, Narcissi and Crocuses which are never surpassed by the brightest of the summer bedding plants that follow. This proves that bulbs properly planted in autumn are capable of enduring unharmed the rigours of our severest winters. And in several important respects all the Dutch bulbs may claim the attention of amateurs for the ease with which they can be successfully cultivated under conditions that would be fatal to many other flowers. It is quite true that in the art of forcing, special skill and adequate appliances will have their reward in splendid masses of colour for decorative purposes at a season of the year when superb effects are of the highest value. But those who are content to wait for the natural season of flowering, may secure an equally brilliant show without expenditure for fuel, glass or labour. It is one of the special merits of bulbous flowers that although they are worthy of conspicuous positions in conservatories, halls and drawing rooms, they are equally at home in small town gardens and on the lead flats of houses in populous centres. Even in the windows of cottages their beauty often challenges the attention of passengers in the streets. Messrs. Sutton's lists of these flowers have been compiled with the judgment that comes from long experience. The descriptions, though brief, are distinguished by unusual care and accuracy. Those who are not intimately acquainted with the named varieties, or who wish to incur a definite outlay, have the choice of collections of various sizes suitable for greenhouses, conservatories, homes and gardens. The pages devoted to Messrs. Sutton's well-known strains of *Begonia*, *Cyclamen*, and *Gloxinia* will arrest the attention of all who possess facilities for the culture of these very handsome flowers. We observe that the Gold Medal of the Manchester Botanic Society has been awarded for their fine exhibit of *Gloxinias*. The information contained in this very attractive annual is indispensable to the expert horticulturist and will prove interesting to every lover of flowers either in the country or the town.

Roses and Paeonies.—It is all very well to say that June is the month of Roses, but in reality the Paeonia is the flower which is relied on to meet the June demands in many a garden.

Obituary.—The American horticultural papers chronicle the death of Mr. Harry Dale, the well-known Canadian Rose grower, who died at his home in Brampton, Ont., on Sunday, July 15th, after a brief illness. He was born at Dorking, in Surrey, England, in 1851.

Irish Crops.—Crops of various kinds, but particularly Potatos, in Ireland have suffered severely from the damp, warm weather to which the British Isles have lately been treated. The wind and rain storms have broken down the grain crops, and second crops of hay unharvested is said to be rotting in the fields.

Tomato Jam.—For those who like Tomatos this is a delicious jam. The Tomatos should be sound and ripe. Throw them into boiling water for a minute or two; then peel them. Put into a preserving pan, and let them cook slowly till they are quite soft; then rub them through a sieve with a wooden spoon. Next weigh the pulp, and to each pound allow 1 lb. of loaf sugar and the grated rind and juice of two Lemons. Put all the ingredients back into the pan, and boil quickly till the jam looks clear. Put in dry jars, and cover them cold.

Paeonies.—There are, as may be imagined from its great age, a thousand and one superstitions and legends connected with the Paeony. "A gallant herb of the sun, under the astral influence of the sun, under the astral influence of the lion," it was good for many diseases which are quite out of fashion at the moment: vertigo, to wit, and the vapours, morphew, and later on the blast, to say nothing of the incubus—the Paeony was sovereign against them all. It is a native of Siberia and the whole of Northern Asia.—*Hearth and Home.*

Hamilton and District Gardening and Forestry Association.—The monthly meeting of this association was held in the Y.M.C.A. rooms, on Tuesday evening, August 7th. The Rev. S.M.B. Paterson, the president, was in the chair. Mr. Cairns, the Earl of Home's able gardener, The Hirsels, Coldstream, read a paper on "Hardy Fruits," for which Mr. Cairns is well known as an expert, for which the Edinburgh shows can account. Mr. Cairns made mention of most of the hardy sorts and his mode of preparing, planting, pruning, pinching, and thinning, root pruning, &c., but he threw out a good hint for growers to be careful and select such sorts as will be more likely to give satisfaction in their different districts. After some comments, Mr. Cairns was awarded a very hearty vote of thanks from a largely attended meeting.—*J.M.*

Cricket: Hurst & Son v. St. Stephen's (Upton Park).—This match was played at Walthamstow on August 11th, and won by H. & S.

HURST & SON.

Sampson, b Searle	16
Portch, c Day, b Searle	22
Squire, b Searle	40
Main, b Orridge	0
Morris, not out	6
A. Cox, b Orridge	0
Delacourt, b Bustard	17
Shelton, not out	0
Payne	} Did not bat.
Morecock	
Foster	

Extras

(6 wickets) 111

ST. STEPHEN'S.

Bustard, c Squire, b Sampson	5
Searle, b Sampson	0
Orridge, not out	34
Thornton, b Portch	4
Day, c & b Sampson	4
Hutton, run out	9
Privette, b Main	0
Heasman, b Main	0
Bohamon b Main	2
Davis, b Main	0
Gardiner, b Delacourt	4
Extras	2

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Wind Storm.—On Friday evening, August 3rd, a severe wind storm raged throughout the land. Gardeners everywhere can point to some amount of damage done, and many a promising specimen tree or plant has been ruined. At Kew many brittle subjects suffered, and the large-leaved Gourds are not now so pretty.

Jersey, that wonderful Potato producing island, is becoming somewhat worn out for this purpose, the land having becoming "Potato-sick." It is probable that the raising of early Potatos on a large scale will be conducted in the future near St. Malo in France, where it appears there is a very large area of land in every way adapted for the purpose.

The Preservation of Fencing Posts.—Fencing posts are effectively preserved by steeping their base in creosote. Those who can go to the expense of preserving fencing posts in this manner will find a fairly effective substitute in slightly charring the posts to a height of 15 in. or 18 in., and then dressing them with a preparation made by boiling $\frac{1}{2}$ lb. of pitch and 2 oz. of sulphur in a gallon of tar. This dressing should be applied when quite hot.

Fruit trees in Saxony, Prussia.—According to a report published in the German agricultural press, the fruit trees in the province of Saxony, Prussia, were carefully counted in the years 1897-1899, and it was found that they numbered 12,793,461. Of this total, 52.7 per cent. were Plum trees, 19.6 per cent. Apple trees, 16.8 per cent. Sweet Cherry trees, and 10.9 per cent. Pear trees. Estimating the value of each tree at 1.90 dol., the fruit trees of the province of Saxony represent a capital of 24,000,000 dols.

Scientific Inspection of Cereals and Root Crops.

—A very distinguished party, chiefly of scientific professors from the different universities and colleges of the kingdom paid a visit of inspection on Thursday last to Messrs. Webb & Sons' spacious Kinver Trial Grounds and Seed Farms, where were to be seen the most famous varieties of Wheat, Barley, and Oats from foreign countries, all the world over, growing side by side with the most perfect examples of new kinds, the result of cross-fertilisation and high selection this country has hitherto produced. The party consisted of Professor Parry, University of Wales (Aberystwith); Professor Blundell, Royal Agricultural College, Cirencester; Professor Wallace, University of Edinburgh; Professor Middleton, Durham University; Dr. Hunter, Edinburgh; Mr. Biffen, Botanist, Cambridge University; and Professor McAlpine, Glasgow; besides several practical agriculturists. Unfortunately heavy soaking rains prevailed all day, but this did not damp the ardour of the very keenest research on the part of the investigators, who gave very protracted and comprehensive examination into the numerous interesting features of plant culture laid open to view. There were no fewer than 155 varieties of corn alone, by far the largest collection, as one of the professors declared, to be found in any trial ground in the kingdom. The utility of high selection was abundantly proved by finer ears and stouter straw having been imparted to some of the old Wheat, such as Golden Drop, but the marvels wrought by cross-fertilisation were equally apparent, especially in an entirely new variety of white Wheat, whose plump corns have only the thinnest skin-coating, while they are so close-set, in the heads, that in all probability it will prove a general favourite when brought into general use. Among the seventy-five sorts of Oats which came under view there was not one that apparently surpassed in heavy yielding, the Bosworth variety, but Dr. Hunter gave the palm to Newmarket, on the ground of its superior milling quality. According to the Dalmeney experiments, he said this Oat had surpassed all other kinds in yielding the greatest weight of flour. Some of the Barleys from countries so far distant as China and Egypt were curiosities, and the "Naked" varieties were regarded with interest, but of the best malting varieties Kinver Chevalier could only be surpassed by an entirely new sort, as yet unnamed, which some pronounced to be, in all probability, the Barley of the future. Some thirty-one trials of Swedes and twenty-three of Mangolds also proved of great interest, but it would have required at least another long day to exhaust examination of all the plant trials at Kinver. Before separating the savants passed a hearty vote of thanks to Messrs. Webb for the rare treat afforded them.

ROOTING BEGONIA GLOIRE DE LORRAINE.

In common with Mr. Mayne and Mr. Brown, I have tried to root this useful plant from leaves, but the results do not recommend this method, as only a small percentage produce anything like a satisfactory plant. A rather interesting circumstance came under my notice this morning which bears upon the discussion, and may lead to some investigation to first success in this method. A leaf with a short petiole had been dropped upon a box containing Fern spores, not buried in any way, but simply laid upon the soil. This has emitted roots from the cut portion of the petiole, and has formed an upward shoot bearing two leaves, and bids fair to make a nice plant.

I only saw it accidentally just now, and I thought perhaps it might interest some of your readers. We grow a large batch for market purposes, and find the best method is to take stem cuttings as soon as obtainable, inserting them in sandy soil in shallow boxes, about fifty in a box. We do this for convenience chiefly, and in a close frame they root very quickly and make rapid growth in a warm, steady house. Some there are who attempt to grow this as a greenhouse plant, but under cool treatment only small plants can be obtained by winter, whereas cuttings rooted about midsummer and grown as I advise will make good 48-plants, with several good flowering growths, by October, and will continue in flower till April.—*A. P.*

CAULIFLOWER MANAGEMENT.

MANY of our friends have, of late, complaints to make regarding their supply of Cauliflower. The season has certainly been against the well-being of many plants, but we have better Cauliflower this year than for many years past. The growth of the plants has been firm, and all are about the same size. We do not aim at growing large heads, but use all our resources to get the best quality. Often before the plants are turned out—say, in April, or earlier—they are by some growers (chiefly among the amateur class) rendered weak and lanky by being *coddled* under glass with too little air on, and then a check is sustained when the plants are turned out into the cold soil; growth is thus hindered and often "bolting" to seed is the result. Our treatment of the young plants is invariably the same. They are exposed freely to air night and day, except when frost is severe, then the handlights are closed (they are always grown under handlights on a sloping south border). They are transferred to the open ground with as much soil as can be carried attached to the roots and plants, with all the care which possibly can be bestowed on them, and watered before the soil is finished over the roots. Then the dry earth is drawn over the space just watered, and little check is given. The preparation of the soil is an important matter. We have little vacant ground to manipulate during winter, but as soon as there is enough for the first plantation of Cauliflower to spare, it is well manured and thoroughly broken downwards but kept in ridges about 2½ ft. wide and kept as high as possible. These ridges remain till the plants require "earthing up," and by this means excellent shelter is given. By the middle of July and onward the first crop is cut, and a second plot is planted where the ridges were. By a careful selection one may have a succession from the same ground till late in autumn. Extra Early Dwarf Erfurt and Walcheren are favourite sorts.—*M. T., Carron, N.B.*

DAFFODIL PLANTING.

THOUGH it seems but a blink since the Narcissi were at all the flower shows in all the gardens and in everybody's hands, yet once again the time comes to start planting. In this matter, according to eminent bulb growers, it is better to plant too early than too late. A deep moist soil is what the Narcissi like, and those of the poeticus section enjoy the shade and shelter of a hedge. The poeticus varieties are usually the earliest to be planted; then comes the Burbidgei section, and toward the beginning of September, and on to the end of that month, the Leedsii or "Star" Narcissi are planted. Along with these earlier mentions, N. spurius, N. Golden Spur, N. Horsefieldii, and others of the large trumpet section may be planted. The depth of

planting when applied to rule is one and half times the depth of the bulb itself, and this is not far out. *N. maximus* likes to be deeply planted, say 5 in., the soil to be nicely damp. Most *Narcissi* like a free and open position. Bone meal or basic slag at the rate of $\frac{1}{2}$ lb. per sq. yd., and wood ashes as a surface dressing is helpful to *Narcissi*. Always remember when buying that *the best bulbs are the cheapest*. The best varieties for planting in the grass, in the rock-garden, in beds, and for pots, were enumerated on p. 588 of *THE GARDENING WORLD*, May 12th, 1900, of which copies may probably be had for 1d. *Narcissi* for potting should now be obtained.—D.

PROPAGATION OF BEGONIA GLOIRE DE LORRAINE.

THERE is really no difficulty in propagating this pretty plant, so easy is it, indeed, that at present I could show anyone a tidy little plant which is the result of a small leaf dropping into a pan of *Primula*, and there taking root without any attention whatever. Propagation by leaf is by all means the best, as by this method much better results can be got than by any other. Choose a strong, healthy leaf; any time from November to January is the best; simply pull it clean off the stem and lay it, not too deep, in moderately moist, heated cocoanut fibre; do not peg the leaf down; this I think is where many growers fail through damping. It is not from the leaf, but from the base of the leaf-stalk that the young growth starts; lift up occasionally to prevent roots ramifying too much until breaks appear. As soon as these are seen pot up in thumb pots, and stand in a warm house, and shade from strong sun. At present I could show a large hatch in 5-in. and 6-in. pots, 12 in. to 15 in. across, struck at various times since last November. This is the practice adopted by an expert with this plant, and whose success I can vouch for.—W. Dick, Rosehall.

PEOPLE WE HAVE MET.

MR. JAMES FINDLAY McLEOD, F.R.H.S.

MANY of our readers will recognise the subject of this brief sketch from the accompanying portrait, and a greater number will recollect the name, Mr. J. F. McLeod, in connection with some splendid exhibits of *Crotons*, stove and greenhouse plants, *Malmaison Carnations*, and other subjects at the meetings of the Royal Horticultural Society. Mr. James Findlay McLeod is steward to J. Pierpont Morgan, Esq., at Dover House, Roehampton, Surrey.

He was born on October 28th, 1863, and ten and a half years later started work under his father in the gardens of Major McDonald, of Glenfinnan. This occupation was followed for the space of two years, after which he went in for a course of farm work. During several successive years he took advantage of a few months of schooling in winter, the rest of the time being occupied in farm work. This used to be a very common practice in Scotland, particularly before the birth of the School Board, many of the scholars, during winter, being practically men and women. Needless to say, when arrived at years of discretion these pupils made a better use of their time than when sent in early years by their parents. The experience thus gained on the farm and at school was well stored, and later on turned to good account on this particular farm, belonging to A. D. Grimmond, Esq., of Glenferrie, Perthshire. High-class stock was bred and reared, and the numerous prizes taken at the leading shows throughout the kingdom, including Smithfield and Birmingham, testified to the quality of the stock produced.

At this stage it was decided to give forestry and general estate work a trial, and for three years this very important branch of estate management was vigorously ground into him. No better opportunity could have presented itself, as the estate was being remodelled, and the thousands of forest trees and shrubs dealt with in that short space would surprise anyone. No haphazard methods were here permissible nor practised, but a system suitable to each class of tree and shrub carefully studied. The effect, after having been given a fair trial, was highly picturesque, and the outcome profitable and serviceable. Drainage, fencing, building, water service, &c., were also extensively executed, with equally good results.

After a splendid and liberal education in this kind of work, he was urged, very much against his own inclinations, by the earnest wish of his mother, to join the profession of gardening. Accordingly, feeling it his duty, he was apprenticed to gardening, and this at an age very much ahead of the average apprentice



MR. JAMES FINDLAY McLEOD, F.R.H.S.

in Scotland. He entered the gardens of the late Col. Ogilvy, of Rannagulzion House, Perthshire, N.B., in November, 1880, and three happy years were spent here, though he admitted that until the first year had elapsed, he had no desire to follow up gardening or even to give it the attention he had previously given to the other occupations.

The autumn of 1883 found him engaged as a full fledged journeyman in the gardens of Miss Fotheringham, of Tealing, Dundee, Forfarshire, where one year was pleasantly spent. The next two years were spent in the west of Scotland, in the gardens of the late John Gordon, Esq., of Aikenhead, Cathcart, Glasgow. High class gardening was here keenly carried on, especially that of plant growing, hard-wooded plants and Orchids being specialities. Mr. T. Hogg, who was then head gardener there, was one of the leading prize-winners at the Glasgow shows. The soil of the gardens, under judicious and skilful treatment, was capable of producing excellent vegetables; and the necessary treatment was given them in unstinted measure, judging from the success of exhibits of the same, staged by Mr. Hogg at the Glasgow and Edinburgh shows.

From Aikenhead, Mr. McLeod moved into the county of Fife, alias the "Kingdom of Fife," where three years were very profitably spent in the well-kept gardens of the late John Balfour, Esq. The gardens were then, as they now are, under the charge of Mr. John Skeederson. The extensive gardens and grounds were kept in a state second to none in the county. Fruit culture, both indoors and out, was here a speciality, as was also the production of flowers suitable for house decoration. The enormous quantities of vegetables consumed entailed considerable forethought, time, labour and skill in their production.

On the 14th September, 1889, Mr. McLeod, having journeyed to London, took charge of the estate of Dover House, Roehampton, belonging to the late Junius Spencer Morgan, Esq.; and here we find him still as steward to J. Pierpont Morgan, Esq., who, together with his family, takes a keen and active interest, both in the farm, garden and pleasure grounds, sparing no expense in keeping up this suburban residence to a great state of perfection. Being on the old valley gravel similar to that of Wimbeldon Common, Putney Heath and Richmond Park, it is of a gravelly and very poor character requiring the introduction of great quantities of soil of various kinds, as well as manures to suit different fruits, flowers, vegetables, shrubs and trees.

Within the last few years Mr. McLeod has effected many improvements on the lawns, uprooting many

old shrubberies, making up the hollows and planting beds of various trees and shrubs in combinations for effect. All the smaller beds are of simple design, only one or two kinds of shrubs being used. Vast improvements of the staple of the soil were effected by the introduction of hundreds of cart-loads of clay obtained from the foundations of the beautiful church recently built at Roehampton. The lawns by these processes have practically been revolutionised, and a great deal more open sward now exists in front of the house. What walls there are, are furnished with many interesting climbers. Two roseries have been made, one for *Teas* and the other for hybrid perennials and their allies. Enormous quantities of Banstead loam at great cost have been used in these roseries.

Being steward the whole estate comes under his care. It is pleasantly undulated with fine pasture for grazing and hay making; while fine trees are plentiful, especially towards the boundaries. Five horses are kept on the estate, and twenty-five head of the famed Alderney cows, pure bred and beautiful animals. We can now see that Mr. McLeod's early training has proved of great service to him, seeing that he has the superintendence of the whole estate, with men under him in each department. We wish him a long and useful life in the work he has been called upon to accomplish.

NOTES ON CAMPANULA.

CAMPANULAS almost without exception are distinguished for great beauty and elegance; and in many cases they are handsome and brilliant in addition to their other merits. From the tall *Campanula pyramidalis* and the broadly spreading *Campanula Medium* down to the very dwarf *C. pulla*, *C. pumila*, *C. garganica* and others there is every degree of size and habit. As a rule the flowers are either white or a shade of blue.

They are plants which have long been found in British gardens. It is over 300 years since the Canterbury Bells were introduced to these islands, and the equally well-known Chimney Bellflower has even had a longer reign. The shape of their flowers would soon obtain for them the popular name of Bellflower, and according as they first grew or found favour at a special place, would their other names be applied. Thus the Canterbury Bells are almost certain to have derived their common name from their connection with Canterbury city, or they very likely were brought to notice during one or other of the pilgrim journeys to Thomas à Beckett's tomb. Some of the other old Campanulas receive their common name from the form of their foliage, as *C. persicifolia* or Peach-leaved Campanula; or from the towering inflorescences and other points of especial appearance.

The Scottish Bluebell is a true Campanula, but the English Bluebell is a hulious plant, like a *Hyacinth*—the *Scilla nutans*—which flowers in May.

We often hear of "One-plant gardens." A single genus which provides plenty of variation in its species and varieties is specially classified and cultivated in a garden or portion of a garden by themselves. A Primrose or a Rose garden is quite common and they are the acme of loveliness and furnish high interest. Occasionally we may see a garden wholly devoted to the species and sections of Irises, or Lilliums, or *Narcissi*. Where space and means permit of it, there is no form of gardening to be compared with this method. Unfortunately only a few could carry out the principle to its full limits, and these do not do it. But there is no reason why an amateur or a person of affluence may not have a Campanula garden. A whole collection of Campanulas of all kinds may be successfully grown in a few square yards of rockwork and border. But this is not the style of "One-plant gardening" that will ever satisfy anyone. And Campanulas even more than any other plants, or at least, equally as much as other plants, should be grown in broad sheets, far spreading and freely disposed. Where is the use or the sense in planting a patch of any one plant if you require to adjust your eye-glasses to discover it? But though I filled all this column and three parts of the next in arguing in favour of "sheet-planting," otherwise termed "massing," perhaps no more would be accomplished than if it were simply expressed in the words, "Try the plan."

The culture of Campanulas is so easy that this may be accepted as an additional reason for growing

a full collection of them. The Canterbury Bells are readily raised from seeds, as are also the *C. pyramidalis* types, the *C. persicifolia*, and all those that are either annual or biennial. The perennial species are usually increased by division in spring or by striking cuttings at that period. When planted out they only require to be occasionally attended to with water. A soil of medium grade suits them best.

Among dwarf Campanulas one of the finest, as a vigorous spreading species and pretty as well, is *C. garganica hirsuta*. The flowers are blue and the leaves hoary, while the stems creep over a good deal of surface when the plants are well suited. *C. garganica* itself is good. *C. pulla* var. *G. F. Wilson* grows from 4 in. to 6 in. high, bearing a profusion of violet-blue, large bell flowers. The varieties of *C. carpatia* are well known dwarf Campanulas. The species itself is blue, *C. c. alba* is white, and *C. c. grandiflora* grows 1 ft. high, having light blue flowers. One of the sweetest of them all and a perfect gem for a rockery is *C. Hostii alba*. It is exceedingly slender and graceful, bearing numerous pure white bells of moderate size. *C. Hostii pallida* is not so charming because it is blue, and there are so many fine blue Campanulas. For growing in masses to form continuous sheets of brilliant deep blue, use *C. portenschlagiana*. It should be grown in the rockery in somewhat sheltered pockets. Then still among the dwarf Campanulas we have that grand little plant so popular with cottagers and flower lovers in general, *C. isophylla alba*. It does fairly well planted out in borders or rockeries, but in such places its large white flowers are not seen to advantage; and on the occasion of a sharp shower of rain they become much spotted and bespattered.

It strikes readily from cuttings taken in spring or indeed any time of year, and may be wintered in any cool house without much light or moisture. It forms a suitable edging plant for a window box. *C. pulla* has been mentioned. It is dark violet-blue and very dwarf. *C. rotundifolia* is the representative Scotch Bluebell, and is one of the prettiest of hardy native plants. *C. turbinata* is also a fine species which grows freely either on the rockery or the herbaceous border. It gets to nearly a foot in height, and bears a profusion of large-sized violet-blue open-mouthed flowers. *C. latifolia* and its variety *macrantha* are among the tallest and very best. *C. glomerata* and *C. g. dahurica* are distinct because of their bunches of violet-blue flowers which are so freely borne. It is one of the best. But the whole of them are fine.—*Edina*.

Kitchen Garden Calendar.

CABBAGE SEED.—The main crop of this should now be sown, choosing an open situation, particularly where it is intended that some of the plants are to stand in the seed bed through the winter. When sown on a border where there is an accumulation of fallen leaves the plants become drawn, and often either damp off in wet weather or get frosted should the winter be severe, so that instead of having sturdy plants in spring they are quite worthless. The seed should be sown thinly that the plants may be dwarf and compact. The varieties we have found most useful are Flower of Spring, Main Crop, Enfield Market, and Barnes. As a rule it is not large heads that are required, but close, compact ones that are crisp and tender.

SPRING ONIONS.—These are somewhat later this year in finishing their growth, owing to the wet at the commencement of the month; but should we have a spell of dry weather they will doubtless ripen in due time. Where there are no signs of the foliage ripening press the stems down, which will cause the flow of sap to be arrested, and will hasten maturity. When lifted the bulbs should be spread on the surface to dry, or, what is better, on a hard gravel path. When dry they should be stored in a cool, open shed, taking care to keep each variety separate, those of the Spanish type being used first. Where autumn Onions have not been sown no time should now be lost in getting the seed in, or the plants will not have time to get established before cold weather sets in.

CELERY.—Where this is required for immediate use the most forward lot should be earthed up for blanching. It is, however, not advisable to blanch too much thus early, as when blanched the stems do

not keep sound so long, particularly should there be a wet autumn. The latest lot should have been planted by this, but if not already done no time should be lost in completing the work. If the weather should be hot do not fail to keep the plants well supplied with water, or progress will be slow.

FRENCH BEANS.—If a sowing of these be made now in a pit where a little fire-heat can be applied, should the weather be unfavourable, these should give a good supply till well on in November. It will not be necessary to cover them with glass until such times as there is danger of frost setting in. Runner varieties must be well attended to in the way of watering if the weather be hot and dry. No vegetable gives a better return for the labour than the Runner Bean, as an enormous quantity may be gathered from a single row when due attention is given them, but when neglected they are of but little value.

CAULIFLOWER.—In late districts the seed of this should now be sown to provide plants for pricking out into cold frames, but in the south it is well to defer sowing till the first week in September, as the plants are apt to get too forward in spring. The same remark applies to Lettuce. When sown too early these seldom do well, as they are often killed by frost when the winter is severe.

MUSHROOMS.—Manure should now be collected for making up beds for winter. At this time of the year there are usually plenty of these to be gathered in the fields, and one is apt to forget there will be a time when these are scarce. Beds in the open ground should now be in full bearing. To keep them thus as long as possible pay particular attention to protecting them from too much wet, should heavy rains visit us, and should we have a dry spell watering must be carefully attended to.

Weeds have of late grown apace, and as the weather has been somewhat unfavourable for getting rid of them every effort should be made to prevent them seeding. Any vacant ground should be dug, as this will destroy them better than anything else.—*F. W. J.*

THE PLANT HOUSES.

HARD-WOODED plants, such as Indian Azaleas, which may require a shift, must be attended to at once. Any which were seen to some time back and which have made their growth, should be placed out on a path, where slight shade can be afforded during the hottest part of the day. When placed out in such a position their growth becomes thoroughly hardened and the buds expand strong and well the next spring. In rainy weather, or continued rainy conditions, it will be necessary to shift them under cover. Plants with perfect drainage, can stand much rain with impunity.

Fuchsias on rafters require a little feeding. In houses of moderate height such plants are as decorative as anything else one could employ. *Plumbago capensis* is a sight at present in cool greenhouses. In the warmer houses, though the plants are still vigorous, some of the shoots may be thinned out, or shortened back. Another fine greenhouse climber, which those who have not got might well make enquiries for, is *Maurandya scandens*. The tubular flowers are deep pink or purplish, shaped not unlike an *Achimenes* and borne in fair profusion upon long stalks. The lobed leaves form thick clusters, and during growth the lateral shoots should be properly regulated, keeping them at distances of 8 in. or 9 in. apart. Cuttings of the young shoots may now be inserted, and speedily rooted, by allowing a mild bottom heat; or seeds may be sown in spring. Some of the *Maurandyas* are annuals. *M. scandens*, I believe, succeeds out of doors in warm and protected situations. Roses on pillars and trellises have slight cessations in their course of blooming. When one crop of flowers has been taken, give the plants a vigorous syringing and soak the roots, adding some liquid manure. A second and third out-throw of blooms thus rewards one.

CINERARIAS.—Keep these thoroughly clean, and now that the weather is damp and cool, be exceedingly cautious in the watering. Turn them around and rearrange them once a week, brushing the cinders to freshen them. Should strong sunshine shoot out and continue long, a light shading will be necessary. The same remarks apply to *Calceolarias* in frames.

CHRYSANTHEMUMS.—We have had an experience of the rough winds which, as was pointed out, one might now expect during the autumn and winter. Chrysanthemums, like Phloxes and such-like in the open, have been much hashed in gardens that are open and exposed; and those who are growing exhibition plants do not find these steady soakings of rain at all to their liking. What with so much dull weather during the whole of this year, the wood is not so firm and short as is desirable, with the probable result that the colour of the blooms this autumn and winter may not be so pure and good as it might have been. Now that the plants are going ahead, they require to be daily attended to for tying, pinching and cleaning. Never allow an aphid to appear, nor laterals on stems meant to carry one good bloom. Place in stakes of a size that shall just equal that of the plants when full grown. Cut them evenly at the top. The pots should be washed clean and should be placed firmly on planks, in rows. Erect a fence arrangement to tie the plants to. Sometimes for safety, and to save much of the watering, the pots are plunged to the rims in ashes, but one need hardly say that intending exhibitors do not plunge. If this is done, see that there is drainage beneath the pots.

Stove plants in need of a shift may now be potted on. Young stock must be potted on if clean, healthy plants are desired. Sponging, top-dressing, tying-in and due attention to watering, ventilating and shading must receive consideration. *Achimenes* and other late batches of stove plants coming into flower, may be placed in a cool house.—*J. H. D.*

Gleanings from the World of Science.

At a meeting of the Scientific Committee of the Royal Horticultural Society, the subjects mentioned hereunder were discussed.

Peaches Diseased.—Mr. Rogers of Bridge Hall Gardens, Bury, sent samples attacked by the "Peach mildew." The Peaches become arrested in patches, never ripening where the fungus is located. Sprinkling with sulphur is the best remedy.

Roses decayed.—Mr. Kelly, Gardens, Greenwell Ford, Durban, forwarded shoots split and decayed. The appearance suggested their being cracked by frost and subsequently attacked by fungi.

Nymphaea synanthic.—Mr. Hudson sent a specimen of twin flowers united, of the lavender-coloured *Nymphaea stellata* from S. Africa.

Stanleya pinnatifida.—Flowering sprays of this Crucifer were sent by Mr. Bunyard. It is remarkable for the long spreading filaments and yellow sepals. It is a native of California, and figured in Gray's *Gen. Flor. Amer. bor.*, pl. 65.

Fig dropping.—Dr. Russell brought some Figs grown against a wall at Ringwood, Cornwall, which turned yellow, became shrivelled, and fell just before ripening. There was no fungus, but it was apparently due to want of water or nourishment. They were sent to Mr. Wright for examination, who reports as follows:—

"There are several causes that will effect Figs like the examples just to hand; such as too much or too little water, not sufficient atmospheric moisture, and sudden checks in the atmosphere, also over-cropping. Any one of these will cause the fruit to drop prematurely. No fruit requires so much care and attention as the Fig."

Pears decayed.—Dr. W. G. Smith sent the following report on Pears received from Rev. H. W. Fletcher, Bicker Vicarage, Boston:—

"The Pears received were quite dried up, and full of mycelium; they had assumed the mummified condition which follows attacks by *Monilia fructigena*, the brown fruit rot of Apple, Pear, Peach, and other Rosaceous fruits. Cultures in a moist chamber produced several forms of fungi, including the form of spores known as *Monilia*. There were some insect larvae in one of the fruits. Your correspondent mentions that the check began during a south-east wind, and also that the very early sorts escaped attack. In view of this it may be safest to assume that the crop received a check by this wind, and that the fruit was thus rendered susceptible to attack by fungi, &c.; the *Monilia* form producing the mummified condition of the fruits received. The earlier sorts escaped because the fruit was further advanced and more resistant. All the dried fruits left hanging on the tree should be gathered and burnt."

HINTS FOR AMATEURS.

Hardy Aquatic Plants.—Inland waterscapes owe much of their effectiveness to the association with them of suitable herbage and vegetation. We of the garden cannot conceive of water alone, water unadorned. Sheets of quiet water are either to all appearance dead or they are sad and melancholy, else awesome and gruesome. The association of water (in its many states) with vegetation is one of the most beautiful of the primary features in natural scenery. Unlike many another phase of garden composition, the introduction of a waterscape, such as a lake or stream, is only perfect when natural precept and example is followed. Our British perception fails to be satisfied with a Japanese arrangement of land, water, and plants. Our lake basins and edges must be part of the same soil strata that composes the beds or banks bordering the water. When it happens that a so-called garden designer or landscapist brings in "ornamental water" as a feature of his plan, and chooses, as is frequent, a position not wholly suited for the innovation necessitating up-raised concrete edges which are sure to become exposed, we are never guilty of writing a sonnet in praise of his wonderful work. Some grow angry, and show it. Others point out a means for hiding the eyesore, and hardy water plants come more largely into play. Scotch folks sometimes ask whether it was the river Clyde that made Glasgow, or Glasgow that made the Clyde. I never heard an answer to the question, but obviously each made the other. And if anyone cared to ask whether a certain scene was beautiful (in other words "made") from the presence of a breadth of water with the accompanying trees and plants one could assuredly say "yes," yet the one wanting the other might not at all be beautiful. There is an inter-dependence throughout all Nature.

The large aquatic and semi-aquatic plants have naturally the greatest effect, because they are distinctly prominent. Semi-aquatic or bog plants (which must also be included in this article) comprise such as *Funkia ovata* and other of the Plaintain Lilies, *Spiraea Ulmaria*, *Hemerocallis* in variety, *Iris laevigata*, *Gunneras*, *Rodgersias*, *Glyceria aquatica*, *Polygonum amphibium*, and so on. To grow these semi-aquatics by the edge of water it is generally necessary to make some sort of station, not truly a receptacle. Where the edges are not abruptly sloped it may suffice to prepare a root-run, and plant straight away. But in opposite conditions it may be necessary to fix down posts and make a retaining barricade, so that a steady margin may be guaranteed. Small square beds are usually made in those gardens where "collections" are desired rather than the best scenic beauty. Then again, true aquatics like the Water Lilies, *Typhas*, *Sagittarias*, &c., do require, in all cases, a made bed either of stones or wood. To grow aquatics successfully the water should not exceed 2 ft. to 3 ft. in depth. Throughout the water mounds of soil should be made and kept entire by large stones around their base and sides. Sometimes baskets and hampers are requisitioned. Stones or turves are built around these, and they have this advantage, that they are easily situated, and settle firmly when the roots and the body of the soil have consolidated. Rockwork may be used to great advantage around the margin of lakes and streams. Even in small gardens, where ornamental water is introduced, there is need to consider the general aspect of the surrounding features. In "gardenesque" sites the lighter forms of aquatic vegetation should alone be used, or the grander types should be but sparingly employed. But these are matters for discussion elsewhere than in "Hints." In the meantime it will be worth our while to consider some of the aquatic and water-edge plants a little in detail.

Gunneras.—The *Gunneras* are large-leaved herbaceous perennials, which form thickened rootstocks. The character of their foliage is like that of deeply lobed *Rhubarb* leaves, though on occasion they measure several feet across. For growth by the side of water they deserve more attention than they have hitherto received. *Gunnera scabra* and *G. manicata*, the two species most frequently grown, are quite hardy. In a deep, loamy, or humic soil they do well. The natural habitat of the genus is spread variously over New Zealand, South America,

the Sandwich Isles, Costa Rica, and South Africa, there being seventeen species in all. Though generally hardy, a covering of leaves or any of the protective materials may be furnished to them in severe winters. They require less of this when planted in beds as lawn groups or specimens. When propagation is desired the best method is to divide them in springtime. The genus took its name from a Swedish botanist named Gunner. The plants are not fastidious, and to anyone who has space they are commendable.

Bog Rhubarb or Butterbur.—These bog plants are proper enough in their own place, but sometimes they are persistent nuisances, they ramble so. In the country, the water-courses are sometimes almost choked with them. Still, their umbrella-like foliage of a deep green hue is interesting. It little matters what sort of soil one places them in, as they seem to do as well in a gravelly bed as among clay, though a rich soil furnishes the handsomest plants. *Petasites vulgaris* is the common Butterbur, which throws up its greenish flower spikes before the leaves, in March onward to May. *P. fragans*, or Winter Heliotrope, flowers in February. The whitish spikes are decidedly fragrant, like the flowers of Heliotrope. *P. frigida*, also known as *Tussilago frigida*, is another large-leaved species. There are additional suitable species but they differ little in general appearance from those just named.

Coltsfoot.—*Tussilago Farfara* is distinct from any of the *Petasites*. The leaves in the first place are not umbrella-shaped nor are they so soft in texture as those of the Butterbur tribe. They are leathery and in shape they are more like those of a tuberous *Begonia*. These leaves die down in autumn. As a dwarf water-edge subject it is very useful and commends itself. The variegated variety is employed to advantage in small raised beds quite apart from contiguity with water. When it becomes highly coloured toward the end of summer it is a bright little plant. I have also seen it used effectively in rockeries. Sometimes it is grown in pots, but it serves a better purpose when planted under the stages.

The Flowering Rush.—All Rushes flower, and there are plenty of Rushes—the Bulrush for instance, and the Banded-rush, besides which the species of *Juncus* are called Rushes. But the flowering Rush is *Butomus umbellatus*, a stately plant which develops erect flower stalks terminating in pretty umbels of rose-pink cup-shaped flowers. The foliage is grass-like, resembling that of *Carex*. The flowering Rush is found wild in English ditches. When cultivated the plant compares well with many other aquatics. Division of the roots in spring is the means adopted for propagation. In height it is 3 ft. to 4 ft.

The Reed Mace.—The Reed Mace, Cat's tail, or Bulrush, botanically named *Typha latifolia*, is another British marsh plant. The name of Bulrush, as was lately pointed out, is incorrect, the plant named *Scirpus lacustris* is the Bulrush. *Typha latifolia*, the broad-leaved Reed Mace produces strange, dense black spikes of about 9 in. in length toward the top of the tall, reed-like flower stalks. This spiked inflorescence is divided into a male part (uppermost, and usually yellow) and a female part. The little seeds or fruits are slightly covered with hairs which aid their distribution. There are twelve species, found in both temperate and tropical marshes. The lower part of the stem of *Typha latifolia* is a thick rhizome, by division of which it may be propagated. Seeds sown in pots and these then plunged nearly to the level of the soil in water is another means of propagating this elegant and prepossessing plant. It should be planted in mud, or it may be placed completely in the water, which, however, should be very shallow. It attains a height of 7 ft. *T. angustifolia* is narrower in all its parts. *T. minima* is smaller still. One way of using these three kinds together would be to plant the tall Reed Mace as a background and to have breadths of the others in front of it.

Iris laevigata.—There is nothing finer than these Japanese Irises for the edge of ornamental water. Their flowers embrace nearly all colours and many of the shades are uncommon, but exceedingly beautiful. As a rule, the flowers are flat, and measure 7 in. to 10 in. across. A marshy piece of land, not submerged, suits them well, or they may be grown in pans and plunged in water during their growing season. Several double forms can be

obtained. Any bulb merchant will supply them. They are usually advertised under the name of *I. Kaempferi*, the name most widely known, but not the correct one. A further reference must be made to aquatics next week.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

The Onion Maggot.—*Ecklinville*: The present has not been a bad season for Onions; hot dry seasons are generally more favourable for the spreading of the Onion maggot. Soot is advised for young crops. It both acts as a stimulant and as insecticide. Crops for pickling may now be thinned.

Mint Rust.—*H. E., Wolverhampton*: Your plants appear to be altogether smitten with the Mint rust. Mint is subject to attack when grown in shady situations. If all the bed is affected as badly as the specimens sent here, your best plan is to burn them all, and make fresh beds in another quarter.

Strawberries in Casks.—*South Hants*: We have seen creditable plants grown from the outsides of casks or wooden barrels. But they must require a great amount of care. Your plan is to get an ordinary wooden barrel of any convenient dimensions, thoroughly clean out the inside, and then drill holes of 2 in. or 3 in. diameter, at distances of 1 ft. apart around the outside of the receptacle. The centre of the barrel may be filled up with a light wooden framework. This frame, which should be somewhat square in shape, should extend from top to bottom, and may be wide enough to hold a goodly packing of fermenting material. Between this central frame and the sides of the barrel the compost for the roots of the Strawberries is filled in. The Strawberries may be planted as the barrel is being filled up. The roots have then a better chance of being well spread. Careful watering is necessary, and the cask or barrel should frequently be turned round to maintain an even growth in all the plants. A considerable amount of Strawberries can be got from a small space, hence its value, as an amateur's contrivance.

Pot Vine for Cool House.—*L. M.*: By selecting a strong Black Hamburg (price about 7/6) you may be able to fruit it next year in a cool house, provided the house is warmly situated, and care exercised in the culture. As you wish to plant it out, prepare a nice border, say 2 yds. wide and 2 ft. deep, to start with. The compost should consist of loam, lime-rubble, old manure, and wood ashes or charcoal. When the leaves have fallen, prune back the cane to 3 ft. from the ground. It would be better not to leave any bunches should they appear the first year. This will allow it to become established, and to throw up a stout rod, which, on being pruned back to 8 ft. at the end of the next season, would be fit to carry half a dozen bunches the following summer. Henceforth it would only need to be spurred-in. Or you can always have a fresh young rod by leading up one of the basal shoots and cutting out the older stem. Still, we would not recommend this. The border would require to be added to, and every care should be taken in ventilating, keeping clean, pinching, thinning, and watering.

Rhubarb and Asparagus.—*T.*: Young Rhubarb plants planted last spring should be allowed to grow rather freely, and the stalks to die down of their own accord. It is not good to take too many stalks from the crowns at any time. We should say it is now too late to get Rhubarb fit for making wine. About the Red Currants for wine we shall obtain helpful information for you. Asparagus crowns should not be cut after the middle of June. When the ripened shoots die they may be cut and used as protective material.

Potting Alocasias.—*Staffordshire*: Frequent shifts are not beneficial to the well being of Alocasias, Anthuriums, or any such plants. Unhealthy plants, however, must at all times be "doctored," and often the remedy lies in renewing the compost.

Thoroughly clean pots should be used. Crock them with the utmost care to the depth of 3 in. or 4 in., and cover the crocks with clean fibre. Employ a compost of fibrous loam and peat, one half each, and broken crocks, pieces of charcoal the size of finger-nails, and coarse silver sand at the rate of one-fifth each. Sphagnum is used, but this we do not recommend. Mix thoroughly, and after having examined the roots and pruned off any decaying parts, even washing them, if the previous compost was bad, place them within the pot, spreading them well out, and work the turfy compost all around them firmly. Do not use a rammer, but consolidate the compost by gentle knocking and tight pressing with the fingers. Keep the base of the plant level with the rim of the pot. As a rule the surface of the compost around the plants is slightly mounded up to keep the base of the stem drier and healthier. It may put you to some inconvenience to get good fibrous peat and loam, but if you wish your Anthuriums to grow well you must obtain it. Always use water for dewing, and for watering with, which is of the same temperature as that of the house in which they grow, and a stove is necessary with a minimum of 63°.

DEATH OF AN EMINENT HORTICULTURIST.

MR. JOHN LAING, V.M.H., F.R.H.S.

It is almost unnecessary to introduce the name of Mr. John Laing to our readers, so well known has he been for many years past to a wide circle of the horticultural fraternity and others. It is our sorrowful duty to intimate that he died at 3 p.m. on Wednesday, the 8 inst., at his residence, Stanstead Park, Forest Hill, at the age of seventy-seven years. Though he had passed the allotted span of three score years and ten, he seemed a robust, hale, and hearty man till quite recently. We had some indi-

good one, which he used to good account in imparting a love of plants to his pupil. Mr. Laing took up the subject in considerable earnest, collecting and identifying the wild plants of the neighbourhood by study and the use of books in his leisure time, which was by no means great, for Old Montrose was by that time little else than a market garden with work-



MR. JOHN LAING, V.M.H., F.R.H.S.

ing hours from 5 a.m. to 8 p.m., four days a week during summer. But "Where there's a will there's a way," and Mr. Laing pushed his studies in spite of difficulties. He remained at Old Montrose for four years, receiving many hints from a medical student, his companion, till the latter received an appointment at Manilla.

After acquiring a good knowledge of the British phanerogams in the district he took up the study of cryptogams, particularly Mosses and Jungermanniae.

The next stage of his career was spent at Kinnauld Castle, the seat of the Earl of Southesk, where he acted as journeyman gardener, and continued his studies. Here he discovered several Mosses previously unknown in the district, as well as *Corallorhiza innata*, a rare British Orchid. Long hours in the garden were here again the rule, and by way of compensation the young men were allowed an eight days' holiday in the year. On the occasion of the first of these Mr. Laing and a couple of his friends started on a botanical excursion to the Grampians, visiting Ballatar and Lochnagar, climbing the mountain till on the summit they discovered the beautiful *Azalea procumbens* covering the ground with broad, smooth carpets of its leathery evergreen leaves. *Saxifraga rivularis* and several other interesting plants were amongst their finds. Looking across the Dee they enjoyed the magnificent prospect of Ben Macdui and other big bens in that region. They spent the night in a farm house in the spital of Glen Muick, and resuming their journey visited Glen Clova and Loch Brandy, in whose dark waters they found *Lohelia Dortmanna*. On the following day they found *Lychnis alpina*, *Linnaea borealis* and *Sonchus alpinus*.

After two years at Kinnauld Castle Mr. Laing went to the Royal Botanic Gardens, Edinburgh, when the late Mr. McNab was curator. Here the study of botany was more actively pursued than ever, and during one of his rambles discovered on the Salisbury Craigs a rare *Dianthus*, which had never before been known in the district. When a specimen was shown at a meeting of the Edinburgh Botanical Society the learned professors hinted that he must first have planted the *Dianthus* and then discovered it. Taking the clerk of the society with him one evening he pointed out the plant in an almost inaccessible position. For this discovery he was made an associate of the society with all the privileges of a Fellow without having to pay. He took advantage of the monthly meetings and ex-

changed specimens with the society and its members. He was endeavouring to qualify for the curatorship of a botanic garden or to go abroad as a collector. Failing to secure an appointment vacant at Madras he determined to enter the nursery business.

In August, 1847, Mr. McNab secured his appointment as manager of the Onchan Nursery in the Isle of Man, and he was so successful that he was offered the business on favourable terms; but he could not decide upon settling here and resolved to leave the island.

The Royal Caledonian Society offered a Silver Medal for the best fasciculus of British Mosses in 1847, and Mr. Laing decided to compete, but felt rather afraid of Mr. McIver, of Kew, who had been collecting Mosses all over the country for the late Sir William Hooker. He therefore resolved to limit his collection to specimens collected within a radius of ten miles of Edinburgh. Mr. McIver in the meantime received an appointment to go to Madras, and Mr. Laing arranged his Mosses while in the Isle of Man and sent them to Edinburgh, where the prize was awarded him unanimously. Professor Greville, Dr. Balfour, Dr. Neil, and others examined the collection, finding everything correctly named except one variety to which they did not give a name. Mr. Laing was very proud of that Medal and frequently spoke of it. He also treasured his collection of Mosses, which he has shown us more than once, with fond recollections. He has also recounted to us some of his most arduous and most successful botanising journeys from which he returned faint, weary, and hungry, till he arrived at some human habitation where he could get food.

His next move from the Isle of Man was to Chester where he was given the management of the indoor department of the nursery of Messrs. F. and J. Dicksons' Nursery. Later on he was offered the control of the whole business, but he declined on the ground that he was not qualified for the post.



MR. JOHN ALEXANDER LAING, F.R.H.S.

cations of the symptoms that old age and hard work were telling strongly upon his constitution last autumn when he fell down helplessly at the Crystal Palace, and had to be conveyed home. The immediate cause of death was a stroke of paralysis, which was quite unexpected, as he had greatly recovered his wonted health.

Mr. John Laing was born in October, 1823, in the parish of Careston, Brechin, Forfarshire, so that he only wanted some seventy-six days of completing his seventy-seventh year. Horticultural work was truly his natural sphere of action, and we have the evidence that he commenced work as a lad in the gardens at Old Montrose, under Mr. Reid, an enthusiastic gardener and exhibitor of those days, who, no doubt, imparted to his subordinate some of the fire which stimulated his own activity. A collection of hardy herbaceous plants is generally a feature of northern gardens, and Mr. Reid had a



MR. JAMES HENRY LAING, F.R.H.S.

After that he became gardener to the Earl of Rosslyn, Dysart House, Fife. Here floriculture took a firm grip upon him, displacing his ardour for botany. Lord Rosslyn had a splendid collection of Rhododendrons, and was also fond of Hollyhocks. Under Mr. Laing's care the latter soon rivalled the Rhododendrons. He set himself the task of crossing the small and compact English varieties with the large Scotch strain having broad guard-petals, and with the new strain he beat both the English and Scotch competitors at the Edinburgh shows. He also took to improving the Show Pansy, and was remarkably successful. Some of his finest, including Countess of Rosslyn, Colonel Wyndham, &c., eclipsed all others of that day. He was the first to flower *Rhododendron dalhousieanum* in Europe, and this fact was recorded by Sir William Hooker in the *Botanical Magazine*. By hybridisation he raised

many new things, including Countess of Haddington, which is still cherished in cultivation. *R. dalhousieanum* was one of the parents.

Cinerarias, *Calceolarias*, and *Chrysanthemums* were all, in turn, undertaken by Mr. Laing and grown to perfection, as testified by his successes for years at the exhibitions of the Royal Caledonian Horticultural Society. On the testimony of Mr. James Douglas, the Dysart House *Chrysanthemums* were as fine as any seen in the south up to ten or twelve years ago.

After twelve years' service at Dysart, Mr. Laing joined the firm of Downie & Laird, in Edinburgh, in 1860, the title then becoming Downie, Laird & Laing with whose legend of superscription the gardeners of the British Isles soon became familiar. Mr. Laing opened a branch for the firm at Stanstead Park, Forest Hill, where he has just closed his brilliant career. After fifteen years, namely in 1875, the firm was dissolved so far as Mr. Laing was concerned. He improved and extended the nursery at Forest Hill till he became the leading nurseryman in the district. Floriculture was his strong right arm; and his exhibits of show and fancy Pansies, Antirrhinums, Fuchsias, Pentstemons, Phloxes, Hollyhocks, bronze and tricolor Pelargoniums, and latterly *Chrysanthemums*, amply testified to the real and substantial improvements he effected.

When progress in the above became slow he turned his attention to tuberous Begonias, with what results we all know, for he quite revolutionised the genus. The start was made in 1875, when he had established himself on an independent footing. He felt there was a grand future before the tuberous Begonia for the decoration of the greenhouse and conservatory, and as an outdoor bedding plant. He commenced by hybridising and cross breeding with *B. boliviensis*, *B. Veitchii* and *B. Pearcei*, together with the then existing varieties Dr. Masters, Mrs. Masters and Dr. Hooker. The results were unpromising enough; but he was not disheartened. By getting together the best home and Continental raised varieties he set to crossing them with his own and one another, and in the following year had the pleasure of noticing some decided improvements. This fired his old zeal, and he continued the work, with the result that he saved seeds of some 57 crosses which he sowed in January, 1878. At South Kensington in the summer of that year he startled the floricultural world by showing a splendid group of his seedlings at a meeting of the Royal Horticultural Society, which awarded him a Gold Medal and several First-class Certificates. From this time the tuberous Begonia was regarded as the coming flower.

By repeatedly crossing Veitch's Queen of Whites and Henderson's White Queen, Mr. Laing raised 500 white flowered seedlings in 1879, recording a great improvement upon existing whites. Stanstead Rival was the best, being the first with nearly erect flower stems and round flowers. He redoubled his energy, and in 1880 he had seeds of 161 crosses of single and double varieties. Year by year this number mounted up until his annual raising numbered some quarter of a million seedlings, several long houses being filled with pot plants, and nearly two acres being planted with them. From *B. Sedeni*, the first hybrid, to Queen Victorla, which formed one of the set of Royal Begonias in the Jubilee set of 1887, was a far cry, but that was not the goal of the race.

Mr. Laing read a paper on "Tubercus Begonias," at the Begonia Conference, held at Chiswick on August 23rd, 1892, when his name was accompanied by such titles as F.R.H.S., A.B.S.E., F.S.A., F.S.A.F., F.S.H.F., and F.N.C.S. In 1897, the well-known V.M.H. was added. At the Conference, Dr. Masters admitted that, botanically speaking, the Begonia was no longer a Begonia according to the descriptions of the botanists, but has been improved and transformed into something else.

Thus dies an eminent horticulturist, a florist of the first water, by whose labours many thousands of his fellow men in the British Empire, and on the Continent, and in America have been cheered. He has been a member of the Floral Committee and a Fellow of the Royal Horticultural Society for considerably over a quarter of a century (about 39 years), and was a familiar feature at all the leading shows about London and at the meetings of the R.H.S., till recent years when failing health kept him more at home. Many of our readers will recognise the accompanying portrait (see p. 805) of a gentleman who was a courteous, warm-hearted and sociable companion. He

leaves a widow and two sons in the business. The funeral took place at Brockley Cemetery, Kent, at 3 p.m., on the 11th inst.

We here reproduce the portraits of his two sons, Mr. John Alexander Laing, and Mr. James Henry Laing, the elder and younger respectively. (See p. 809.)

As befitting the particular work in which Mr. Laing's life had been so well spent, the coffin and hearse were smothered with lovely wreaths; some of them, made up by the staff at Forest Hill, excited the keenest admiration of the professional horticulturists present at the burial service.

The two sons, Mr. John A. and Mr. James H., were present, and were accompanied by their uncle, Mr. M. Hales; their cousins, Messrs. A. Garside and John Soutar; Mr. Alfred Sykes (executor), Messrs. Geo. Howe, J. Stewart, G. W. Frowd, J. Deacon, S. Catchpole, Fred. Boyle, J. W. Wilkinson (Royal Aquarium), John Carline (Surveyor to Lewisham Board), B. W. Bennett, J. F. McLeod, J. T. Hayes, W. Padbury, H. J. Brewer, and T. C. Ward (of Pollett's, Ltd.), R. Glendinning, Fred. A. Cobbold, and a great number of others to whom the deceased was well known.

The managers of the various departments at the nurseries occupied one of the numerous carriages. They were Mr. H. Hedges, manager of the Stanstead Park nursery department; Mr. G. M. Bick, manager of the floral, decorative, and landscape department; Mr. P. Laffin, manager of the farm nurseries; Mr. W. King, manager of the Begonia department; Mr. J. Wright, manager of the herbaceous department.

The service was conducted by the Rev. J. C. Foster, Pastor of the Chapel at Sydenham, where Mr. Laing had for fifteen years been Deacon. Mr. Foster was assisted at the graveside by the Rev. W. J. Salt.

Others amongst the numerous sorrowing friends following the deceased were the Rev. Dr. Todd, Rev. A. Chancellon, Mr. Whalley (Addington Park), Messrs. Brewer and Ward (Messrs. Pollett, Ltd.), Mr. A. J. Tozea (Yalehock), Mr. J. Bannerman and Mr. Johnson of Kenley, representatives from the Lewisham Board of Works, Guardians, Vestry, other local secretaries, Crystal Palace Co., &c.

Wreaths were sent by pastor and deacon of Sydenham Chapel, Mrs. C. F. Bause, Mr. Jules Fox (Lager Beer Co.), E. H. Gough (Australian Press), Mr. J. Soutar (Dundee), Crystal Palace Co., Mr. J. T. Hayes (Castle Ashby Gardens), Rev. J. and Miss Lascelles, Mrs. Arthur Hall, Mr. and Mrs. Padbury, H. Overton (Victorla), Messrs. W. Y. and A. J. Baker (Thames Bank Iron Co.), Mr. Whalley (Addington Park Gardens), Mr. A. Sykes (executor), Mr. and Mrs. W. Icton (Putney), the employees of the shop and nurseries department, and many others.

GARDENING IN TRINIDAD.

Special to THE GARDENING WORLD.

A CORRESPONDENT writes from the Royal Botanic Gardens, Port of Spain, Trinidad, B.W.I.:—"Our new Botanic Station is getting into good working order now. We have had a fine two-storey building put up as offices, herbarium, laboratory, and lecture room. This month (August) we have a three weeks' course of lectures in scientific and practical agriculture for the benefit of about forty school teachers. I had to give eight of these lectures in last January's course. They occur twice a year—in January and August—lectures five days a week, the theoretical lasting one and a quarter hours, and the practical the same period each afternoon. There is a different set of teachers each time.

"Our new nursery is about full of young plants—tropical timbers, fruit trees, Palms, Coffee, Cocoa, Cola, and decorative plants of many kinds. We had two plants of *Acalypha hispida* (Sanderi) from Kew last year, and they promise to do well, for we have now about a dozen young ones growing finely from cuttings.

"This is the Mango season, and no doubt a good Mango is delicious. Our only bearing Mangosteen tree has an enormous crop this year, but the fruits are not ripe yet. You would require to come out here to get a good idea of plants and scenery, and of the life in this luxuriant corner of the globe. Reading Kingsley's 'At Last' gives one some knowledge of it."

HOLLAND HOUSE, KENSINGTON.

(Concluded from p. 796.)

AMONG other fine flowering trees pointed out was a double white flowered Horse Chestnut. This beside *Aesculus rubicunda* both heightens its own effect and that of the red species. A reference was made in the previous note to the Lilies which are promiscuously displayed by the thousand. Another telling feature at the present time is the Foxgloves; these and the red *Lychnis coronaria* brighten up many a corner and patch of ground. An effective group (everything is in groups) is composed of Nut trees, the dark red *Diervilla Eva Rathke* and the Foxgloves and *Lychnis*. *Cytisus capitata* is a distinct member, having pretty foliage and capitate yellow flower heads. It grows in graceful, yet compact form and favours a sheltered corner.

By the margin of a pool the tall and arching blades of *Cyperus longus* stood out in pleasant contrast to the glaucous grassy leaves of *Elymus arenarius*. The tall growing aquatic *Ranunculus* (*R. Lingua*) with its glittering canary-yellow flowers is a queen among present blooming water plants. Fancy a free spreading head of bright, large sized Buttercup flowers on slender, though erect stems, and having long tongue-like leaves below, and the whole thing growing from a still sheet of dark water; it is splendid. *Cladium Mariscus*, a rush-like plant, was also well represented. *Scirpus lacustris*, growing 4 ft. high and having dark rounded stems with the brown flowers at the apex, may be added. *S. erectus* and *S. riparius*, &c., are at present included. The common *S. sylvatica* for damp places and *S. lacustris zebrinus* are two other fine plants. Mr. Dixon finds it difficult to keep the labels for the aquatic plants from corroding or from becoming confusing by being shifted. In water of an ordinary depth, say 3 ft., flat lead labels with the name impressed and painted white, raised above the water by fixing them to stout wooden stakes is perhaps as good a method as any.

Both the red and white flowered *Epilobiums* (*E. angustifolium*) are liberally planted. The plan is to make a bed of about a dozen plants around the stems of standard trees. This is real gardening, and furnishes a charming scene. *Fraxinus aucubaefolia* forms a handsome tree; and *Celtis cordata variegata*, with its yellow and green foliage, is very beautiful. Beds of *Wichuraiana Briars*, *Cornus Spathe aurea* and suchlike, further go to demonstrate the variety of hardy ornamental subjects in the gardens at Holland House.

Pterocarya laevigata with pinnate foliage like so many other trees already named, *Pyrus Sorbus*, *Fraxinus Ornus*, *Xanthoceras*, &c., all have beautiful pinnate leaves. One of the handsomest trees so far as foliage goes, that we have in our gardens, is *Dimorphanthus mandschuricus*, something after the character of the Tree of Heaven or a Giant Sumach, but altogether distinct. It is fairly well known and coming from Manchuria ought to be quite hardy in the British Isles. Another large leaved shrub, and one which is handsome enough in its way is the Paper Mulberry, *Broussonetia papyrifera*, a Chinese native. The leaves sometimes develop to $\frac{1}{2}$ ft. or more in length and breadth, and become most peculiarly lobed. It is certainly an interesting tree and a very valuable one economically. *B. Kaempferii* is somewhat more erect in growth, with darker leaves shaped like a top. It also is worth the having.

After having spent so long among some of the beds and shrubs, a nice little rockery, having a dripping stream flowing over steep set boulders at the higher end, and being continued in a narrow channel between each rocky side forming the contortious home of alpine gems, was reached. Like so many of the other features of the Holland House of the present, this delightful little rockery has not long been completed. So well planned and planted has it been that it wears quite a natural and furnished presentment. The deep brilliant blue flowered *Lithospermum prostratum* has at last been successfully established, much to the pleasure of both Earl Ilchester and his head gardener. *Hippocrepis comosa* with its yellow flowers, *Delphinium nudicaule* with orange-red racemes, and *D. Belladonna* with spikes of brightest blue, were flowering in company with *Veronica prostrata*, *Lavandula purpurea*, *Ramondia pyrenaica* (now just past), various *Linums*, among which was the *L. arboreum*, doing splendidly. *Thymus Serpyllum* and *T. S. coccineum* spread over the stony path and send up a pungent agreeable

aroma as the foot presses upon them. Sedum acre with its dazzling sheets of dwarf, rich, yellow-cupped flowers, covered rocks, stones, banks and ledges, and formed a wonderful scene of appreciable glitter. For such purposes and places it is a lovely little plant.

Geum coccineum is a popular favourite, and worthy of a place in everybody's garden, but the numbers of fine Geums are too numerous to individualise. Again the qualities of Gypsophila Stevensii were proved by the luxuriant and bold masses it formed on the rockery. Saxifraga umbrosa, or London Pride, does well anywhere. The curious and pretty little Edelweiss is growing in strength; Dianthus Napoleon III. shows out well, as do other Pinks; D. deltoidea being fine; Brodiaea coccinea is conspicuous; and Aubrietia deltoidea. Wm. Ingram, a warm crimson-mauve, covers some rockery pockets in an effective manner.

It is a tasteful rockery.

Fine healthy bushes of Coronilla Emerus bank up the back parts of the sloping sides. Forming a part of the rockery, though at the same time distinct, is a bed of bardy and half hardy cactaceous plants—Pyllocacti, Aloes, Agaves, Cotyledons, Crassulas, Gasterias, Opuntias and Dasylirions. This, as may be imagined, is an interesting feature and one rarely to be found in private or any other gardens. The pretty little Convolvulus mauritanicus which scrambles about and flowers in autumn, was noted among the Cacti. More of the Opuntias, &c., have been planted on an eminence near this other bed. The plan in constructing the stonework for these plants has been to form recesses, having the overhead protection of a large flat stone. The appearance of these is like a number of large loop-holes within which the plants have been planted and are doing surprisingly well.

A full collection of Yuccas is grown, these being disposed in various parts. The Bamboo garden is becoming quite like what a luxuriant oriental garden must be, so well have they established themselves. The new Japanese garden, which is not quite completed, has an encircling screen of Bambusa Stevensii and Hydrangeas, Lilliums, Yuccas, Roses, Phormium tenax, Latanias and many other suitable plants have been planted. The plan follows the "Willow pattern," which is so well known from being on millions of dinner plates and saucers.

The Japanese garden is on sloping ground with a winding stream, and pools formed successively in line to the lower ground. Stepping stones have been placed in these pools, and by-and-bye a bridge will be erected between two of them, from the top of which one may then view the whole of this Japanese garden. There are many other notes which one would like to make but enough has been written to show what energy and enthusiasm can do and is doing to make this old place lovelier, better and more interesting still.—D.

ACTON SCIENTIFIC SOCIETY AND FIELD CLUB.

ON the occasion of the Horticultural Society's exhibition in the Public Park on the 25th ult., this newly-formed body of naturalists was much in evidence. The members representing the different sections of the society contributed each of his special store, which together formed quite a feature of the show, and is, therefore, worth more than a passing note. The most showy exhibit, and in consequence the most attractive to the general public, was a large and well-selected collection of British butterflies and moths. Mr. Battley, of Hanwell, a gentleman who has been collecting for years, kindly lent these cases, which contained a great variety of Lepidoptera, as well as a number of other species. But perhaps, from a gardener's point of view, those cases which exhibited the life histories would be the most interesting. Among these were the Cabbage Moth (Mamestra Brassicae), the Puss Moth (Cerura vinula), Six-Spot Burnet (Zygaena Filipendulae), Garden Tiger (Arctia caja), Gooseberry Moth (Abraxas grossulariata), of which there is a large number of varieties, Clouded Magpie (A. ulmata), Cinnabar (Euchelia Jacobaeae), and many others. Cases of Beetles were shown by Mr. K. G. Jones. Another interesting exhibit came from Messrs. J. L. H. & H. H. S. Fisk, and comprised larvae of the Privet, Lime, and Eyed moths feeding on their natural food; also a collection of eggs of various wild birds, as well as

coloured plates of wild birds and their eggs, and butterflies, moths, and wild flowers. Mr. S. Arrow-smith sent minerals and fossils; Mr. G. Taylor, mounted specimens of Seaweed; and Mr. Alex. Ramsey, some valuable maps and diagrams showing the distribution of the American Flora, but more particularly of the woods and forests.

From Mr. Cbas. T. Druery, F.L.S., V.M.H., came a remarkable collection of beautiful varieties of our native Ferns, which had been found by him in various parts of the country. They were exhibited to show the capacity of variation in a wild state and under purely natural conditions, and to prove that only careful search is required to discover other forms equally as interesting and abnormal. Among the Lady Ferns were two specially worthy of a note, viz., Athyrium Filix-foemina var. cristatum and A. F. f. var. revolvens. The former was found near Kilrusb. Co. Clare, Ireland, and is probably the finest tasselled Fern ever hagged; while the latter came from Strathblane, Scotland, and is quite as unique in its way, the pinnae being regularly and symmetrically curved backwards. It is an elegant plant.

Of the Male Fern (Lastrea) Mr. Druery had several varieties, the best, perhaps, being L. Filix-mas var. polydactyla, which, as its varietal name signifies, has flat, spreading, finger-like crests. This also was a Scotch find. L. dilatata gave the discoverer a similar form of cresting (polydactylous). This variety was found at Clovelly, Devon. A tasselled Hart's Tongue (Scolopendrium vulgare var. corymbiferum) was found near Sidford in the neighboring county. Its name is indicative of its cresting, which is very graceful. The Hard Fern (Blechnum Spicant) has given Mr. Druery several good forms, tasselled, ramose, constricted, foliaceous. B. s. concinnum was found on Exmoor, and is probably the neatest and most distinct little Fern which has ever turned up in a state of Nature. Its fronds resemble somewhat a series of tiny scallop shells closely set together. The latest of Mr. Druery's finds is a subcruciate and foliaceous form of B. Spicant, and was found last year near Tintern Abbey. It is apparently a vigorous grower, and a good decorative plant. Other "good" things must go unrecorded. A dozen curious varieties of Scolopendrium vulgare, mostly crossed forms raised by the late Mr. E. J. Lowe, and which are supposed to have a multiple origin, were exhibited by—C. B. G.

TRANSATLANTIC "LINERS."

RATHER an interesting experiment was tried at Easter by the girls of Wellesley College, Massachusetts, who went into the flower business in Boston, with the intention of raising 50,000 dollars in order to secure 100,000 dollars provisionally promised by John D. Rockefeller. A wholesale dealer will supply them, and they expect to sell at cut rates—I don't see how exactly. Of the success of the enterprise, which is intended to last three months, deponent sayeth not.

Those who think of buying fruit farms here would do well in most cases to heed "Punch's" famous matrimonial advice—"don't." In Florida, for instance, some promoters lately had a big tract of land, worth, maybe, one dollar an acre.

Five or six years ago an enthusiast started a fancy farm near by, and regardless of expense, produced a fine variety of crops. Everything he raised experimentally, cost ten times its market value, and he published a pamphlet from which those men quote largely, giving crops, but no expenses, thus entirely misleading practical growers. They have everything attested by affidavits, and their statements are strictly true as far as they go, so the law cannot touch them.

The same applies to California lands. Unless one has a friend out there—one who knows the state of things—it is absurd to risk capital in a fruit farm. In Michigan there is a fruit belt, and outside of that there are no fruit farms, as the ground is pure sand, or unbroken forest. We had a forty acre farm offered to us last year, all in bearing, and with house and offices, for 700 dollars. We did not even inspect it, for the fact is it is a common trick for an agent to sell you a fruit farm which is first-class, and when you get ready to move on it you find yours is an adjacent waste; of course it was a misunderstanding on your part. If a farm is not near a station or pier it is no good, as the fruit spoils so quickly.

There are splendid Strawberries here now selling at eleven cents a quart. They will soon all be over now, and preserving is going on feverishly.—C. Macquarie, Chicago.

THE PRIORY, MELROSE, N.B.

THIS is a place of some historical interest, situated as it is close to the pretty town of Melrose, and within a hundred yards of the Abbey, a fine view of which can be got from the west side of the house. From this point, the grand old ruin seems to stand out from amongst a mass of trees, and looks most imposing; the beautiful Eldon hills rising immediately beyond, makes a pretty scene. The Priory is the property of the Duke of Buccleuch, but has been under the tenancy of the family of Erskine "unto the third and fourth generation," the present occupants being Charles Erskine, Esq., and his lady.

The older part of the house must be of a very early date, as the front, which is of more modern appearance, is built of stones carried from the Abbey, the likeness to which was quite apparent. The house is sweetly surrounded by fresh, well-kept lawns, and a pretty flower garden on the south and west sides, and nicely hemmed in by fine old trees and shrubs. Amongst the trees of interest are some grand old standard Apples of great age. Our attention was also drawn to a fine specimen of Lady Henniker grafted on the Crab some thirty years ago by Mr. Ireland, the present gardener, which is a heavy and never-failing cropper, and one of the best keeping Apples one can wish to have. This same tree has been the means of supplying many a graft for others throughout the country.

Mr. Ireland has been for many years working on the Begonia as a bedding plant, and has been very successful, his beds and flower garden all over looking very bright and neat. All the same, I note here one of the prettiest beds I have seen for some time, which was filled by a ground work of the fine, cut-leaved Tagetes dotted over with Petunia and finished with Ageratum and Tropaeolum.

In wandering over the flower garden, I was reminded of the rhyme that—

"The monks o' Melrose made gude kail
On Fridays when they fasted,
And never wanted beef nor ale
As lang's their niebors' lasted,"

by having my attention drawn to two huge solid copper pots standing on either side of the steps and used as flower vases. These pots, together with a large millstone, were dug out of the ground in making an alteration on the carriage-way in 1846. Along the side of this drive is a beautiful, panelled border, and at the time of my visit it was in full bloom and looked very attractive.

Attached to the house is a good sized conservatory, the staging of which runs in scroll fashion, which gives a fine effect from the adjoining room of the house. This house was well filled, as we have always known it to be, with some good things, notable amongst them at this time being some plants of Hydrangea of huge size, and carrying loads of large blooms, the number of which we attempted to count but failed. Ranged along the top of the stage they looked splendid. Here also were some very fine Begonias, our fancy being specially taken with a very fine double variety for hanging basket work, a seedling of Mr. Ireland's raising, of salmon-pink colour, being another good thing of the same kind and of which we hope to hear more. Some good Cannas, Streptocarpus, Palms, Ferns, &c., made up a pretty house.

In an intermediate house in the kitchen garden was another fine lot of plants for future wants. I could not note all, but here and in pits and frames were to be found Clivias (Imantophyllums), Eupatoriums, Cinerarias, Primulas, &c., all promising well. A very fine hatch of Tomatos in full bearing was also noted. Crops in the garden were all looking well, and fruit crops were all giving a good average return.

Mr. Ireland has been in charge here for the long term of 32 years, and he is a possessor of the People's Journal long service medal. He has been for these many years one of the most popular judges in the Scottish Borders, and elsewhere. I was very pleased to renew his acquaintance, and to spend a pleasant hour or two in his company.—Richards.

Peach trees in America are producing an unprecedented crop this year.

CHERRIES AND PLUMS IN POTS.

At the Drill Hall, on Tuesday, July 31st, Mr. H. Somers Rivers, of Sawbridgeworth, delivered a lecture on the above subject. It was a lecture pregnant with practical advice and, coming from one so competent to teach, the hints are of the highest value. Fruits in the open, Cherries and Plums particularly are so liable to damage and depredation either from the elements in the one case, or by birds, that all things considered, the pot culture of the fruits above-named had much to recommend it.

A span-roofed house of roomy dimensions was suggested, and the ventilators, doors, &c., should be screened by gauze. Considering the trees to be in pots they should be placed out of doors so soon as the crops are gathered, to ripen the wood and plump up the buds. Water them in dry weather and occasionally give them a brisk syringing. In October bring them in for repotting. Employ a good loamy compost, at the rate of one load to two of rotten manure, adding one barrowful of mortar. Drain the pots thoroughly well, carefully ramming the soil firmly. They will require complete repotting only in alternate years. Perfect drainage is very necessary for the successful culture of Cherries. Do not overpot; an 11-in. pot is quite large enough for a three-year-old tree. When finished, the trees are placed close together. Water is given till the leaves have completely fallen, but from the middle of November till the end of December no watering is necessary. At the end of February the trees are pruned. Sometimes no pruning is necessary for old trees in perfect bearing; they confine themselves to forming spurs. Any strong shoots may be left with eight to ten eyes. The pruning finished, the trees are now put out to their summer quarters. A path of 3 ft. width should run around the house, the bed being in the centre. When the pots are plunged in the beds, cover the surface with a 3-in. layer of sifted cinders. Group the trees in the order of their ripening. Fumigate with XL All.

Thinning should be done when stoning is finished, allowing ample space to each fruit. During the blossoming period, all ventilation possible should be given. A single hot-water pipe round the inside edge of the house is alone required. When the foliage is expanding, water may be given very freely. Always damp down the paths and borders up to the flowering period, and after setting-time, syringe. Liquid manures or soot-water may be given twice a week. A good topdressing is necessary when the fruits are stoning, and again just before they colour. Blackfly is their worst enemy, but may be baffled by fumigating, which can be done at any period of growth. Richards' XL All may be used with perfect safety at any time. Good varieties of Cherries, in order of ripening, are:—Guigne de Louvain, Guigne d'Annonay, Belle d'Orleans, Bigarreau Jaboulay, Early Rivers and Belle de St. Tronc. These are all early. Coming slightly later are Knight's Early Black, Governor Wood, May Duke, Belle de Choissy and Montreusé de Mezel. Then Turkey Black Heart, Kentish Bigarreau, Royal Duke, Archduke, Black Tartarian, Bigarreau Napoleon, Guigne de Winckler and Belle Agathe are first-rate late sorts. Though not mentioned in the lecture, Noble may also be included. All the Bigarreau and black Cherries deserve culture under glass.

PLUMS.—The same cultural directions given for pot Cherries hold good for Plums. Selections of the best were given:—Coe's Golden Drop, Jefferson's, Kirke's, Reine Claude du Comte Atthems (Comte d'Althan), Rivers' Early Prolific, The Czar, Denniston's Superb Gage, Washington and Decaisne.

The Japanese Plums could not be called a success in Europe, said Mr. Rivers. We have yet to discover the secret of their culture in orchard houses. Mr. Geo. Bunyard, V.M.H., and one or two others discussed some of the points of the lecture, after which a unanimous vote of thanks was passed to Mr. Rivers.

WAR AGAINST PLANT PESTS.

In the height of summer the amount of time occupied by the hard worked gardener in his endeavours to prevent the encroachments of insect pests, amounts in many cases to one-half his time. Certainly if he can prevent a settlement in the first instance this would seem the most commendable way, but to carry out the work of prevention and to

keep it up appeals to not a few as being quite as bad as it is to allow things to go untended till necessity compels one (reluctantly though it may be) to put forth the ultimatum, and to wage the war of extermination.

As the opening lines say, the height of summer brings an abundance of pests along with the other returns.

The following few hints may be useful to other gardeners at the present time. Blackfly on Cherries (and on other things) is a nasty plague. Strong Tobacco water should be used, or if anyone can get a supply of gas liquor in an easy way, this, diluted with one-third water, may be employed. If syringing can be vigorously performed this method will do; otherwise, the affected shoots will have to be hand-washed. The Black Aphis is far harder to get rid of than Greenfly; it seems to stick so much firmer. The first syringing or washing should be followed up by a second and third on days succeeding each other until the pest has been got entirely rid of, or greatly suppressed. The chief point of value in commencing operations early enough, that is, before the flies have obtained a firm hold, lies in this, that the leaves have not yet become curled up as they usually do to shelter the pests. Greenflies attack nearly everything that is soft and juicy enough for them. When a syringe or garden engine with clean water alone is used, this little insect finds it difficult to thrive. It is good for the plants, as a rule, in more ways than one, to give them a frequent washing. Fumigating is often the best plan for plants which are grown under glass, but for those in the open, which are troubled with Greenfly, any of the following solutions may be made and used. An easily prepared mixture is composed of soft soap, Tobacco liquor, and rain water. It is well to make liberal quantities to start with. The Tobacco liquor should be added at the rate of one in twelve to the rain water, be it gallons or hogsheads; and soap in the proportion of three-quarters of a pound per gallon. Another preparation not often made, but still recommended, consists of 2 lb. of washing soda, 1 oz. of bitter Aloes, and when cold one gallon of water.

Quassia chips are often used, and to good purpose. Boil 4 oz. of these in a gallon of soft water; strain off the chips and add 4 oz. of soft soap, which may be dissolved as the water cools. Syringe with this, and about twenty minutes later syringe again with clear water.

Ants are troublesome little things even though they are so interesting. They congregate in myriads on stove plants chiefly, and in the propagating pits they certainly are not welcome. One of the best means of eradicating them is to lay bones about, so that they may infest these, whence they can then be quickly, yet quietly lifted and plunged into a bucket of boiling water. Carbolic acid squirted here and there eradicates them effectively. Care is required when using this poison. Paraffin oil, benzoline and kerosene are also valuable in this connection.

Mildew is universal, it attacks many of our finest garden subjects, and is one of the gardener's worst complaints. The very best preventive or combatant is sulphur, either syringed upon the foliage or vapourised by means of heat.—S., N. B.

GARDENING MISCELLANY.

RASPBERRY THE HORNET.

WHY such a name was given to this fine variety of the popular fruit is just one of those things a fellow cannot understand. That it is not more grown is, I think, easy to explain because it is a tall-growing variety. I know one man who makes a speciality of it for the Brighton market, who is credited with taking the finest crops there. It is just possible that his ground suits this variety better than many soils do. This at all events is his own opinion. Last year he had one fruit over $\frac{1}{2}$ oz. in weight (this can be attested). Those who have a somewhat damp soil, an open situation, and can command stakes some 10 ft. to 12 ft. in height, if required, should give this a trial. The flavour is excellent.—W. B. G.

A PRETTY COMBINATION.

As edging to walks or in dry strips of ground, the silvery *Euonymus radicans variegata* makes a pretty

carpeting plant. And if the common Bluebell be planted in small clumps among the *Euonymus*, the combined effect, or contrast, is charming.

DWARF PEARS.

THERE is one special advantage in growing dwarfs instead of standards, and that is the case of gathering the fruits. But from want of knowledge, or for lack of applying what one does possess, orchards of Pears are not always so successful as they ought to be. What the faulty points of treatment are, *The Canadian Horticulturist* for May endeavours to point out. These are: First, planting on poor soil. Fruits of large size and in quantity can never be obtained from a light sandy soil. A sandy loam will do very well, but a rich clay loam, well drained, is best of all. Second, lack of cultivation. A standard Pear may get along fairly well under moderate attention, but the Quince stock on which the Pears are dwarfed is a surface rooting tree, and must have top mulchings and proper tillage. Thirdly, neglect of pruning. Proper treatment of a dwarf demands annual and vigorous cutting back of all new wood if over a foot in length. The idea in mind for a dwarf tree should be a pyramid. And fifthly, unprofitable varieties should be discarded.

MOLTOKIA PETRAEA

Is a hardy little shrub, in the southern counties at least, with blue and reddish Borage-like flowers, borne in clusters on the young wood of the current year. So numerous are the clusters of flower stalks with their bunches of bloom that a bush of 3 or 4 ft. in circumference forms quite a feature of any rock-garden. The foliage is somewhat grey and resembles that of dwarf Rosemary. The species under note is supposed to thrive best in a cool greenhouse. The culture is similar to that of *Onosma*, notes upon which appeared at page 696.

SARRACENIA STEVENSII.

For a piece of bog-land or damp ground the *Sarracenia*s are mostly suitable, but none more so than *S. Stevensii*. The flowers are very peculiar, drooping as they do on long stalks. The rich blood-red sepals, and greenish yellow inner segments contrast finely. A sheltered corner is necessary.

TROPAEOLUM LEICHTLINII.

It is not so many years since this bright flowered trailing rock plant was introduced by the German nurseryman whose name it bears. The long stems trail about over and among the stones of the rockery, bearing blue-grey foliage, and sending up from the upper surface thick clusters of its moderate sized orange-yellow flowers. These are on stalks a few inches long, and come freely all along the stems. When once it becomes established it furnishes a very conspicuous object in the rockery.

DICENTRA EXIMIA.

This dwarfer and more compact species of *Dicentra* (Bleeding Heart) has had its praises sung frequently in these pages. It is a plant which one does not grow tired of, for both the Fern-like foliage and the trusses of pink flowers are very pretty. It grows bushy and remains for a very long period in flower, months indeed, when the position suits it.

SOCIETIES.

WEST DERBY SHOW.—August 6th.

DURING the ten years' existence of this society, no gathering has been held which has brought out such exhibits of high merit. A word of praise is due to the stagers who did their work remarkably well and well up to time.

In the gardeners' section, Dr. Duffus (gardener, Mr. G. Osborne) was awarded the chief prize for the Single Palm, staging a fresh *Areca lutescens*. For four stove or greenhouse plants, two to be in flower, A. H. Bencke, Esq. (gardener, Mr. E. Bache), secured premier honours. For the group of 100 ft., three excellent lots were set up, Mr. C. Osborne leading with a fresh lot of plants, his *Crotons* being highly coloured.

Mr. Ogden secured the first award for six table plants. Fruit was in good form, Mrs. Wright (gardener, Mr. W. Cross) winning in the class for black Grapes with Black Hamburgs, fine alike in berry

and bunch; and in the white with good examples; also for six dishes staging black and white Grapes, Cherries, Peaches, Currants and Gooseberries; and for the six dishes of hardy fruits he scored another victory.

Vegetables were in fair form. Mr. G. Osborne had the premier twelve varieties with a good, even lot. Mr. Bache took the lead for six varieties, and for two dishes of Peas; and Mr. J. E. Sumner for one truss of Tomatos.

For twelve herbaceous bunches of cut flowers, Mr. G. Osborne won with clean flowers; Mr. W. Cross was a good second. For Dahlias, Mr. Ogden won for double and pompon sorts; Mr. W. Cross for the Cactus varieties. For twelve bunches of Sweet Peas Mr. Bache won in a strongly-contested class.

Mrs. Bright (gardener, Mr. J. Skitt) received an Award of Merit for a fine bank of herbaceous cut flowers and Black Hambro' Grapes. Mrs. Heap (gardener, Mr. P. Jakeman) received a like award for a nice collection of fruit including Black Hambro' and Muscat of Alexandria Grapes, Melons, Peaches, Nectarines, Tomatos, &c.

The judges were Messrs. B. Cromwell, T. Carling, R. Pinnington and R. G. Waterman. The arrangements throughout were most creditable, thanks to Mr. C. A. Young, chairman, and Mr. A. Rose and his energetic Committee. The cottagers' and amateurs' sections contained many good exhibits; but unfortunately the weather detracted from the attendance and enjoyment.

GATEACRE SHOW.—August 8th.

THE twenty-ninth annual exhibition was held in the charming grounds of Col. W. Hall Walker, president of the society. The exhibits were of a superior character, being the best staged for many years, the vegetables, being especially of extra merit.

The chief exhibitors in the gardeners' section were Mr. P. Barham, gardener to Col. W. Hall Walker, The Grange, Gateacre; S. S. Bacon, Esq. (gardener, Mr. J. Rothwell); Mr. R. Briginshaw, gardener to Harold Bateson, Esq.; Mr. C. E. Moorman, gardener to Col. J. B. Gaskell, J.P., Roseleigh, Woolton; Mr. W. Morrey, gardener to Lady Forwood, The Priory, Gateacre; and Mr. F. Buttery, gardener to Dr. Caton.

Messrs. John Cowan & Co., Gateacre Nurseries, had a meritorious table of *Dendrobium Phalaenopsis* and Palms.

The arrangements were under the able guidance of Mr. J. Glover, the hon. secretary.

CHERTSEY GARDEN AND FLOWER SHOW.—August 11th.

THE eleventh annual garden and flower show of the Chertsey Town Allotment Holders' and Chertsey, Ottershaw, Thorpe, and Lyne Cottagers was held in the very suitable grounds of Beomands, Chertsey, on Saturday, August 11th. The exhibition consisted chiefly of vegetables, the quality of which was exceedingly creditable, and from these it would seem that the instructions by the County Council lecturers had been fully applied.

Potatos were a remarkable feature, and some splendid dishes and collections were set up by Messrs. Rowe, C. Sizmur, C. Lauder, W. Usher, and S. Steward. Carrots were large, even, and refined; Beet in some cases was too coarse; Cabbages were A 1, and Onions for the time of year were of fair size, and all of fine model. The small collection of fruit was at the same time of much merit.

The committee and visitors were indebted to Messrs. Fletcher Bros., Ottershaw Nursery, Chertsey, for a really fine collection of cut herbaceous flowers, including also some dozens of good H.P. Roses. This stand covered 20 ft. by 4 ft., and contained all that is best of the hardy border flowers at present in bloom—Phloxes, Gladioli, Montbretias, Eryngiums, Coreopsis, &c.

Mr. A. J. Brown also staged a tasty group of decorative plants, and another of hardy cut flowers, both of which were excellent, and showed what is grown in the gardens of the School of Handicrafts.

Mr. W. Eacott, Brox, Chertsey, had also a tasty non-competitive collection of pompon and Cactus Dahlia blooms. Mr. Eacott does a considerable trade in Dahlias, which are a speciality of his. He shows at the Dahlia exhibitions of the Crystal Palace, and does well. His varieties Bacchus, Rosebud, Don Juan, Opal, and Florence Woodland,

all pompons, as seen at Chertsey were neat and sweet, indeed.

Mr. E. Horton, of London Street, had an exhibit of Onions. In his capacity as hon. secretary, Mr. Horton manages well, and since he has been in office the society has spread its wings. This year's show must be entirely satisfactory to him and the committee, notwithstanding a deficit in the contributions owing to war depression and other influences. Favoured with a splendid August day, and having the pleasing adjunct of the School of Handicrafts Boys' Brass Band, under the guidance of Mr. A. Amos, it is our hope that the gate takings may have given the society a fill-up.

In the allotment holders' classes the first prize winners were:—For twelve round Potatos, Mr. C. Stouard; and for twelve Kidney Potatos, Mr. Rowe. For a collection of four varieties, ten tubers each, Mr. C. Lauder led the way, also winning Mr. A. J. Brown's special prize for the best dish of Potatos in the show. These were exceedingly fine. Mr. R. Field won for three heads of Cabbage; Mr. M. R. Rowe for twelve Carrots; Mr. W. Etherington for twelve Spring Onions, and Mr. C. Sizmur for the best six autumn sown Onions. Mr. Rowe had the best dish of Shallots.

For the best collection of vegetables (five sorts), Mr. L. Horton was first, and Mr. G. Thatcher second. For another collection, Mr. L. Guines beat Mr. Purbrick. Mr. E. Tilley and Mr. H. Fuller were first and second respectively for six varieties of fruits. Mr. M. Purbrick had the best collection of cut flowers, and Mr. L. Guines the best dozen Dahlia blooms. Mr. Purbrick had the best specimen plant—a good *Hydrangea hortensis*.

ROYAL HORTICULTURAL.—August 14th.

THE meeting was rather thin on Tuesday last, many people evidently being away on their holidays. There were several fine banks of hardy herbaceous plants generally, as well as groups of Gladioli, Dahlias, China Asters from home-grown seed, *Campanula isophylla* Mayi, &c. Fruit was also well represented, including Gooseberries, Peaches, Apples, *Rubus phoenicolasius*, &c.

Orchid Committee.

PRESENT.—Harry J. Veitch, Esq., in the chair; and J. G. Fowle, de B. Crawshaw, A. H. Smee, H. Suttle, H. J. Chapman, H. A. Tracy, W. H. Young, E. Hill, J. Jaques, Jas. Douglas.

E. Bostock, Esq., Trixall Lodge, Stafford, exhibited a well grown plant of *Cattleya Harrisoniae* violacea in a basket. Messrs. James Veitch & Sons, Ltd., Chelsea, staged the new bigeneric hybrid *Laeliocattleya Hermione*. Sir William Marriott, Down House, Blandford, exhibited *Laeliocattleya Clonia* Down House var. (*L. elegans* × *C. Warscewiczii*), a large flower with pale sepals and petals and a dark lip. M. Florent Claes, 55, Rue des Champs, Brussels, exhibited *Odontoglossum crispum* De Sadeleerl, a small flowered but beautifully spotted form.

Cattleya Warnero-bowringiana, a curious hybrid, whose parentage is indicated by the name, was exhibited by R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), Cambridge Lodge, Flodden Road, S.E. The dark lip was more or less distinctly four-lobed and the tube closely rolled round the column. He also showed *Cattleya Patrocinii*. Messrs. Hugh Low & Co., Bush Hill Park, Middlesex, staged *Cattleya Eldorado enfieldensis*, with white sepals and petals and a dark lip. Rev. F. Paynter (gardener, Mr. H. Cook) exhibited *Cypripedium fairieano-Steinei*, a hybrid indicated by the name.

Floral Committee.

PRESENT.—Wm. Marshall, Esq., in the chair; and O. Thomas, Chas. T. Druery, Geo. Nicholson, H. B. May, R. Dean, James Walker, J. F. McLeod, J. Fraser, W. Bain, J. D. Pawle, Chas. C. Pearson, H. Selve Leonard, Charles E. Shea, George Gordon, J. W. Barr and E. T. Cook.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, who always showed splendidly grown plants arranged with the best of good taste, showed what can be done by simple Maidenhair Ferns, Eulalia, Dracaenas, and the new *Campanula isophylla* Mayi. Raised in massive groups on pedestals and in their various trained forms, above a white ground, the grace and lightness of the stand could scarcely have been excelled. (Silver Banksian Medal.)

J. T. Bennett-Poë, Esq. (gardener, Mr. Downes), Homewood, Cheshunt, showed a group of *Browallia speciosa* major which served to show that when well grown this is an exceedingly ornamental intermediate house plant.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, staged a group of hardy cut flowers, all more or less choice. *Lilium batemanniae*, *L. tigrinum splendens*, *L. Henryi*, *L. speciosum*, *L. auratum*, were finely staged. *Gladioli*, *Gaillardias*, *Montbretias*, *Eryngiums*, *Asclepias tuberosa*, *Delphinium belladonna*, *D. speciosum glabratum*, &c., were among others of the subjects staged. (Silver Flora Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, had a magnificent show of hardy cut flowers. It goes to prove the extent and resources of this firm to see the wonderful displays which regularly appear at the Drill Hall meetings from one year's end to another, and it serves to show how dependent we are on hardy plants for a great part of the brightness and beauty of our gardens. On this occasion Phloxes and Pentstemons were mostly in evidence. As we shall have a note on Phloxes soon it may suffice merely to refer to them. The Pentstemons were of the most approved strain, wide months, good and distinct colours, and long racemes. The Water Lilies, as on the last occasion, were superb. Cactus Dahlias, Eryngiums, *Platycodon grandiflorum*, &c., were also included.

Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, came forward with a first-rate collection of Roses. The garden Roses, such as Bardon Job, Gnstave Regis, Perle d'Or, Blanche double de Coubert, were exceedingly fresh and good. Other Tea and decorative varieties of merit at this time of year were Mdme. E. Resal, Papa Gontier, Cramoisie superieure, rugosa delicata, Geo. Nabonnand, and Killarney.

What we have said in favour of Kelway's Gladioli on previous occasions may be reiterated here. They are splendid, in all respects splendid. The length of the racemes, the size and fine form of the flowers, their purity and depth of brilliant or tender colourings take the fancy of all lovers of flowers and plants of the hardy borders. Manning is a fine scarlet, Richard Milner is a deep buff, Marchand, crimson with a white throat; Jago, rose-pink and white; Prince Ranjitsinghi, dark maroon, and others are distinct and very beautiful. (Silver Gilt Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, showed a collection of Asters in the various sections as Comet, China, Christmas Tree White, Pompon, Jewel, Crown, Victoria, Ostrich Feathered, &c. The colours of the collection touched every hue, and their forms were varied. The Ostrich feathered varieties were particularly pleasing, as also were those of the Crown Asters. Set up as they were with Gypsophila they were very effective. (Silver Flora Medal.)

From Messrs. Dobble & Co., Rothesay, N.B., came a collection of Marigolds, Pentstemons, Antirrhinums, &c. The Marigolds savoured of the novelty at a Drill Hall meeting. The African Marigold, Lemon Queen, was large, clean, even, and pure coloured. The variety Prince of Orange was also of much merit, rich and large. The Scotch Marigold, Dobbies' Orange King, is a showy double orange-red sort, and then the French Marigold, Dobbies' Tall Striped, is very showy. The self-coloured varieties of Antirrhinum are far to be preferred to the mixed coloured sorts.

Mr. G. W. Piper, The Nurseries, Uckfield, showed his perpetual blooming and exceedingly beautiful and distinct Tea Rose Sunrise.

Mr. S. Mortimer, Rowledge, Farnham, Surrey, brought up a handsome assortment of Cactus and show Dahlia blooms. These represented the foremost varieties now cultivated, and they would have been a credit to a good competitive exhibitor. The set of five dozen show blooms were even and marvelously clean after so much hoisterous weather. Mrs. Langtry, Imperial, Geo. Dickson, Mrs. J. Downie, John Hickling, C. J. Vaughan, and others of this latter section were distinct and worthy of special note. The Cactus varieties, Mrs. W. H. Luscombe, Lucius, Wm. Cuthbertson, Starfish, and a yellow seedling were lovely. (Silver Gilt Banksian Medal.)

A collection of hardy cut flowers came from Miss Henderson, Rosebank, Wick, N.B. (gardener, Mr. D. Maclean).

Fred. Davis, Esq., Woollashill, Perthshire, set up a small group of double tuberous Begonias in pots, for which he received a Bronze Flora Medal.

Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking, set up a collection of Gladioli, including hybrid varieties of the Lemoine-Fulgurant, Nanceanus, Antoinette Thiry, and other crosses. These were remarkable for their peculiar and rare combinations of colour. Le Chat-Noir was violet purple in colour, and Demi-deuil, a shade of blue and violet. (Silver Banksian Medal.)

FRUIT COMMITTEE.

PRESENT.—Philip Cowley in the chair; W. Wells, J. Willard, J. Cbeal, W. Poupart, Geo. Kelf, Wm. Pope, H. Esling, Alex. Dean, S. Mortimer, Geo. Thos. Miles, Geo. Woodward, H. Marsham, Geo. Wythes, Wm. Crump, W. Farr, Balderston, F. L. Lane, G. Norman, and G. Bunyard.

The Earl of Stafford (gardener, Mr. H. Markham), Wrotham Park, Barnet, showed twelve bunches of black Grapes, all of them excellent, especially when we consider that many of them were cut from Vines planted in 1785, and others from Vines planted by the late Mr. Wm. Thompson in 1848. They were much admired by the numerous visitors. (Silver Knightian Medal.)

Messrs. J. Veitch & Sons, Ltd., The Royal Exotic Nurseries, Chelsea, staged a wonderful display of trained Gooseberries shown in pots, heavily laden with fruits. They also had a collection of Apples, Pears, and Plums. Of the Apples thirty-four dishes representing as many distinct varieties were shown. The Red Astrachan, Mr. Gladstone, Lady Sudeley, Duchess of Oldenburg, Beauty of Bath, and Golden Gem among early dessert varieties were very finely coloured and of fine size. Some of the early culinary sorts were shown. A new variety of Plum named McLaughlin, a dark brown, smooth, round Plum was shown. According to appearances this should prove an acquisition to the early Plums. They also showed large hushes, 6 ft. high, of the Japanese Wine berry in fruit. The crop was very heavy and even as a decorative shrub, or for jam berries, this should find demand. (Silver Knightian Medal.)

From the Marquis of Salisbury (gardener, Mr. G. Norman), Hatfield, came a boxful of twelve Royal George Peaches of large size and attractive appearance. Half a dozen Melons of the variety Hatfield Hybrid, a Melon rather under the average size, nearly smooth, bright yellow colour, and deep, juicy reddish flesh.

Miss Adamson (gardener, Mr. G. Kelf), South Villa, Regent's Park, London, who had on not a few previous occasions demonstrated what skill can do for fruit culture against London smoke and fogs, showed a very fine collection of fruits on this occasion. This consisted of Plums, Peaches, Melons, and Grapes, &c. These were enlivened with various decorative plants. He very deservedly obtained a Silver Gilt Knightian Medal.

W. Roupell, Esq. (gardener, Mr. A. Russell), Harvey Lodge, Roupell Park, S.W., showed a collection of dessert Apples.

Mr. Geo. Charleton, High Church, Morpeth, had a boxful of Gooseberry Victoria.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the most interesting or valuable item of news upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or any other topic coming within the sphere of gardening proper. The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than Monday night.

The prize last week was awarded to Mr. A. Hemley, for his article on "Begonia Gloire de Lorraine," p. 790.

QUESTIONS AND ANSWERS.

What is a Border Carnation?—*Western*: Any Carnation that is hardy, of robust constitution, free

flowering, and which produces plenty of grass—that is, barren shoots for layering—may be termed a border Carnation. Generally speaking, the tree Carnations, including the Malmaison varieties, would not be considered border Carnations, as they seldom give much satisfaction when planted in open beds and borders. Some of the so-called winter flowering Carnations, such as Winter Cheer, may be, and sometimes are, planted in the open with successful results. Selfs are most abundant, but many fancy Carnations are also classed amongst border varieties on account of their hardiness, &c.

The Milk Thistle.—*Marianus*: As far as popular names are concerned, Milk Thistle and Our Lady's Thistle would be applicable, and the Holy Thistle is also used, but the first given is the most common. As far as classical names are concerned, the following are used by different authors:—*Carduus marianus*, *Silybum marianum*, and *Mariana lactea*. You can use the first one which is quite good enough. The leaves are bright green with broad silvery-white veins, and to this the name of Milk Thistle is due. There is really no milky juice in the plant at all. The colour of the flower heads is rosy-purple. The plant is at its best before it commences to bloom, as the leaves are then in perfection. It is a common garden plant in many parts of the country, but as it scatters its own seeds and comes up again, no seedsman seems to keep it, as gardeners and amateurs get plenty of it by merely leaving a few plants and hoeing up all others in the garden. It may often be found on rubbish heaps where seedlings come up from the old plants cast out of the garden in autumn. It makes leaves only the first year and flowers the second. If you keep your eyes about you when visiting your neighbours' gardens you may happen to drop across it. If anyone should send us a small packet of seeds we should be pleased to send them on to you. You might make enquiries of your seedsman, and he might be able to get some for you.

Grapes all Spoiled and Rotting.—*R. O. W.*: your predecessor must have acted very foolishly to let the laterals all get interlaced and then cut them entirely off. The check must have been a very severe one, especially as it was just before the recent hot weather commenced. The check has produced a bad case of shanking, and as the berries commenced to decay the recent wet weather has hastened the process. We would advise you not to hurry the Vines by keeping up too high a temperature, but to let them come along slowly, and wherever there is space to let laterals grow without shading or interfering with their neighbours, let them grow, as it will help the Vines to recover their strength. In the meantime pick out all shanked and decayed berries with a scissors, and keep the house well ventilated with a little air on all night. Next year attend regularly to each operation when it requires to be done. Some other less valuable work should be set aside for a time, so that you may give the Vines regular attention.

Curious Behaviour of *Lilium candidum*.—*C. G.*: We have seen the White Lily behave in a similar way before, but not to the extent as the specimen you sent us. It would seem to be a case of phyllanth. The six segments of the ordinary flower have developed alternately instead of in two whorls as usual. The centre of each flower has grown out into a branch bearing a vast number of segments and this appears to be determined to continue indefinitely. The segments are creamy-white as if half way on to ordinary leaves. You do not state how long the plants have been in the beds, nor whether they are shaded or not. It is difficult to give a reason for their behaviour; but it might be the result of too rich soil, too deep planting, too much moisture, too much shade, or by the bulbs being too long in the same place under these conditions. We would advise you to lift the bulbs in September, or as soon as the foliage has died down (do not wait till fresh growth takes place), and plant them 3 in. deep in moderately rich soil. The ground may be kept cool by the presence of low shrubs in the beds. This might induce the bulbs to return to their proper condition. You might let us know the results.

Names of Plants.—*Interested*: 1, Fennel (*Foeniculum vulgare*); 2, Hedge Parsley (*Caucalis Anthriscus*).—*Sneyd*: 1, *Statice latifolia*; 2, *Trachelium caeruleum*; 3, *Alyssum maritimum variegatum*; 4, *Sedum sarmentosum variegatum*; 5, *Antennaria tomentosa*.—*Sigma*: *Hoya carnosa*. It is very unusual for this plant to produce a seed pod. We have never seen one. The members of the Asclepiadeae, unless they are European species, seem to have a difficulty in getting fertilised under cultivation.—*R. M.*: 1, *Browallia speciosa major*; 2, *Thunbergia alata*; 3, *Malope trifida*; 4, *Ophiopogon japonicus*; 5, *Polystichum vestitum*.—*A. W.*: 1, *Leycesteria formosa*; 2, *Jasminum officinale*; 3, *Kerria japonica flore pleno*; 4, *Spiraea Douglasii*; 5, *Alnus glutinosa laciniata*; 6, *Jasminum revolutum*.—*J. C.*: 1, *Coreopsis tinctoria* var.; 2, *Chrysanthemum carinatum* var.; 3, *Chrysanthemum coronarium flore pleno* var.; 4, *Senecio elegans flore pleno*; 5, *Lavatera trimestris*; 6, *Gillia tricolor*; 7, *Collinsia bicolor*.

Communications Received.—James Good.—C. Macquarie.—H. D.—W. Grant.—A. C.—W. D.—A. J. B.—Warwick.—T. B.—A. L.

TRADE CATALOGUES RECEIVED.

SUTTON & SONS, Reading.—Sutton's Bulbs for 1900.

JAMES VEITCH & SONS, LTD, Royal Exotic Nursery, Chelsea.—Bulb Catalogue; also Novelties and Specialities; List of Select Strawberries; Eremurus.

JOHN DOWNIE, 144, Princes Street, Edinburgh.—Bulb Catalogue.

HOGG & ROBERTSON, 22, Mary Street, Dublin.—Robertson's Bulbs; also "Holland in Ireland."

DOBBIE & CO., the Royal Florists, Rothesay.—Autumn Catalogue.

JOHN FEED & SON, West Norwood, London, S.E.—Bulb Catalogue.

ALBERT F. UPSTONE, F.R.H.S., 35, Church Street, and 1, Market Street, Rotherham.—Catalogue of Flowering Bulbs.

SHOW FIXTURES FOR 1900.

AUGUST.

- 19.—Shrewsbury Show (2 days).
- 22.—Bucklebury and Marlston Horticultural Society.
- 24.—Falkirk Horticultural Society; Bradford Horticultural Society (2 days).
- 30.—Stirling Horticultural Society (2 days).

SEPTEMBER.

- 7.—National Dahlia Society's Exhibition (2 days).
- 12.—Royal Caledonian Horticultural Society (2 days).
- 13.—Boston and District Dahlia and Chrysanthemum Society.
- 27.—R.H.S. Fruit Show (3 days).

OCTOBER.

- 9.—National Chrysanthemum Society (3 days).

NOVEMBER.

- 6.—National Chrysanthemum Society (3 days).
- 7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).
- 8.—Devon and Exeter Horticultural Society (2 days).
- 15.—Maidenhead Chrysanthemum, Fruit and Vegetable Society (2 days); Edinburgh Chrysanthemum Show (3 days).
- 23.—Dundee Chrysanthemum Society (3 days).

DECEMBER.

- 4.—National Chrysanthemum Society (3 days).

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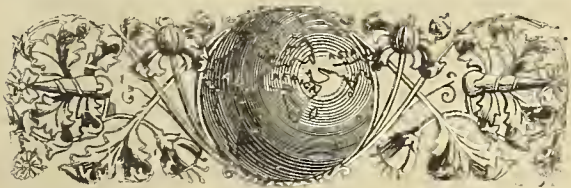
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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, AUGUST 25th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, August 28th.—R.H.S. meeting in Drill Hall, Buckingham Gate, Westminster, at 12 o'clock.
WEDNESDAY, August 29th.—Lanark Horticultural Society.
THURSDAY, August 30th.—Stirling Horticultural Society (2 days); Dundee Horticultural Society (3 days).

THE BLACK CURRANT MITE.—It is on record that the presence of the Black Currant Mite was known in this country as long ago as 1849; and it is just possible that the now familiar, swollen buds upon Black Currants may have been noticed previous to that without causing any suspicion as to their true nature, or alarm at the damage caused or likely to be. These remarks have been suggested by the appearance of a short paper on the subject in the *Journal of the Royal Horticultural Society*, by John H. Wilson, Esq., D.Sc., of St. Andrew's University, Fife. The mite in question, evidently first caused alarm as to the fate of the Black Currant crop in the Blantyre district, Lanarkshire. Mr. Wilson supposes that for centuries it may have found a home on the wild or strayed Black Currant. Botanists seem doubtful as to this shrub being a true native, or merely an escape from gardens. Whether that be so or not, the Black Currant Mite has evidently as much right to being considered as well naturalised as

the shrub on which it lives, if, indeed, it be not a true native. That it should have lived for many years, perhaps centuries, in this country without arresting observation is no surprise to us; for the swollen buds, arising from the effects of the mite feeding in them, do not, as a rule, attract any observation amongst cultivators, unless it be pointed out to them, or the pest gets so abundant that most of the buds die, leaving the bushes both fruitless and comparatively leafless. Some, indeed, have been pleased at the presence of these fat buds at the pruning season, suspecting them to be flower buds, which is generally true enough, but not destined to produce fruit; because the precocious growth is merely due to the irritation caused by the feeding of the mite, and is, therefore, only a pathological phenomenon.

Furthermore, we believe that hundreds of fruit farmers and growers look on apathetically at the presence of the mite so long as only a few swollen buds may be seen here and there, and regard it as of no consequence or no concern of theirs until the mite is entirely beyond control, and whole plantations are ruined. It is very often difficult to determine what causes the rapid spread of insects and allied creatures in Nature; but the Black Currant Mite has had over half a century (according to the records) at least, during which to multiply unheeded or unchecked, and the great increase of the Black Currant plantations for market purposes within recent times, has increased the scope of the mite manifold.

The value of the Black Currant as a marketable product is sufficiently great to warrant considerable expense in combating the mite; but unfortunately no wholesale remedy has yet been found of any great effectiveness. For the greater part of the year, we may take it for granted, the mite lives securely ensconced beneath the shelter of the bud scales. It must make the journey at some time or other from the old to the young buds, and this may well be as soon as the young buds

are beginning to develop in the axils of the leaves of each current year's shoots. If there were a general exodus from the old to the young buds, the particular time could be determined by close and constant observation for a time, and a remedy in the form of a spray could be made to do its deadly work, unless, indeed, it happened when the bushes were in fruit. Nature is hardly likely to work on this plan, however, and probably stragglers continue to make the journey over a considerable period of time; so that a very few might set up a fresh infestation almost or quite as bad as the old. It would clearly, therefore, be bad policy to wait until this stage of the evil before trying a remedy. The latter should be undertaken in all earnestness about mid-winter, a little earlier or a little later, according to circumstances, when the mites are to a certainty in the swollen, but still fresh and growing buds. If only a few of the latter are present they should be carefully pulled or cut off, collected in a close basket or box, and taken to a furnace at work to be burnt immediately. A few branches might have to be removed entirely, as well as isolated buds. Should the grower or owner resolve to grub up the plantation on account of the extreme damage done, then mid-winter is equally the proper season to do it; not when the young buds and blossoms, or such of them as are still alive, are commencing to expand. The rising temperature of those times might be responsible for a considerable migration amongst the mites to fresh pastures, either voluntarily or involuntarily on the feet or feathers of birds or upon other animals or insects.

The close planting of Black Currants may be responsible for the rapid spread of the pest from bush to bush, as the thick planting of fruit trees and bushes generally, favours the spread of various other pests. Mr. Wilson very rightly suggests that other bushes or crops might be planted between the Black Currants in plantations so as to minimise the possibility of one bush infesting another as much as possible. This might, indeed, retard infection to such an extent as to enable the grower to harvest several more crops before it became necessary to destroy a plantation. The plan might well be tried. Black Currants grow rapidly so that it might be possible to make them pay in spite of the mite.

Weather in London.—As near as can be, the weather of the past week has pleased most Londoners. It has been seasonable, generally cool, sometimes dull and at other times bright, but neither very warm nor very cool.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, August 28th, in the Drill Hall, Buckingham Gate, Westminster, 1—5 p.m. At three o'clock a paper on "Montbretias and Crocosmias," by Mons. Emile Lemoine, will be read.

Medical Vegetables.—The medical virtue of vegetables, says *The Irish Farming World*, is not sufficiently recognised in these days of patent drugs. A liberal consumption of fresh vegetables is not only wholesome in a general way, but when discriminately employed they prove to be also highly beneficial in certain kinds of ailments. Celery is beneficial in cases of rheumatism and neuralgia, and will tone up a debilitated nervous system. Tomatoes stimulate the liver, and Spinach, like the common Dandelion, has a direct effect on diseases of the kidney. Onions, Garlic, and Olives promote digestion by stimulating the circulatory system, with the consequent increase of saliva and gastric juice. Raw Onions are also regarded as a remedy for sleeplessness, and Water Cress and Beetroot purify the blood. Horseradish applied to the temples is an excellent remedy for neuralgia.

Phosphoric acid is one of the most essential of all food constituents for plants.

The Lindley Library, under the auspices of the Royal Horticultural Society, now contains 4,000 volumes or thereby, and is considered one of, if not the best horticultural library in the kingdom.

Logan Berry.—T. Crebbin, Esq., Ballagawne, Isle of Man, under date of August 7th, writes that he picked twenty quarts of fruits from four plants, and that he still expects to take off another four or five quarts.

Our contemporary, *The Canadian Horticulturist*, for August, is larger and better than ever. Cherries in pots, hardy Cherries, prevention of leaf curl, and carnivorous plants of Canada are all illustrated and a few of the main features treated upon.

The Gardening Chart, a guide to the cultivation of the year's vegetables, is the title given to a publication by Messrs. Frederick Warne & Co., of New York and London. We have mentioned the use and purpose of this guide previously, and we can but reiterate our expression that Mr. H. C. Davidson, who is the author of the "Chart," has done gardening and gardeners a service, and it only lies with the latter to make use of this convenient and helpful edition, published at one shilling.

Keeping Winter Apples in Waxed Papers.—Mr. Youngers, of the Nebraska H.S., has experimented with Apples, and reported on his observations and results. In the autumn of 1897, about November 1st, all available varieties were put in cold storage, each Apple wrapped first in a sheet of waxed paper 9 in. by 12 in. for the smaller, and 12 in. by 12 in. for the larger ones. Another cover of newspaper was added, and then all were packed tightly in barrels and put in cold storage with the temperature at 60°. A few were stored in barrels without wrapping. On June 1st, 1898, the first examination was made, and of those not wrapped seventy per cent. were decayed, of some wrapped in paper about thirty per cent. were decayed, while those with the double wrappings of paper remained in almost perfect condition as late as November last.—*The Canadian Horticulturist*.

A Ramble through the Woods and Fields of Berkshire at this time of year is very interesting, and has been for some months past. The flora is rich and many species occur in abundance. The hedges of many fields are now covered with Honey-suckle (*Lonicera Periclymenum*) which gives a pleasant scent to the fresh and bracing air. The Tway-blade (*Listera ovata*), *Orchis pyramidalis*, *O. latifolia*, have now taken the place of the Bluebell (*Scilla nutans*), *Orchis maculata*, and the wild Narcissus (*N. Pseudo-narcissus*). The Snowflake (*Leucojum aestivum*) covered the banks of the mill stream with its pretty white flowers, and near this millstream a shady brook is full of white Water Lilies. The wild Iris, *Spiraea*, &c., are flowering in swampy places. Papaver Rhæas, the field Poppy, made a brilliant display a short time ago; many Cornfields were a perfect blaze of crimson flowers. Many other species are now in flower and growing in wild profusion, combining together in making a pretty picture, and also in making life in the country very pleasant during the summer months.—C. P. C.

Wormy Apples.—There is nothing new about wormy Apples except the way to avoid having them. There are several species of grub or worms which work in Apples, but the one which does nearly all the damage is the core worm. The core worm is the Codlin Moth, and this is what a grower must fight in his Apple trees. The best general remedy for the core worm, or Codlin Moth, according to information furnished by the Vermont experimental station, is Paris Green. Some Apple growers use London Purple; others use white arsenic; but they amount to the same thing—they all poison the core worms. Other insecticides, like hellebore, kerosene, or sulphur, are not effective in this case. Paris Green should be thoroughly mixed with water at the rate of a quarter of a pound per 160 to 200 gallons of water. About a pound of lime ought to be added to each barrel of water, which will prevent scalding of the foliage. It should be applied with a spray pump and fine nozzle. The fine spraying for the Codlin Moth should be made as soon as the blossoms fall, or within a week afterward.

Fruiting of *Hoya carnosa*.—I have a large plant of the above growing on the back wall of a vinery. Last year it fruited twice, one pod each time. I was at a loss to know what it was, as the pod had burst before I noticed it. The seeds were hanging like a spider's web. This year it has fruited again, and, strange to say, the pod is on the same branch as last year. I sowed the seed and over a dozen came up, but I have lost them all but one, and it is looking far from happy. Any information anent the same will much oblige.—A. D. P.S.—I may state that the pod on my plant is about half the size of the one that is on Mr. Geering's plant, as stated in last week's GARDENING WORLD.—A. D.

COMMON THINGS AS DECORATIVE SUBJECTS.

MANY unsightly corners, which naturally lend themselves to unpretentious embellishment, are frequently seen about most gardens. Shrubs which love the shade are called upon to do duty there, and even flowering plants are enlisted with but indifferent results. Where space and the contour of the ground permits one of the most desirable screens in a shady spot is probably a rough rockery thrown together with little regard to symmetry and freely occupied with hardy Ferns. An extremely pretty arrangement can be made with such weedy things as hardy Maidenhair Fern (*Adiantum Capillus-Veneris*) and *Linaria cymbalaria* on a rockwork or improvised wall. Rough abutments or pilasters of the structure can be clothed with the Fern, whilst the smoother portions form excellent positions for the wandering *Linaria*, or both may be allowed to grow together, taking care to adjust the growth of the most rampant, lest the weaker perish in the struggle for existence. The vivid green fronds of the Ferns standing boldly out from the surface against the dark green cymbal-like leaves of its partner present an exceedingly pretty combination. From projecting points long festoons of the *Linaria* can also be led, adding dignity and grace to the whole. The common Wall Rue (*Asplenium Ruta-muraria*) can also be employed effectively on suitable spots, and if the device be indoors in a cool house, trailing *Tradescantias* serve a purpose at little trouble and no expense in places where all four already abound.—J. McAv, Kingsburgh, Prestonkirk.

MIMULUS LUTEUS.

THIS remarkably showy and free-flowering plant is well known in gardens where good-sized clumps are always attractive objects in August and September. It is an easy plant to cultivate, and if the situation be a moist one it may even become somewhat troublesome. Anyhow, it is well worth a place in the herbaceous border on account of its large, bright yellow flowers. The plant, however, is becoming almost as well known in nature as in gardens, for I saw it in great profusion the other day on the banks of the Chess between Chenies and Rickmansworth. It is sufficiently rampant, in fact, in some places as to oust the native vegetation. Babington says it has become naturalised in Great Britain. There is no doubt about that; it has come to stay, for I have seen it in the Isle of Bute as well as in other places near London. According to the *English Encyclopedia* it is a native of Chili, whereas it is generally supposed to have come to us from North America.

Anyhow, it is a lively and welcome addition to our Flora, the colour being intensified by contrast with the exquisite blue of *Myosotis palustris*, or *Veronica Beccabunga*. The peculiar shape of the corolla, which is ringent or gaping in appearance, with dark spots in the interior, contributed, no doubt, to the fanciful but popular name of "Monkey" flower.

This *Mimulus* has been dwarfed, doubled, and otherwise "improved," from a garden standpoint; but, to me, it never looks so charming, so sweet, or so felicitous as when seen luxuriating in its own selected habitats.

It is a member of the natural order Scrophularinae, but whether it possesses any virtue in respect to the disease known as scrofula, I am unaware; but I do know that a sight of this cheerful-looking plant on the banks of its favourite streams, either in England or Scotland, is calculated to at least affect a fit of spleen.—C. B. G.

ASPARAGUS PLUMOSUS.

THIS graceful and most useful decorative plant is seldom seen to better advantage than when trained in the form of a fan.

The back wall of a vinery is admirably suited for this sort of training, and in many instances such walls are entirely bare. I have frequently been asked what I would recommend for covering such walls. I have seen various things tried but nothing that could approach *Asparagus plumosus*. In this position it seems perfectly at home. Last year I had one planted on the back wall of our late vinery, an old plant which was doomed to be thrown away. This plant is fan trained and covers the whole back wall, forming a most graceful and novel screen which is much admired. The arrangement for training is as follows:—A piece of iron rod was bent in the form of an arch 3 ft. wide, and pushed into the border over the plant about a foot from the back wall. From this arch thin twine was stretched and fastened to an iron rod at each end of the house, and to one of the wires overhead. The young growths are trained singly and readily twist round the twine forming lovely wreaths, which can be cut when required without destroying the effect of the plant, as it is always sending up young growths to take the place of those removed.—W. Grant.

THE EUCHARIS.

THE Eucharises are all the more valuable inasmuch as they produce flowers in the depth of winter as well as in the height of summer. I have seen them grown in a greenhouse with careful attention, but those grown in a stove temperature thrive by far the best. In some places they are found very difficult to manage, and in others they grow with little or no attention. At one place in particular where I was, they were grown extensively for house decoration, being grown in many different ways as an experiment to obtain the best results. The method was, after the plants were done flowering, say a month or six weeks, they were kept rather on the dry side for a short time, after which they were potted or top-dressed in a compost of rough fibrous loam, well shaken out. Silver sand and some dried cow manure water was sparingly given them until the plants showed signs of new growth, when a good soaking was given them. The compost being rough there was no fear of the pots becoming stagnant. When thoroughly established a weak liquid watering was given them twice a week, with an additional watering of sooty water at intervals. Always make it a point to keep the plants clean by spraying them with a weak solution of soft soap. Keep the plants rather in a shady situation, standing them on inverted flower pots, leaving a space between each plant to prevent the leaves from damping.—Walter Hogarth, Norton Gardens, Ratho, Midlothian.

WINTER FLOWERING BEGONIAS.

Now that we hear so much about B. Gloire de Lorraine, it is to be hoped that many of the other useful kinds will not be overlooked.

B. Socotrana has been lying dormant all the summer, and if now given heat will soon start into growth, which is made from bulbils formed last year. It makes a grand pyramidal plant from 2 ft. to 3 ft. high, with shining peltate leaves, 4 in. to 7 in. across, and covered with bright rose flowers. When growth commences shake out and pot in equal parts of peat and loam, a little leaf mould, and a good sprinkling of silver sand in 6-in. or 7-in. pots. Water carefully when freshly potted, but when well rooted plenty of water may be given, and all the light possible. B. Socotrana is one of the few species that have crossed successfully with the tuberous rooted ones, and it is from these hybrids we get such fine forms as Mrs. Heal, John Heal, Myra, all these having single flowers, of a rose colour, abundantly produced, and bright green foliage; while Ensign has large, double, pink flowers, 2 in. or more in diameter, not unlike a Camellia. Winter Cleer is of a deeper carmine shade. These require a warm greenhouse to get good results, but when the flowering period commences they succeed admirably in an ordinary greenhouse, where they will give a glow of colour when other flowers are scarce in December or thereabouts.—K.

LEAF versus SHOOT PROPAGATION.

UP to now the correspondence favours the latter method of increasing the stock of *Begonia Gloire de Lorraine*, though in your issue of the 18th inst. Mr. Dick plainly says leaf propagation is by all means the best. Now as the proof of the pudding is in the eating, I venture to suggest that a plant struck or rooted from the leaf early in the present year, should be forwarded to the genial, and I am sure, unbiased Editor of *THE GARDENING WORLD*, for his opinion as to which is the best flowered specimen about the middle of November when the earliest batch should be at its best. Perhaps Mr. Dick could beg a specimen from his expert friend for the purpose, and I will willingly forward a plant that has been rooted from a young growth that pushed from the stem of an old plant after being cut down within 4 in. from the soil. Most of your correspondents seem to think that we unsuccessful leaf propagators failed through damping of the same. Such was not the case with me. The majority callused, formed roots, in quantity too, but failed to form a leading growth; and when I threw them away in disgust most of them were as perfect as when put in two months previously. I presume that leaf specimens can be easily distinguished from shoot specimens, because the former require no pinching. Mine have all been pinched twice, and not a few thrice.—*J. Mayne, Bicton.*

PACKING GRAPES.

THERE may be some young readers of *THE GARDENING WORLD* to whom a few hints on this subject may be useful. I write more especially of packing Grapes for transit by Parcel Post. Boxes from 14 in. to 16 in. long, 8 in. wide, and 5 in. deep, will be found most suitable, as if larger they are liable when filled to be found over weight; should they be required larger, add to width or length, not to depth. Wadding, which can be purchased in sheets, I have found the best material for covering the bunches. This should be placed carefully round them, then placed in the box, and as the work proceeds fill all spaces with paper shavings, wood wool, or fine wood shavings such as foreign eggs are sometimes packed in; either of these materials will do equally well. The bunches should always be packed as tightly as possible, and when the box is filled it will even then be found that by slightly tapping the box endways on the bench they can be shaken together more closely, and the space filled in with packing material. If these simple directions are carried out the Grapes will be found to arrive at their destination in splendid condition. I have tried enveloping the bunches in tissue paper and afterwards in wadding, but have found it not nearly so satisfactory as wadding alone, especially for Parcel Post, where they have to pass through so many hands.—*G. Robins, The Gardens, Dudley House, Springrove, Isleworth.*

PRESENT WORK

CONSISTS in shaking out old plants of *Cyclamen* that have been rested, repotting into similar or a trifle larger size pot, using as a compost good loam, leaf-soil, a little soot and plenty of coarse silver or river-sand, avoiding manure of any kind, as I am inclined to think this in some way or other favours the growth of the maggot, so often found in the corms. Pot fairly firm and place in a cold frame, shading from the sun and syringing overhead morning and evening, giving little or no ventilation for a fortnight or so. We are also putting our batch of double white *Primulas* into 4-in. and 4½-in. pots with a similar compost, preferring to feed when established in both instances. The latter require plenty of space to prevent spindly growth, as well as plenty of air and a light shade from 9 a.m. to 4 p.m. Judgment is required at all times in watering both the above named plants. We are about a month later than usual with the *Primulas*, owing to their slowness in filling their pots with roots, so are keeping them to smaller size pots, and we find they grow and flower quite as well as when placed in 5½-in. and 6-in. pots. Cold frames with ash bottoms suit these for the next two months, keeping all near the glass.—*Grower.*

MICHAUXIA CAMPANULOIDES.

THE above is a conspicuous hardy biennial, much resembling a giant *Campanula* in the habit of growth and other characters. It is indeed, a closely-allied genus to the *Campanula*. The plant, in habit like a *Canterbury Bell*, mounts up to five, six, and seven feet high and has a profuse crop of whitish, drooping flowers as large as those of a *Passion-flower*, and revolute segments to the corolla. There are a few good specimens of *Michauxia*, and they thrive in sheltered places in friable garden soil. *M. campanuloides* is a native of the Levant. Usually seeds are sown on sunny borders in the month of April, and the plants placed in their flowering quarters either the same year or early the following spring. They are worthy of attention.

ABOUT CULINARY PEAS.

IN the majority of places this is by far the most important vegetable, and to have a plentiful supply for as long a period as possible is the endeavour of every good gardener. As a rule the large podded varieties are not nearly so profitable as those of medium size. Also the tall growers are unsuitable unless the supply of good stakes is ample, for I may point out that where the straw grows much longer than the stakes, the tops fold over and smother the under pods and in short are most unsatisfactory. I would, therefore, advise medium growing varieties. Some of the dwarf kinds are very prolific, and of excellent quality. For early use in our late locality I find nothing to beat *William I*. It is hardy, prolific, and of fair quality. I cannot sow here earlier than March 10th. A fortnight later a sowing of *Gradus* makes a fine succession, and a row of *Laxton's Fillbasket*, sown at the same time, keeps up the succession. After that an excellent guide for successive sowings is to make a fresh sowing as soon as the last appears through the soil. Keep this up till about the end of June, and the supply should last till frost puts a stop to the yield. Along with the varieties already named, *Dr. McLean* (most excellent but goes old very quickly), *Best of All*, *G. F. Wilson*, *Ne Plus Ultra*, *Sturdy* (a particularly fine and prolific Pea), *Veitch's Perfection* and *Walker's Perpetual Bearer* are splendid. *Wm. Hurst* among dwarfs would be hard to beat. These are nearly all old varieties, but for quality and quantity they have long proved to be in the front rank.—*C. Blair, Binny, Uphall, N.B.*

FRUIT UNDER GLASS.

PEACHES AND NECTARINES.—Where the lights have been removed from the earliest forced houses (and all Peach houses should be so constructed as to allow such removal) the recent rains have greatly refreshed the trees. With well-drained borders, no harm results, even though there be a heavy fall of rain. Those borders which have to be hand watered must not be allowed to lack at this time, nor so long as the wood is forming and firming should manurial nourishment, supplied in liquid form, be forgotten. Early forced trees do not make much strong growth, so that very little pruning is needed. All the ventilation possible should be given. The same rules apply with houses just ripening their crops, but, of course, a much less amount of water is needed. On very hot, arid days the paths and borders may be damped down. Later houses may be syringed twice on each sunny day and should be otherwise treated as advised in earlier calendars.

VINES.—To prevent the possibility of the bunches being exposed to the influence of the night dews, now that the evenings and mornings are becoming chilly, a drier atmosphere must be maintained by means of the hot-water pipes. Damping down in the afternoon, unless on very warm days, need not be done. Where the bunches are now colouring or finishing colour, more warmth and a moving air is very necessary for the proper finishing of the berries. Before the colouring had advanced beyond the first tinge, a thorough soaking was recommended to be given, so that now the Vines need not be in want. If the bunches are required for use soon, they may be left and cut as wanted from the Vines. But where they are thoroughly ripe and not presently required,

it may be necessary to cut them. The flavour no doubt is better when they can be allowed to remain but they are generally more liable to damping and other ailments. All late keeping Grapes are best ripened in warmth. A protection either against dust or the sun's rays, may be provided for early Grapes now fully ripe, by fixing a sort of collar of stiffish paper above the shoulders of the bunch. The night temperature for Muscats, &c., now ripening, should not be under 70° and may be at least 10° higher during the day with safety. Lateral growths should in a large measure be cut out as made, but it is not wise to be too severe in pruning off all the laterals, for they aid in drawing up nourishment to the developing bunches. Pot Vines may be placed outside.

FIGS.—Sometimes Figs on outside walls can be got to ripen a few fruits. The position, however, must be warm, the trees in good condition, well nourished and attended to in thinning-out and tying-in. Trees under glass should constantly be supplied with quantities of water and nourishment. It does so much matter in what state of advancement the crops may be. As a rule they are in all stages of development, but care should be taken not to water if possible when there is a large part of the crop upon the point of ripening, else they quickly burst.

MELONS.—It is only necessary to watch that canker does not nip off the plants before the crop can be ripened. If they can be kept free from this malady, and clear, the Melons are pretty sure both to set and to swell all right. Support, by means of a net and piece of flat board, any of the fruits which are heavy. Give them plenty of light, though neither shade nor much ventilation is required, unless just as they are finishing, when sun and air is beneficial. Cucumbers like plenty of feeding and heat and moisture.—*J. H. D.*

The Orchid Growers' Calendar.

CYPRIPEDIUMS.—If there is a difficulty in growing some of the other genera of Orchids satisfactorily in and around large manufacturing centres, it is not so with *Cypripediums*. As a matter of fact it is in the north, and very near to the metropolis that you find them grown and flowered to perfection. This then would seem to point to their being found in their native habitats growing in dense forests where but little sun penetrates, and the atmosphere in consequence is never what we may call dry. The heat, too, is of one uniform temperature throughout the whole year, and on that account the majority of them should be accommodated with a position in the warm division. The potting season extends over a lengthened period, for apart from their being in full flower they may be repotted at any time. Generally speaking, they may be potted at this season when root action is at its height. Pot culture suits them best as they require a liberal amount of rooting material, for the roots go down. There are others that are surface rooting, and are best grown in pans. There are so many hybrids now that it is difficult to particularise, but most of them are similar in constitution to one or other of the parents, or both, that their requirements may to some extent be gauged.

Peat, loam, chopped sphagnum, and coarse silver sand, will suit the majority, but the *Selenipedium* section we think prefers peat to loam. The drainage must be ample on account of their moisture loving tendencies, which should be afforded them at all times, as they need but little rest, and having no pseudobulbs cannot stand being kept dry.

The good old friend *C. insignis* will do well when grown in what we may term a cool condition, and, of course, also the hybrids from it to a certain extent, and so will *C. villosum*, especially during the summer months.

The concolor and niveum group require a fair amount of heat all the year round, although they do not want to be coddled under a bell glass as we used to think. The foliage of this species is surely the most beautiful of them all, and it is appreciated even when out of flower.

GENERAL WORK.—The syringe just now is in great request for spraying the plants over head as well as supplying the necessary moisture to the majority of the plants, and should be kept going while hot weather lasts.—*S. C.*

HINTS FOR AMATEURS.

Aquatic Plants.—I had only space enough to mention a few of the more conspicuous water-plants last week. The following may be included by those wishing to plant-up water scenery.

Ranunculus Lingua.—For marshy ground this is a tall and handsome plant. It is, indeed, a true aquatic. Standing 4 ft. high, it bears large-sized yellow flowers of the ordinary Buttercup form on slender stems. The plant is a native of Britain. It has large, bold, finger-like leaves. *R. aquatilis* may also be planted. This, of course, is well known as the Water Crowfoot.

Rodgersia Podophylla.—In general appearance this noble-leaved, water-edge plant resembles the Gunneras referred to on page 808. Its leaves measure a few feet across, and are cleft into five broad divisions, becoming bronze-tinted as the season advances. They are borne on stalks from 2 ft. to 3 ft. high, according to the goodness and suitability of the land in which it is grown. A humic or peaty soil suits it best and shade is much appreciated. Early in summer it throws up fine panicles of creamy flowers. The plant is readily propagated by division. Those who may not have this really handsome plant cannot go wrong if they go by this recommendation of it.

Mimulus luteus.—For damp ground all the Mimuli are adapted and are largely used. They are easily managed herbaceous perennials, raised either from seeds or by division. *M. luteus* is the yellow Monkey-flower, and *M. cardinalis* is the reddish or crimson variety.

Myosotis palustris.—It will be seen, I am not classifying the plants here noticed on any system whatever. The marsh Forget-me-Not grows only about 1 ft. high and may very well be described by saying that it differs little from the wood species of *Myosotis*, being less hairy and slightly more succulent, as is natural. It may be raised from seeds and should be planted in wide masses in places somewhat sheltered and protected from being in any way broken down and destroyed.

Alisma Plantago.—It is not so long ago since *Elisma* and *Alisma* were one and the same. Now, however, the systematists would seem to have classified them separately. They are distinct in *Index Kewensis*. *Alisma Plantago* or Water Plantain is not attractive nor in any way calling for much notice. It is generally found in collections of water plants, and that is the principal reason for referring to it here. When fully-developed plants are seen, this *Alisma Plantago* has a measure of dignity about it, and its pinkish inflorescence also renders it an additional merit. Its leaves are said to be poisonous to animals, so that it will not do to plant it just anywhere.

The plant and other members of the genus, not quite so well known, are suitable for the margins of pools, streams, lakes, and for any damp ground.

Elisma natans.—This is a pretty little subject, with leaves which float on the surface. They are somewhat oval and not larger than a Haricot Bean. The flowers are star-like and white. For quiet corners of pools or for the aquarium this true aquatic is much to be commended.

Arundo conspicua.—Here we are amongst the class of Reeds. The New Zealand Reed, which is the one named, the Great Reed (*A. Donax*), the Common Reed (*A. Phragmitis* or *Phragmites communis*) and others are popular and handsome marsh and aquatic plants. *Arundo conspicua* bears a near resemblance to the Pampas Grass (*Cortaderia jubata*) and is in full flower at the present time. I have seen it doing well on the banks of somewhat sheltered water-courses. Possessing, as it does, strong, fibrous roots and forming a crown, it is readily propagated by division, and also from seeds, although cane is required in planting. The Common Reed does well all over England. *Arundo Donax* has foliage $\frac{3}{4}$ in. broad, deep green, and arches beautifully, attaining a height of 5 ft. or 6 ft. They also do well on lawns, and in all cases enjoy deep, moist, loamy soils.

Phormium tenax.—So well known is this, the so-called New Zealand Flax, that I only need to name it. Both *P. tenax* and its smaller-leaved variegated variety are quite hardy. They succeed at the edge of a pond or other piece of water, preferring deep

loam. Though I have never seen them divided for propagation, I believe this is the method employed.

Glyceria aquatica.—This was recently described in *THE GARDENING WORLD* under the name of *G. spectabilis*, the two being very similar. *G. aquatica* is a pretty grass, which, in damp soils, spreads quickly. It is dwarfer and broader-leaved than the Gardener's Garter.

The leaves are soft yellow or cream coloured. It is readily established anywhere in fairly damp soil. Apart from its suitability as a water plant it is commendable for beds. The Gardener's Garter may be used in similar places to that of the *Glyceria*.

Caltha palustris.—Anyone who has seen the common Marsh Marigold of the damp meadows, ditches, and swamps in any part of Britain, when in full flower, will know how to appreciate this golden flowered, dark leaved Buttercup plant. It verily glows like the rising sun seen over the horizon on a frosty morning or evening. It likes a thoroughly moist piece of ground, and does well in water. The numerous varieties of Marsh Marigold are easily grown or propagated from division.

Calla palustris.—Though not very frequently found in gardens, this pretty little subject is worthy of notice. It bears small white flowers and has rounded leaves. It is grown in water, though in boggy land it succeeds even better. It is worth all the necessary trouble to try to cultivate this plant to perfection so beautiful is it when seen at its best. It is sometimes grown in water but it is stated by others who have grown it, to succeed best treated as a bog plant. Rich muddy soil will certainly satisfy its wants in this direction. It flowers at this time of the year, the height of it being about 12 in. *Calla aethiopica* I know to have stood through the hard winter of 1894 in an open pond (though thoroughly sheltered on all sides by forest trees) in Haddingtonshire. It too, may thus be included among the list of aquatic plants. Both of these may be increased by division of vigorous plants.

Cyperus longus.—This is a very handsome and desirable plant, quite hardy, free and vigorous, and is not unlike the *Arundo conspicua* mentioned in a preceding note. It is suitable for the edge of water and grows over 3 ft. in height.

Osmunda regalis or Royal Fern is one of the best plants for a shady damp position by the side of water or elsewhere, that one could choose. Given a deep peaty soil and firmly planted, this noble Fern with its bright green spreading fronds will grow 5 ft. high and cover yards of space. It should be liberally grown.

Menyanthes trifoliata.—The Buck-bean or Marsh Trefoil is a dwarf spreading plant with trifoliate leaves of a distinct colour. They are somewhat succulent and glabrous about the size of those of a French Bean but scarcely comparable in any other respect. Sometimes it flowers freely and sometimes it does not, but when it does appear the flowers are of a pretty white colour and fragrant.

Very wet ground or even shallow water may be chosen to establish this native plant in. To be seen it would require to be planted in an open space on the water margin and not to be hemmed in by taller plants. It produces creeping rhizomes or fleshy roots.

Solomon's Seal.—This fine plant should be planted in expansive sheets near-by water, or directly at the edge of still water. Its treatment is pretty generally understood.

Purple Loosestrife.—Though often grown in the hardy plant border this is really a waterside plant and may be found by the margins of many of the rivers in our land. *Lythrum Salicaria*, as it is called, is a conspicuous and decidedly ornamental plant, growing freely anywhere and under almost any conditions. It attains a height of 5½ ft., and produces close racemes of bright purple flowers.

Pontederia cordata.—This must conclude the list at the present time. The Pickerel Weed, as it is called, is not so well known as its merits deserve it to be. It is one of the handsomest of aquatic plants in cultivation. The leaves are somewhat arrow shaped, erect and about 1½ or 2 ft. high, and in early August it produces abundant spikes of deep and showy blue flowers. It grows readily in any sheltered place, given muddy soil and may be increased by division in spring.

There are many fine plants which one might include in this article as suitable for water or by its edge, such as the Mocassin flower, *Primulas* of kinds,

Campanulas, *Houttonia palustris*, a pretty little thing; *Saxifragas*, *Oponogetons*, *Sedges*, *Parnassia*, *Orchises*, *Trilliums* and *Insectivorous plants*. These may well be left for a separate and fuller notice, when *Nymphaeas* and *Water Irises* will be fully treated of.—*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Lifting and Potting Heliotropes.—*L., Sunderland*
It is a common enough practice to lift trained specimen Heliotropes from the beds in which they have been growing during the summer, and pot them up. They sometimes continue to flower for the greater part of the autumn and early winter, and are appreciated accordingly. Young plants may be treated exactly in the same way. Lift them when the soil is moist, with as much root and ball as possible, and pot them, not hurriedly but carefully, into as small a size as they can conveniently be got without too much knocking or squeezing. Provide good drainage. Place the newly potted plants in a cool, shaded house, or if they are lifted shortly from the present time they may be placed in cool frames. Do not water much for a while. When they again prick up they may be placed in your greenhouse and will continue to bloom, with due care, up till Christmas. They may then be spurred in and rested till March, when a re-pot will start them off.

Crops not Swelling.—*L. M.*: You can scarcely expect trees or bushes of any sort to develop large-sized and finely flavoured fruits when the crops are so heavy. This is just where the skill and application of the gardener comes in. The Apple trees ought now at the latest to be thinned out, and the Plums which are yet firm and may be expected to grow yet more may also be radically thinned. Far rather have a moderate crop of the best flavoured fruits than a numerous crop of inferior fruits.

Feeding and Top-dressing Chrysanthemums.—*L.S.*: These are two points which all good cultivators know must be attended to. If your plants are in somewhat small pots you must now "feed" them at least four times a week with diluted cow-wash or other such nourishing liquid manure. The water should be the colour of weak tea, though later on more of the liquid manure may be added. According to the instructions in "Hints," at the final potting, space should be left for top-dressing the roots with rich soil. If your pots will allow of it, mix some fine soil and artificial manure together, at the rate of one teaspoonful of the manure to each 10-inch pot. Make this firm, first slightly easing the surface soil. Water with a rose-can. Soot in bags and steeped in water along with a bag of night soil, and sheep-droppings will provide a rich liquid. Thompson's manure, or Clay's, or Canary Guano, may be used as the artificial stimulant. Little and often, or weak and often are rules worthy of attention. Be careful, above all, not to overfeed, and see that the wood firms as it grows.

Rumex crispus.—*R. Harris*: *Rumex crispus* is a common perennial, herbaceous weedy plant, as are most of the Dock species. There are at least three species of *Rumex* which bear the specific name of *crispus*, but the one described by Linnaeus is the proper one. It would be of no ornament and no service upon your rockery.

Best Six Annuals for Exhibition.—*R. M. P.*
From the names you allow us to select from we choose the following in their order of merit:—Sweet Peas, Zinnias, Salpiglossis, Sweet Sultan, Phlox Drummondii, and Calliopsis Drummondii.

Peach Stones Bad.—*Reader*: Syringing would scarcely be the cause. It is more often a case of faulty fertilisation or some disturbance at the stoning period. As a rule, the flesh of the fruits is good eating even though the stone is bad. Examine the border, and apply a dressing of lime when the trees are dormant in the winter. Meantime, keep the borders on the dry side.

Dividing Ferns.—*A. S.*: If the work was carefully done there would be no ill effects in dividing your Ferns at this time. Cut them cleanly by means of a spade, and do not shake them about more than you can help. Use pots only a little larger than will allow the ball to enter without tight pressing. Pot moderately firm, using a turfy compost. Place the plants in a shaded intermediate house, with a moist temperature. Watering will not be frequently required, and must always be done cautiously.

"Taking" Chrysanthemum buds.—*L. S.*: Crown buds of late varieties may be taken now. You are too far north to risk terminal buds for the produce of decent exhibition blooms. Remove all lateral shoots and suckers in the meantime.

weeds which infest ponds can be turned to good account in this way.

VIEW IN A GARDEN.

IN connection with the National Co-operative Exhibition and Festival, held annually at the Crystal Palace, Sydenham, there is always, or has been for some years past, a photographic exhibition. Members of the various branches and sections of the Agricultural and Horticultural Associations send in photographs of their gardens, houses, flowers, fruits or anything else in connection with their various establishments to the competition. The accompanying illustration shows a view in one of the members' gardens, and was kindly placed at our disposal by Mr. Edward Owen Greening, the hon.

day. Expectoration on the floor of the Board of Trade had become quite a nuisance, and on a certain day five cents a spit was imposed as a fine. Nearly fourteen dollars were collected. I don't know who had the desirable position of keeping tab, but I think that on general principles it would be well to make it a permanent institution.

In celebrating commencement at Princeton University this season a pretty ceremony took place. A great pyramid of Roses was taken from the top of a cannon, and each senior plucked one in memory of a classmate, who died two years ago. Long clay pipes were passed around, and after the "pipe of peace" had been smoked, the class rose and sang the class odes, and then at a given signal broke the pipes singly on the cannon. Rather after the style of Omar Khayyam, wasn't it?



VIEW IN A GARDEN.

Green Crop Manuring.—*J. Paton, Ayr*: The Fucus and other Sea Wrack which the tide throws up along your Ayrshire coast is, as you, of course, know, used largely by the Potato farmers in their fields. Green manuring is most valuable for sandy soils. Certain crops as Vetches, Rye, Rape, Mustard, Clover, &c., are sometimes sown and grown simply to retain and assimilate the goodness already in the land, and which would be drained off. Therefore such crops are dug or ploughed under, and their elements by decay afford nourishment for the succeeding crop. These quick-growing green crops are usually sown in autumn to stand partly or wholly through the winter. All manner of kitchen and flower garden crops which are clear and free from insects or any disease, may be chopped up and dug into the soil during the winter. The water

secretary of the One and All Flower Show, and the Exhibition of Horticultural Photography. It arrived too late to obtain details concerning it, but we refer our readers to an account of the show on p. 825.

STRANGE HAPPENINGS.

LATELY the good folks in Ohio have been much stirred up over the discovery that in one of their historic graveyards nearly 300 tombstones have been removed. The prosaic trustees had them taken out because they were in the way of the lawn mowers when the grass needed cutting! The neighbouring farmers strictly in line have utilised them for paving blocks and foundations of corn-cribs.

A fresh-air fund for children in Chicago benefited from the seed trade in a novel way the other

In 1891 the Government census showed 4,659 floral establishments. A conservative—I should say a *very* conservative—estimate places the number now at 10,000. There are more than 75,000,000 sq. ft. of glass said to be in operation now, and the value of cut flowers is placed at 70,000,000 dollars.

A man in Massachusetts claims to have in use an apparatus by which chemicals are supplied from the ground surface to growing plants. He claims that by this root treatment last year he caused a year-old hush to grow 15 ft. high, and to bear 2,000 blossoms, while a naturally grown specimen grew only 3 ft., and had seven blossoms. If this is reliable, it opens up an entirely new field for growers and chemists.

It would, however, be important to know certain particulars, as to the conditions under which the several subjects were grown all the time.—*C. Macquarie, Chicago*

SEEDS OLD AND NEW.

THE practice prevailing amongst gardeners of purchasing certain garden seeds annually is a wrong one. The finest quality of produce cannot be obtained in that way. Take Celery for instance. A crop of Celery grown from seed three or four years' old is vastly superior in quality, and not so apt to "bolt" as a crop grown from new seed. The latter is coarse and stringy, whereas the former is solid, crisp, and more delicate in flavour. When purchasing seeds of this sort, far better get half an ounce or more according to requirements, of each sort desired, and lay it carefully aside for succeeding seasons, as it is well known that seedsmen mix old and new seeds together, and when pricking out the number of plants required it is the general practice to select the strongest which are invariably produced from the new seeds, as these germinate a few days before the older ones.

I observe the same excellent results in the case of "Ten-week Stocks." The first season there were about eight single-flowered plants for every double one; the second season about equal numbers of each single and double; and in this, the third season, there are about ten double flowered plants for every single one. The plants have been grown in the same bed each year, and the seeds taken from the same packet. I can only account for it in this way, that the seeds producing single-flowered plants have failed to germinate. Only one-third of the seeds sown this (the third) season did germinate.—*W. Grant.*

CHINESE EMPEROR'S GARDENS AT PEKIN.

As China is now foremost in the public eye a glance at her Emperor's gardens may be of interest. The following description shows what they were over a hundred years ago, but as the China of to-day is the same almost as that of a thousand years ago, these Pekin gardens may be supposed to have changed not at all. Their description is from Mr. Joseph Spence's translation of Jesuit Father Attiret's writings:

"As for the pleasant houses, they are really charming. They stand in a vast compass of ground. They have raised hills from twenty to sixty feet high; which form a great number of little valleys between them. The bottoms of these valleys are watered with clear streams. These run on till they join together and form larger pieces of water and lakes. They pass these streams in beautiful and magnificent boats. I have seen one in particular seventy-eight feet long, and twenty feet broad, with a very handsome house upon it. In each of these valleys there are houses upon the banks of the water, very well disposed; with their different courts, open and close porticos, parterres, gardens and cascades, which, when viewed altogether, have an admirable effect on the eye. They go from one of the valleys to another, not by formal straight walks as in Europe, but by various turnings and windings, adorned on the sides with little pavilions and charming grottos; and each of these valleys is diversified from all the rest both by their manner of laying-out the ground and in the structure and disposition of its buildings. All the risings and hills are sprinkled with trees, particularly with flowering trees which are here very common.

"The sides of the canals or lesser streams are not faced (as they are with us) with smooth stone, and in straight line, but look rude and rustic, with different pieces of rock, some of which jut out and others recede inwards; and are pleased with so much art that you would take it to be the work of Nature. In some parts the water is wide, in others narrow; here it serpentine, and there spreads away as if it was really pushed off by the hills and rocks. The banks are sprinkled with flowers which rise up even through the hollows in the rock work as if they had been produced there naturally. They have a great variety of them, for every season of the year. Beyond these streams there are irregularly winding paths which are paved with small stones and which lead from one valley to another. As already stated these little streams are carried on to supply several larger pieces of water and lakes. One of these lakes is very nearly five miles round, and they call it Meer or Sea. This is one of the most beautiful parts of the whole pleasure grounds. But what is the most charming thing of all is an island, in the middle of this sea; raised in a natural and

rustic manner about six feet above the surface of the water. On this island there is a little palace, which, however, contains a hundred different apartments."

SOCIETIES.

SEVENOAKS FLOWER SHOW.—August 15th.

THE annual exhibition under the auspices of the Sevenoaks Horticultural Society was held in Knole Park on Wednesday, August 15th, by kind permission of Lord Sackville. The weather was delightful, which is, of course, an important factor in the success or otherwise of a show of this description. The entries too were such that a great amount of canvas was required to properly accommodate them.

In Sevenoaks the flower show is considered the event of the season, the public showing their appreciation of the function by patronising it in thousands, so that the committee find themselves in the happy position of having a balance to be carried forward, which speaks well for the management. We understand that it was a record gate and we heartily congratulate all concerned. The show itself too was one of the best held for years, the competition being very keen.

In Class I., for six flowering plants, Mr. J. Mason, gardener to H. J. Wood, Esq., Sidborough Court, Southborough, was easily first, with fine specimens of which his Allamandas were the most prominent; Mr. A. Hatton, gardener to Mrs. Swanzy, The Quarry, Sevenoaks, was second with nice plants, but not so well trained as is usual with him; and third, Mr. W. Turner, gardener to J. H. Lelacheur, Esq., The Wilderness, Tunbridge Wells. For six ornamental foliage plants, the same order was maintained, Mr. Mason showing Crotons, &c., in fine form.

In the class for six Fuchsias, Mr. H. Heath, gardener to Mrs. Petley, Riverhead, was first with beautifully grown plants; Mr. G. Cowper, gardener to H. Foster, Esq., Hillside, Sevenoaks, was a close second; Mr. Hatton being third. For Caladiums, Mr. Turner was first. Mr. Wing, gardener to W. B. Dick, Esq., Carrick Grange, second. For Begonias, Mr. Wing led, followed closely by Mr. Heath. Mr. Heath had the best zonal Pelargoniums, followed by Mr. Hatton, whilst Mr. W. Tebay, gardener to Mrs. Ryecroft, Everlands, had the best half dozen Coleus.

Groups arranged for effect were as usual a great feature, there being nine competitors. All of them showed great ingenuity in the arrangement. Mr. C. Sutton, gardener to Lord Stanhope, Chevening, was placed first, with a very pretty light arrangement, in which some handsomely coloured Crotons were used with telling effect. Mr. A. Hoadley, gardener to F. L. Bevan, Esq., Ripington House, was a very close second; indeed, a great many thought him easily first. The only thing that could be argued against his group was the appearance at the back, otherwise it was an unique arrangement; Mr. Tebay was a close third, and Mr. Hatton fourth. Mr. G. Fennell, gardener to W. M. Cazalet, Esq., Fairlawn, Tonbridge, fifth; and Mr. S. Cook, gardener to De B. Crawshaw, Esq., Rosefield, extra fifth.

For a group of Ferns, Mr. A. Hatton was first with a pretty arrangement, for which he is famous, closely followed by Mr. H. Heath and Mr. Turner, who were second and third respectively.

Groups in the second division were well shown by Messrs. Heath, Mist and Irvine, who were awarded prizes in this order.

Table Decorations, on separate tables, were again a feature. Mr. R. Edwards, gardener to G. Field, Esq., Duchy Lees, being first, with a charming arrangement; closely followed by Mr. S. Cook, Mrs. Searing, Parkwood, Swanley, and Mrs. Fennell. Mr. Searing had the best single Epergne, Mr. S. Cook the best dress spray, and Mr. Coleman the best button-holes. Mrs. M. V. Seale, the Vine Nurseries, had the best bouquet and the best arranged basket.

FRUIT.—For a collection of six kinds, Mr. C. Earl, gardener to O. E. d'Avigdor Goldemid, Esq., Somerhill, Tonbridge, was first with good dishes of Peaches, Grapes, &c. Mr. T. Osborne was second, and Mr. G. H. Sage, Bayham Abbey, Lamberhurst, third. For three bunches of black Grapes, Mr. A. Hoadley was first, with finely finished bunches of Black Alicante; second, Mr. Coleman; third, Mr.

Osborne. For white Grapes, Mr. C. Sutton was first, followed by Messrs. Earl and Osborne. Mr. Coleman had the best Melon, and Mr. Sage the best Peaches, whilst Mr. Hatton was to the fore with Nectarines.

VEGETABLES were well shown, Mr. Hoadley being first for nine varieties, and Mr. J. T. Barney for six varieties.

For herbaceous cut flowers, Mr. Sage and Mr. C. Noble were equal first, both showing finely.

In the cottagers' tent, the exhibits were of excellent quality, testifying to the good done by the County Council in providing allotments, &c., as well as giving instruction by lectures.

The trade was represented by Messrs. Seale, Cannell, Cutbush, Peed, &c., who all had imposing exhibits.

BISHOP'S STORTFORD.—August 15th.

THOUGH the committee of the Bishop's Stortford Horticultural Society had insured themselves by an £18 premium against wet weather and consequent poor gate takings, the insurance fortunately was not required. So important has the annual flower show become (this is the 31st) that a gate failure would cause the society to lose heavily. The well disposed grounds of John Barker, Esq., The Grange, Bishop's Stortford, were again placed at the disposal of the society. The entries in the gardeners' and amateurs' classes numbered about 400, while the cottagers' entries nearly touched 1,000. Amongst the more prominent features of the show the floral decorations may be mentioned, while the groups of plants arranged for effect were also prominent. Begonias, Gloxinias, Zinnias, annual and herbaceous cut flowers were all in greater or less abundance. The increase in the entries for fruit was most satisfactory, the Grape classes having twenty-two extra exhibits. The cottagers' produce was a very creditable lot, and there was keen competition in the various classes. The trade exhibits of Messrs. T. S. Ware, Ltd., Feltham; Mr. S. Mortimer, Farnham; Mr. A. Edwards, of Arnold, Notts.; Messrs. R. Wallace & Co., Colchester; Messrs. W. Chaplin & Sons, Enfield Lock; Messrs. W. Cutbush & Son, Barnet, Herts.; and Messrs. G. Paul & Son, The Old Nurseries, Cheshunt, went far to increase the educational and variety side of the exhibition.

The judges were:—For fruit, flowers, &c., Mr. James Douglas, V.M.H., Great Bookham, Surrey; Mr. James Hudson, V.M.H., Gnnersbury House, Acton, W.; Mr. J. Shambrook, Woodhall Gardens, Hertford; and Mr. George Wythes, V.M.H., Syon Gardens, Brentwood. For table decorations, sprays, &c., Miss H. C. Philbrick, F.R.H.S., Feering Hill House, Kelvedon; and for honey, Mr. W. Debnam, of Chelmsford.

The officials, from Sir James Blyth, who is president, to each member of committee, but mostly Mr. Wm. Smith (hon. sec.), Mr. C. F. Dupère (assist. sec.), and Mr. M. Taylor (hon. treasurer), deserve the best thanks of all who enjoyed and profited by the show.

Space will only allow us to mention the names of the principal prize-winners in the gardeners' section. These were Messrs. J. Barker, W. G. Gold, W. P. Neal, H. A. Hare, J. K. King, W. Hughes, H. A. Blyth, E. H. Watts, C. W. Richardson, F. Calvert, W. Smith, W. E. Ross, W. Smith, Thorneycroft, R. C. Gosling, W. B. Buckmaster, Col. Houblon, Mrs. A. Taylor, and others.

LADYWELL, LEWISHAM AND DISTRICT

COTTAGERS.—August 15th and 16th.

THE annual flower, fruit and vegetable show of the above society was held in the very suitable grounds of Riverdale, a charming little estate bordering the High Street, Lewisham, on Wednesday and Thursday, the 15th and 16th inst. Last year's show was as satisfactory as the committee could have desired, and this year's exhibition is even an advance upon that of '99. Mr. H. J. Jones is president, and he and his energetic committee, working on approved and up-to-date lines, are forging ahead. It is always a source of pleasure to mark progress in any society, and we feel sure the working men of Ladywell and Lewisham are proud of their horticultural society, and use all means in their power to support and spread its influence.

At 3 o'clock, Messrs. Wallis opened the show, and at 3.30, the committees, exhibitors and judges met

at luncheon in Roebuck Hotel, High Street. Compared with last year, the entries were as numerous as usual, and the quality was, on the whole, of high standard. Potatoes at most of the shows seem clean and good this season; Carrots at this show brought out a keen competition, and some fine samples were on view. Onions had scarcely gained their full size, but were more or less of good form. Vegetable Marrows were numerous, though Turnips were not plentiful nor so clean as one would like. Beets made a creditable show, and French and Runner Beans are always abundantly and well shown.

In the flower and plant sections, there was an increase both in the number and quality of the exhibits. Cottagers' plants, such as Zonals, Pelargoniums, Fuchsias, and Coleus, were above the average in quality. Floral decorations could scarcely be called a prominent feature, though the vases of annuals and herbaceous cut flowers were effective in their several positions. The groups of decorative foliage and flowering plants were, on the whole, good, and added much to the variety and quality of the exhibition.

Among the efforts in this line—though, of course, non-competitive—was a splendid semi-circular group from Mr. H. J. Jones, of the Ryecroft Nursery, Lewisham. It occupied the complete end of a large tent, being concave in the centre, and was well brought out at the ends—semi-lunar shaped. Well flowered varieties of Cannas occupied the centre, and towards the front mounds of the best sorts of single "Zonals" were grouped. Sweet Peas in pots, Begonias, Caladiums, Araucaria excelsa, Crotons, Palms and Bamboos, &c., completed this exceedingly handsome and lively coloured group.

Messrs. John Laing & Sons, of Forest Hill, S.E., set up a composite group, which included pot Nectarines and Peaches finely sprinkled with fruits at the back of the group. Then in front was staged a collection of early-flowering Chrysanthemums, of the Madame Desgranges and Lady Fitzwigram varieties. These were quite refreshing thus early in the season. The front subjects consisted of pot Ivies, Yuccas, Euonymus radicans, Nephrolepis acrolepis variegatum, Thuyas, Cupressus, &c., forming a varied and valuable exhibit.

Mr. A. Noakes, Entomologist and Taxidermist, 13, Brownhill Road, Catford, S.E., staged a beautiful collection of pretty butterflies, moths and lepidoptera in general, including stuffed birds, and cases of mounting instruments, &c. An interesting little group.

Messrs. B. Maller & Sons, 61, High Street, Lewisham, showed hardy herbaceous cut flowers, among which was noted the beautiful *Oenothera speciosa*, *Lilium tigrinum*, and such other select border flowers.

Mr. H. J. Jones had a stand of vegetables comprising some bulbs of the best Onions in the show, variety Ailsa Craig. Moore's Cream Vegetable Marrows were also shown in perfection, Satisfaction Potatoes, and Rochford Market Cucumber were as fine as could be desired.

In the competitive classes the chief prize winners for vegetables were Messrs. Chas. Payne, H. Vagg, W. A. Ovenden, for Potatoes; C. T. Green, W. Musson, and G. Tilbury, for Peas; W. Farrant for Runner Beans; J. Roberts for Beet; and Musson, Thomas, and Jarman, for Onions. Mr. W. Musson, of Lewisham, won again for the collection of vegetables in the cottagers' section; Mr. W. Savage was second, each with fair lots.

Mr. E. Dove, of Bickley, beat Mr. T. Goldring for a group of plants arranged for effect. Other winners for plants and cut flowers were Messrs. L. Humphrey, C. Payne, Geo. Evers, G. F. Edwards, F. W. Wescott, F. Jarrett, C. Perry, and others.

Mr. H. Hoare, 30, Vernon Street, Kensington, W., exhibited a cleansing preparation named vegetine, for boots, gloves, stains on clothes, &c., in neat round tins, and being simple and effective in use, this preparation ought to find demand.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—August 16th, 17th and 18th.

THE annual three days' show of the above northern horticultural society passed off most successfully, the weather conditions being in marked contrast to those which befel the society last year. It may be remembered that a fearful hurricane completely demolished the tents and jumbled up fruits, flowers, plants and vegetables in pathetic confusion and destruction. Duthie Park was again the meeting

place, and Dr. Farquharson, M.P., opened the show.

Though the entries were not so numerous as they have been previously, the committees made things as attractive around the marquees and about the grounds as possible. The judges on this occasion were: Pot plants and hothouse fruit, Mr. J. Fraser Smith, Cullen House, and Mr. James Moir, Earnock House, Hamilton. Cut flowers, Mr. Alex. Reid, Idvies Gardens, Letham, Forfarshire, and Mr. Alex. Robb, Brucklay Castle. Potatoes and hardy fruit, Mr. William Smith, Aberdeen, and Mr. John Ogston, Bourtie Gardens, Inverurie. Vegetables, Mr. R. Cairns, Balruddery House, Dundee, and Mr. John Wilson, Charleton House, Montrose.

POT PLANTS.—Most of the well-known exhibitors at the Aberdeen shows were again in evidence here. A. O. Gill, Esq. (gardener, Mr. A. Grigor), Fairfield, Aberdeen, was first for the group of plants arranged for effect, and occupying ten feet in diameter.

Mr. John Proctor, gardener to Sir Wm. Henderson, Devanha House, was second. The society's Silver Medal for the best specimen flowering plant was awarded to Mr. A. Howie, The Gardens, Drumtochty Castle, Kincardine, while the specimen foliage plant was best shown by Mr. J. Proctor, who also received a Medal. The medal awards for the finest Ferns and Pelargoniums went to Mr. A. Grigor, and he was also also first for the best six table plants. Mr. Alex. Douglas, Belhelvie, obtained a Medal for Zonal Pelargoniums, and for tuberous Begonias. A Silver Medal was awarded to Mr. John Sim, Glenburnie Park.

CUT FLOWERS.—Cut flowers, as is natural, formed a chief feature of the exhibition. Roses were shown by Mr. George McLennan, gardener to R. W. Duff, Esq., Fetteresso Castle, Stonehaven, coming in first for 24 distinct blooms. Dahlias, though somewhat early, were singularly well shown by Mr. George Milne, gardener to Lady Gordon Cathcart, Cluny Castle; Mr. Geo. McLennan, Mr. A. Grigor, and Mr. J. D. Crozier of Durris. Mr. W. L. Johnston, Ardennan, Port Elphinstone, had a splendid exhibit of twelve Asters. Mr. Alex. Douglas, Middlemuir, Belhelvie, and Mr. R. C. Burnett, Schoolhouse, Echt, were most successful for herbaceous flowers. Mr. W. Scorgie, Rubislawden House, received a Medal for a fine display of decorative cut flowers. Mr. A. King, Danestone, showed double Stocks. Miss Lizzie Adam was first for a bouquet consisting entirely of Roses.

Mr. Samuel Robertson, Ferryhill House, was first for the hand bouquet. For a model garden and bedding design of flowering and foliage plants, Mr. J. Brown, Blackhall Castle, Banchory, was first; and Mr. Geo. Sherriff, Danestone Gardens, second.

In the nurserymen's section, Messrs. D. and W. Croll, Dundee, stood first for three dozen Roses. Messrs. Adam and Craigmyle were first for twenty-four Tea Roses.

VEGETABLES.—The vegetable display was very satisfactory, and competition was fairly keen. Mr. Alex. Paterson, Ruthrieston, had the chief prizes for Cabbages, Turnips, and Carrots. Mr. Alex. Howie, Drumtochty Castle, was first for Cucumbers, while Mr. Andrew Hutton, gardener to George Keith, Esq., Usan House, Montrose, and Mr. Harper, of Perth, shared the honours for Onions and Leeks.

Messrs. J. Cocker & Son, Aberdeen, were awarded a Gold Medal for the best display by a nurseryman, having some fine exhibits in a tent of their own.

FRUIT.—The fruit competition was decidedly good and satisfactory. In the gardeners' division Mr. Alex. Howie again was to the fore, winning for a collection of nine sorts. For a collection of hardy fruits in six dishes, Mr. Geo. Taylor, of Inchgarth, gained the society's Silver Medal. Mr. Sam Rowie, Raeden, Mid Stocket, was first for Strawberries. Mr. W. Harper, Tullibeltoun House, Perth, was first for Cherries. Mr. A. King, Danestone, led for Gooseberries and for Jargorelle Pears. Mr. A. Hutton, Usan House, took the principal awards for white Grapes, Peaches, and dessert Apples. Mr. A. Grigor beat him in the class for black Grapes, however.

"ONE AND ALL" FLOWER SHOW.

August 17th and 18th.

THE members of the Agricultural and Horticultural Association, Ltd., held their thirteenth annual

exhibition at the Crystal Palace on Friday and Saturday, August 17th and 18th.

Whatever else the Co-operative Festivals may accomplish, one thing is very evident, they have been the means of educating the working men of the different societies throughout the kingdom who exhibit at the annual flower, fruit, and vegetable show, to what are the best points in fruits, flowers, and vegetables. The show last week was of all-round merit. Vegetables were numerous and excellent, and so were fruits, flowers, and plants.

SECTION II.

Open to gardeners and employes of members and customers of the Agricultural and Horticultural Association, Ltd.

POT PLANTS.—For three pots of annuals, distinct, Mr. W. Russell, of Bromley, won with specimens such as are rarely seen. He was also first for three pot Asters, distinct varieties; also for one pot Balsam and one Lobelia, the competition in each case being keen. Mr. F. Batt, Norwood, however, won for a pot Tropaeolum, beating Mr. H. Cooper, of Bromley. Mr. C. Moody, of Penge, was first for a specimen Phlox Drummondii, showing a bushy, dwarf, floriferous, glowing crimson variety, a perfect model of good culture. He also deservedly won first for a Petunia, a pure white form of large dimensions, a yard through, and grown in a 6-in pot. The prize for a double variety was also his.

VEGETABLES.—Mr. A. Basile, of Weybridge, was first for a collection of vegetables open to all exhibitors in the south of England. This first prize exhibit was really a fine collection, including Potatoes of remarkable size and evenness, Onions, Carrots, Celery, strong, even, and good; Beet, Beans, and Parsnips, &c. Mr. Holton, of the Oxford Co-operative Society, Ltd., was an able second; and Mr. W. Emerton, of Buckingham, third. There were six entries. Mr. Emerton won in Class III., for a dish of Runner Beans. All the exhibits in this class were very creditable, and competition was fairly keen. Mr. H. Cole, Bromley, won for a like exhibit of French Beans. In the Beet classes, Mr. E. Kirtland, of Oxford, did best. Round Beet was numerous and well shown.

Mr. J. E. Bugby, Desboro', had three splendid Cabbages, which brought him first prize; Mr. J. Holton, of Oxford, followed second; and third, Mr. C. Moody, of Penge. For three red pickling Cabbages, Mr. C. Osman, of Sutton, led the way.

Carrots were all clean and excellent, and nothing could be finer than Mr. G. Palmer's first prize collection of "One and All" red Intermediate. Mr. J. Holton was second. For scarlet ditto, Mr. Holton stood first; while for pine of Long Surrey Carrots, Mr. W. Emerton was the winner. Mr. J. Holton won for three Cauliflowers and also for Celery, both the "One and All" Solid Red and Giant White. Competition in all the vegetable classes was tight. Mr. R. T. Howell, of Staple Aston, had two beautiful Cucumbers. Mr. J. Holton won for Leeks, with first-rate specimens. Lettuces were coarse, though numerous shown.

Onions made a noble show, and on the whole they were of high merit. Mr. R. Chamberlain, of Reading, won in Class XIX, with magnificent bulbs. Mr. E. Emerton was second; and third, Mr. Holton. Mr. A. Basile won for nine spring-sown Spanish varieties; and Mr. J. Holton for nine autumn-sown Giant Roccos. Mr. J. Martin, of Newells, came second in this latter class. Mr. J. Holton, of Oxford, won for Parsnips, and Mr. A. E. Kirtland for Peas, all the entries for which were creditable.

Potatoes, as we have said before on show occasions, are proving of A 1 quality this year. The show at the Crystal Palace was no exception. Some really magnificent dishes of this tuber were shown. Mr. J. Holton won for a collection of six dishes of nine tubers each, comprising three kidney and three round, distinct, the prize being awarded for weight and quality of appearance; Mr. A. Basile, of Weybridge, was second; Mr. G. Palmer, third; and Mr. W. Emerton, fourth. Mr. J. Holton was first for a like entry of round Potatoes; and Mr. G. Palmer, second.

For a collection of six sorts of Salads, the prizes went respectively to Messrs. Emerton, Basile, and H. Cooper, of Bromley. Mr. A. Chamberlain was first for a dish of Tomatoes. Mr. H. Batt, of Norwood, won for three green Marrows; and also for three cream sorts. There were thirty-three fine exhibits of Marrows.

TABLE DECORATIONS.—The table decorations were fairly numerous, but not at all sensational in quality and beauty. The first prize epergne, consisting of *Laelias*, *Asparagus*, grasses, &c., was far and away superior and won by Mr. R. Chamberlain, of Reading. Mr. T. Osman, of Chertsey, was a good second with spathes of *Anthurium* and flowers of *Gloriosa superba*, &c.

CUT FLOWERS.—Cut flowers, which consisted for the most part of annuals, were good all round, and in nearly every case well staged. The white paper used to cover the tables was of infinite value in throwing up the bright colours of the flowers, and in giving a clean and neat appearance. Messrs. A. Basile, G. Palmer, J. Holton, R. Chamberlain, A. Tunbridge, C. Moody, J. E. Bugby, and S. J. Crofts, Reigate, were the principal competitors and prize-winners. African Marigolds, *Coreopsis*, Sweet Sultans, and *Phlox Drummondii* were amongst the things shown best. For the bouquet of hardy annuals, Mr. R. Chamberlain was first with a fine arrangement, which included principally *Salpiglossis*, loosely put together. Mr. A. J. Cook, Norwood, won for border Carnations with a fair lot. Mr. A. E. Kirrland won for twelve Comet Asters. Asters in the various sections made a fine show. Dahlias only brought one exhibit. Gladioli were fair, and the same may be said for the special Marigold classes. Mignonette was fine, and Sweet Peas passable. Mr. R. Chamberlain had a respectable collection of hardy herbaceous cut flowers; Mr. G. Cheal, of Dorking, was second, and third, Mr. G. Palmer. Mr. S. J. Crofts won for twelve Tea Roses, which were poor.

FRUIT.—The eleven classes for fruit formed quite a strong feature of the show, and some exceedingly fine Apples at least were on view. It is to be hoped that the A. and H. Association will be tempted to increase the classes and enticements for fruit exhibits; it is a section very much deserving attention.

For three dishes of five cooking Apples, distinct vars., the first prize was well won by Mr. O. T. Stowers, of Sittingbourne, with Peasgood's Nonsuch, Lord Suffield, and Emperor Alexander. Mr. A. Basile was a close second; and third, Mr. R. Chamberlain. Again Mr. Stowers won for a like exhibit of dessert sorts, having perfect specimens of Beauty of Bath, Lady Sudeley, and Astrachan. The colour of these was quite the wonder of the judges; Mr. R. Chamberlain, second; and Mr. H. Moorman, of Cheltenham, third. Mr. T. Osman, of Chertsey, was first for a collection of six kinds, having black and white Grapes, Melon, Apples, Peaches, and Nectarines; Mr. R. Reid, of Dorking, was a good second with fine Melon, Grapes, beautiful Frogmore Golden Peach, and Royal Sovereign Strawberries. For five dishes of open air fruits, Mr. Osman was again winner; Messrs. Chamberlain and Reid, second and third. Mr. H. Martin, of Newells, was first for a Melon. Mr. T. Osman won for two bunches of black Grapes; Mr. W. Taylor, of Forest Hill, second, but first for Nectarines. Mr. Osman again beat Mr. Taylor for white Grapes, the latter's lacking colour, though otherwise they were superior. Mr. R. Chamberlain was first for dessert Pears. Mr. W. Taylor won for a dish of Plums with tempting samples of transparent Gages; Mr. T. Osman was here second.

SECTION I.

This section was confined to working people, Section II. being open to professional gardeners, florists, nurserymen, or market gardeners. The exhibits in this (No. I.) section represented fully more than half of the entire exhibition. These compared exceedingly well with the high quality exhibits of the professional gardeners in the other division. The awards in this cottagers' section were made on Saturday, the show being fully open, and largely patronised at one o'clock. In the classes for French and Runner Beans we counted thirty-seven dishes. Some of these were inclined to be coarse. But Cabbages, Peas, Carrots—every class for vegetables in fact was keenly competed for, and fine exhibits were the order of the day. The same may be said for flowers.

Mr. S. Eida, of Newbury Road, Acton, W., provided a treat to the visitors by a splendid exhibit of dwarfed Japanese trees, &c., of which something has lately been said in *THE GARDENING WORLD*.

Messrs. Andrews & Hadland, Willesborough, Ashford, Kent, showed small, but neat and useful handlights, and span-roofed frames, Wardian cases,

&c., strong and well executed all of them and very serviceable for all classes of gardeners. For what they term their lawn-greenhouse, a small structure suitable for ladies and young persons, or as propagator for the amateur, they received the award Highly Commended from the judges. The airing principle of this span-roofed case is ingenious, on the pulley and weight system, so that a mere chink or a great deal of air may be given at pleasure and with but little trouble.

READ THIS.

The competition continues as usual next week.

The prize last week was awarded to Mr. W. Dick, Rosehall, for his article on "Propagation of *Begonia Gloire de Lorraine*," p. 822.

QUESTIONS AND ANSWERS.

Spikes, Trusses, or Bunches of Blooms.—*Hillside*: You do not tell us which set of exhibitors was awarded the prizes. On the face of it the reading of the schedule must have been very vague indeed. We cannot tell whether the framers of the schedule meant six individual spikes of bloom or six bunches. Locally, or to be explicit, there are some societies which expect individual spikes only, and award the prizes to six spikes of different kinds of flowers. The word truss in the south nearly, if not always, means individual spikes or individual blooms. For instance, six trusses of Roses, distinct, would simply be six blooms, one each of six different varieties. On the other hand, we do not recollect a class asking for six trusses of herbaceous flowers. The usual reading of the schedule is for "six bunches of hardy herbaceous flowers," and this is, we think, what was intended in your case; but if so, the schedule should have distinctly said so. "Six trusses herbaceous blooms" might have been translated as one bunch of six trusses, all of one variety, or six distinct but single trusses or spikes. The word "truss" we should consider to mean a spike or stem with one or more flowers upon it as the case might be. The word "bunch" would be much more definite, and six bunches, distinct, could hardly be misunderstood. The schedule makers should be urged to word the same more plainly.

Is *Lilium candidum* eligible in a Herbaceous Stand?—*Hillside*: Certainly. All Lilies, that is, species of *Lilium* are herbaceous plants pure and simple. It is begging the question to consider them otherwise. Some schedule makers object to them in stands of herbaceous plants, but they must distinctly forbid them in the schedule by saying, "bulbous plants excluded," or something to that effect.

Tomatos Blackened at one End.—*Beginner*: The Tomatos you sent us have been attacked by a fungus named *Cladosporium Lycopersici*, producing the hollow depressions round the crown of the fruits, and which soon turn black. The ordinary name for this is the Tomato Black Spot. You should keep the atmosphere of the house rather drier and well ventilated. Remove and burn all the fruits you can find with the Black Spot upon them. This should be done in the very early stages, or as soon as you can detect the same to prevent the disease spreading to other fruits. You will have little trouble, however, if you remove the affected fruits and keep the house dry.

To Drive Away Ants on Lawns.—*Omega*: While the weather remains dry you may give the grass about the ant runs a good dusting with lime that has been exposed to the air for some time and has become finely broken down. During winter, lift the turf over the nests and dig out the latter so as to expose them and their contents to the action of frost in frosty weather.

Compost for Growing Violets under Glass.—*Omega*: Use good sandy-loam, or good fibrous loam of an open character, and light rather than heavy. One third of it might consist of leaf mould and well decayed manure. That obtained from an old fermenting bed would answer admirably. It should be chopped up finely before mixing it with the soil. Use sufficient sand to render the whole porous and open. The ashes of burnt wood are also very serviceable. Mix the whole well together, and press it down firmly as you plant the Violets.

Checking Mildew on Peas.—*Omega*: To 1 lb. of flowers of sulphur add $\frac{1}{2}$ lb. of finely powdered quicklime, and dust the plants with this. A distributor consisting of a bellows with a receptacle for the fungicide, would enable you to dust the Peas very quickly and effectively. A dewy morning, or when the Peas are moist, should be selected for the operation, as the fungicide will stick on for a longer period of time. You should always commence in the very early stages of the disease.

Names of Plants.—*Cottager, North Cornwall*: 1, Marsh Hypericum (*Hypericum elodes*); 2, Jointed Rush (*Juncus lamprocarpus*); 3, White-flowered Gray Heath (*Erica cinerea alba*); 4, Silvery-leaved Creeping Willow (*Salix repens argentea*).—*J. S. L.*: 1, *Juglans regia* (Black Walnut); 2, *Quercus castaneaefolia*; 3, *Libocedrus decurrens*; 4, *Quercus rubra*; 5, *Thujaopsis Standishii*; 6, *Cupressus law-*

soniana. *H.H.T.*: *Poterium canadense*.—*Enquirer*: We cannot undertake to name garden varieties of Fuchsias. The best plan is to take them to a garden or nursery where a good collection of varieties is grown, and you would be better able to identify and name those you have. Your nurserymen would no doubt be willing to oblige you.—*R. M.*: 1, *Sidalcea oregana*; 2, *Sidalcea candida*; 3, *Achillea decolorans*; 4, *Veronica longifolia*; 5, *Campanula latifolia*; 6, *Coreopsis lanceolata*.—*A. C.*: 1, *Oncidium praetextum*; 2, *Oncidium sphacelatum*; 3, *Cypripedium barbatum* var.

Communications Received.—Toogood & Sons—A. McM.—J. F. Hudson.—B. D.—A. G.—R. W.—A. J. B.—E. F.—H.

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WM. BAYLOR HARTLAND, Ard-Cairn, Cork.—Rare Daffodils and Rare Single Tulips.

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SHOW FIXTURES FOR 1900.

AUGUST.

- 28.—R.H.S. at Drill Hall
- 29.—Lanark Horticultural Society.
- 30.—Stirling Horticultural Society (2 days).

SEPTEMBER

- 7.—National Dahlia Society's Exhibition (2 days).
- 12.—Royal Caledonian Horticultural Society (2 days).
- 13.—Boston and District Dahlia and Chrysanthemum Society.
- 27.—R.H.S. Fruit Show (3 days).

OCTOBER.

- 9.—National Chrysanthemum Society (3 days).

NOVEMBER.

- 6.—National Chrysanthemum Society (3 days).
- 7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).
- 8.—Devon and Exeter Horticultural Society (2 days).
- 15.—Maidenhead Chrysanthemum, Fruit and Vegetable Society (2 days); Edinburgh Chrysanthemum Show (3 days).
- 23.—Dundee Chrysanthemum Society (3 days).

DECEMBER.

- 4.—National Chrysanthemum Society (3 days).

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